



ORIGINAL ARTICLE

Review of Patients Referred to the Emergency Department

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Received date: February 02, 2022; **Accepted date:** June 12, 2022; **Published date:** September 30, 2022

Abstract

Background & Objectives: The main role of emergency care involves providing immediate treatment and attention to patients with life threatening conditions. Critical patients are referred to the emergency department through primary medical services. In this study we reviewed referrals made to the Emergency Department (ED) from primary health care facilities in order to maintain adequate and quality care to patients in need of emergency services.

Methods: Patient hospital records were reviewed and analyzed over a period of 3 months. We included all patients who were referred to our ED through primary health care services during this period. Data was collected on the date, time, indication for referral, triage level, diagnosis, and outcome.

Results: In this study with 1094 patients, referrals for patients below 14 years (59.1%) were higher compared to adult referrals (40.9%). The leading causes of referral from all primary health centers to our ED was trauma and injury related (28.8%). This was followed by conditions presenting with abdominal pain (11.3%) and respiratory problems (9.7%). Most of these referrals were safely discharged without the need for further follow up.

Conclusion: The findings in our study despite the small number and time period of the study provide useful preliminary basis for further research in this area as well as development in the referral system planning and modification.

Keywords: Emergency Medical Services, Primary Health Care, Quality of Health Care, Referral and Consultation

Introduction

The goal of any health service is to provide high standard and quality medical care to its patients.^{1,2} The ability to provide these desired health outcomes involves several domains which include timely, efficient, equitable, safe, effective, and patient centered care.³ Studies and audits frequently measure health care quality to identify problems caused by overuse, underuse, or misuse of health resources.⁴ One of these factors include assessing and optimizing health care referral systems.

Referral systems entail two-way communication between physicians to transfer the care of a patient from one clinician to the other. The scope of this study focuses on all referrals from primary health care services to emergency departments. In Primary Health care, the decision to refer a patient to an Emergency Department (ED) should be based on clinical evaluation as well as the reason for transfer should be clearly and efficiently indicated.^{5,6} Referral procedures need to be standardized to ensure safe referral. In case the primary care providers do not convey referral messages appropriately or fail to effectively communicate the patient's condition or provide incomplete information, specialists encounter challenges in offering high-quality patient care.⁷

Primary care physicians, after initial assessment of patients, decide whether a referral is necessary for secondary specialty care or emergency care. Then through a standardized referral process which involves effectively communicating with the secondary services, patients are referred to the designated specialty. A significant number of these patients are usually referred from Primary Health to the ED. which is a medical facility / department which specializes in the acute care of patients who need immediate attention, sustain sudden injuries, or have life threatening conditions.⁸ The medical treatment provided in the ED focuses on providing first aid and stabilizing the patient in order to receive further care by the concerned medical specialty. The main role of emergency care involves providing immediate interventions and treatment for acute, life-threatening conditions that require immediate attention.⁹ Overuse or misuse of the referral system to EDs negatively affects them.¹⁰

Patients who can be referred to regular outpatient follow up clinics, or inappropriate referrals to the ED, or simply transferring patients to ED for ease of access hinders the services.¹¹ This causes delays to the required specialty, longer queues and waiting times in the ED, wasting financial resources, affecting staff efficiency and stress, as well as has ethical consequences.¹²

Several countries experience high percentages of self-referred ED-patients. In England, 62.8% of ED-patients is self-referred. In the United States (US), relatively few general practitioners (GPs) are available and patients often self-refer to EDs or other types of specialized care. In the Netherlands, despite its strong primary care network, 30% of ED-patients is self-referred. Within the category of self-referred patients is a substantial number of patients that could have been taken care of in primary care. In a previous study, our group found that between 41.2 to 51.9% of self-referred patients in a Dutch ED visited the ED inappropriately. This is crucial because strategies that aim to reduce ED utilization should target inappropriate self-referral.¹³⁻¹⁴

Primary Health care is the cornerstone of health services in the Kingdom of Bahrain. It is the first point of contact for individuals in their quest for healthcare. There are 25 health centers and 3 clinics under the Ministry of Health rules and regulations.¹⁵ Comprehensive quality healthcare services are available in Primary Health Centers to meet the needs of the individual and are accessible to all community members regardless of the status, cost and affordability.¹²

This study focuses on the healthcare services provided by the ED, at the Bahrain Defence Force Royal Medical Services (BDFRMS) which is one of 3 tertiary level Hospitals in the Kingdom of Bahrain. In order to provide thorough and integrated health services for the people in the Kingdom of Bahrain, A standardized referral system has been established. The objective of the study is to review the common causes of referrals to the Emergency Medicine Department at the BDFRMS.

Methods

In this cross-sectional observational study, we conducted a retrospective electronic record review

of patients who were referred to the Emergency Department (ED) at BDFRMS from primary health care centers during the period of 01/07/2019 to 30/09/2019.

We included all patients who came to the ED with official referrals from primary health care centers in Bahrain after reviewing the electronic record system, as well as clinical information from the original referral forms. Patient data was also subcategorized into pediatric and adult, for further analysis. Pediatric patients are managed by pediatric emergency physicians. The pediatric emergency care for all patients below the age of 14 years, and the adult emergency looks after all patients of 14 years of age or more.

Data collected included demographics, source of referral, date & time of referral, triage level, diagnosis, reason for referral, and outcome.

Patients excluded from the study were referrals who were triaged to the GP clinic during GP working hours, patients who were not entitled to treatment, refused to pay for treatment, opted not to be seen in ED, and lastly patients who were directly referred to the Chest Pain Clinic at our hospital were directly channeled to the chest pain clinic and also excluded from this study.

Results

A total of 1094 official patient referrals were recorded during the period of the study. The total number of adult referrals to the ED were 447 (40.9%), and that of pediatric referrals were 647 (59.1%). Out of the total patients, there were 670 males (62.2%) and 424 females (38.8%)

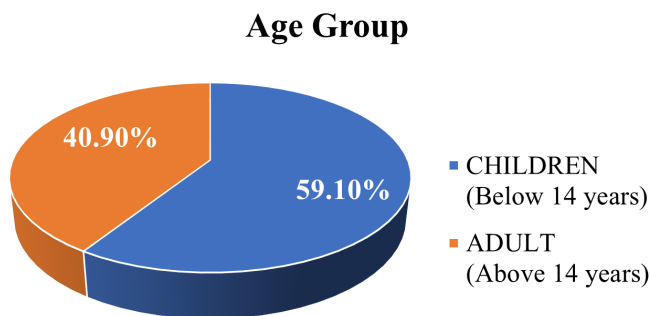


Fig 1. Distribution of patients based upon age

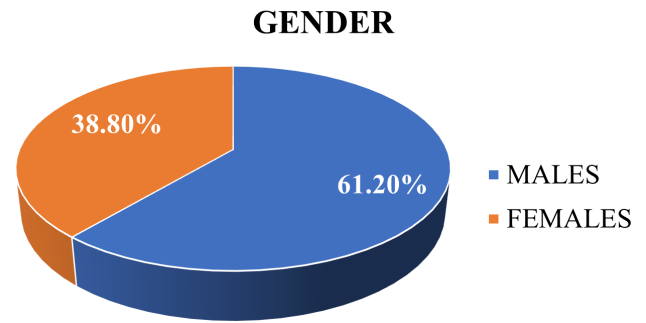


Fig 2. Distribution of patients with respect to gender

The leading causes of referral from all primary health centers to ED were trauma and injury related (n=315, 28.8%). This was followed by conditions presenting with abdominal pain (n=124, 11.3%) and respiratory problems (n=106, 9.7%). Table 1 shows the reasons for referral to the ED in order from the most prevalent.

Table 1 : Different causes of referrals in patients

Causes of Referrals	Number of Patients	Percentage	Rank
Trauma and Injuries	315	28.8%	1
Abdominal pain	124	11.3%	2
SOB and Cough	106	9.7%	3
Cut wound	99	9%	4
ENT Related Issues	78	7.1%	5
Neurological related issues	60	5.4%	6
Skin rash and Allergy	57	5.2%	7
Eye related problems	45	4.1%	8
Ob/gynae related issues	44	4%	9
Genitourinary problems	35	3.2%	10
Chest pain	27	2.5%	11
Foreign Body	23	2.1%	12
Uncontrolled HTN & DM	20	1.8	13
Musculoskeletal	16	1.5%	14
Miscellaneous	16	1.5%	15
No clear reason for referral	15	1.4%	16
Anemia	11	1%	17
Patient request	3	0.2%	18

Referrals were made to ED from 18 different health centers. Patients were mostly referred from the Hamad Kanoo Health Care Center where a total of 474 patients were referred (43.3% of all referrals). Table 2 shows the locations from which the referrals were made.

Table 2: Referrals made from different health centers

Health Center	Referred Population	Percentage	Rank
Hamad Kanoo	474	43.3%	1
Mohamed Gassim Kanoo	198	18.1%	2
East Riffa	150	13.7%	3
Yusuf engineer	98	9%	4
Hamad Town	45	4.1%	5
Alzallaq	36	3.3%	6
Budaiya	18	1.4%	7
Isa Town	15	1.4%	8
Ahmed Ali	14	1.3%	9
AL Kuwait	14	1.3%	10
Jaw & Askar Clinic	11	1%	11
Almuharraq	7	0.6%	12
Shaikh Jaber	6	0.5%	13
Al-Ahmad Alsabah			
Halat BuMaher	3	0.3%	14
National Bank of Bahrain	2	0.2	15
Sitra	1	0.1%	16
Alhorra	1	0.1%	17
A-Ali	1	0.1%	18

Once the referred patients were evaluated in the ED, they were either admitted to the Hospital under the required medical subspecialty, or discharged with follow up in specialty clinics, or GP / Primary health care clinics, or discharged without follow up. Some patients left against medical care or absconded while waiting to be seen in the ED. (Table 3) Most of the referrals were discharged home from the ED department without the need for further medical follow up or referral (n=454, 41.5%).

Table 3: Outcome of referrals

Outcome	Population	Percentage	Rank
Discharged from the department	454	41.5%	1
Received a consultant clinic appointment	417	38.1%	2
Primary Health care follow up	102	9.3%	3
Admitted	85	7.8 %	4
GP follow up	12	1.1%	5
Left against medical advice	9	0.9%	6
No reply	2	0.2%	7
Absconded	1	0.1%	8
Referred to another hospital	1	0.1%	9

Discussion

Data obtained on the outcome of these referrals was analyzed where the majority of the cases were referred to the ED required further follow up appointments in either primary care or subspecialty clinics (n=531 47.4%). 454 patients were safely discharged, (which accounts for 41.5% of all referrals). Only 7.8% of referrals required hospital admission. In this regard the outcome of the primary care referrals mainly required either GP follow up or specialized follow up care after being seen in the ED.

Interestingly in our study 0.2% of patient referrals during the study period were referred based on patient's request which is a common observation in many studies. Similar results were observed in another study where approximately one third of the ED visitors in the Netherlands were self-referred, while in large inner-city hospitals, up to 70% of the ED visitors present at the ED on their own initiative.^{16,17} Patients usually view hospitals and ED's as providers of quality medical care compared to primitive or lower-level care with primary health services. This perception is wrong.¹²

As with any healthcare system other additional factors may influence referrals to the ED depending on physician's experience and areas of comfort. For example, "fear of chest pain" in medicine, or "management of all hand injuries need to be seen by plastic surgeons, or pediatric referrals for lack of experience and knowledge.¹⁸ Seeking investigations not available at primary care or local health centers is another factor.

It is expected that an efficient referral system would shift patients to primary health care facilities where they should be managed, and only patients requiring emergency care are referred to the ED. If non-emergency patients are seen in the emergency setting, it is a poor utilization of the services.

Certain limitations with this study need to be considered. This study was only conducted over a period of 3 months with a small number of patients reviewed. There is no information on communication for example by phone between the ED and primary care (bidirectional communication). The scope of the study only focuses on one of the three tertiary level EDs of Bahrain, and a broader study would provide more accurate and extensive data.

Conclusion

Emergency referrals should be made for emergency cases which cannot be managed in a primary health care facility, and who need urgent medical care.

This is the first study looking at referrals to ED and contributes to evaluating the referral systems implemented by the primary health care facilities

The findings in this study despite the small number and time period of the study provide useful preliminary basis for further research in this area as well as development in the referral system planning and modification.

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