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Background

- Out-of-hospital cardiac arrest (OHCA) is a major cause of death worldwide.
- Survival rates for OHCA in the Middle East and Asia are low compared to those in North America or Western Europe. (1-3)
- Paediatric cardiac arrests generally have poorer survival rates associated with resuscitation even though many of these cardiac arrests occur in a home residence and are witnessed by family members.
- Survival is greater in witnessed events, and even greater in those who receive bystander CPR. (4)

Introduction

- In the UAE, the infant mortality rate (<5 years) has reduced from 223 per 1000 live births in 1960, to seven per 1000 live births in 2009.
- However, approximately 107 children per year die from trauma in the United Arab Emirates.(5)
- Injury secondary to vehicular traffic incidents remains the leading cause of death for children aged 0 to 14 years old (63%) followed by drowning and falls (10% each).(5)
- Reasons for this include disregard for traffic laws such as wearing of seatbelts and use of child seats, and poor safety measures applied to residential pools, beaches, and high-level windows and balconies.

Objective

- The objective of this study was to identify the incidence and clinical characteristics of paediatric out-of-hospital cardiac arrest (OHCA) cases in the emirates of Al-Sharjah, Ras-al-Khaimah, Umm Al-Quwain, Al-Fujairah and Ajman (collectively referred to as the Northern Emirates) in the United Arab Emirates.

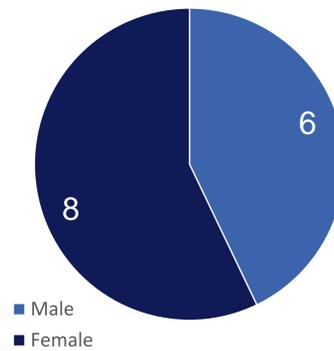
Methods

- A subgroup analysis of a prospective cohort study was applied investigating all presentations of paediatric OHCA between February 2014 and March 2015 in the Northern Emirates area of the UAE.
- This study received ethical approval from the Office of the Chief Medical Advisor, National Ambulance LLC.
- EMTs who provided care for cardiac arrest patients completed PAROS data collection forms designed for the PAROS study.
- All cases of paediatric out-of-hospital cardiac arrest (defined as under 18 years old) treated by NA EMT crews were included in this study.
- Cardiac arrest was defined as cessation of cardiac mechanical activity that was confirmed by the absence of a palpable pulse, unresponsiveness, and absence of spontaneous respirations.
- NA clinical treatment protocols during the period of this data collection mandated transport of all paediatric OHCA cases to hospital (unless obviously dead).

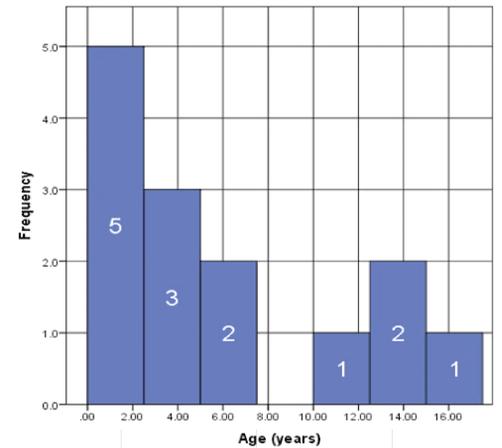
Results

- The subgroup comprised of 14 patients (3.6% of the overall cardiac arrest population).
- Many of the paediatric arrests were from easily preventable traumatic injuries – motor vehicle accidents, falls and drownings.
- Bystander CPR was attempted in only five cases (36%).
- An overall out-of-hospital (at scene or en-route) return-of-spontaneous-circulation (ROSC) rate of 14% (n=2) was observed in the paediatric population.
- Both of these cases had bystander CPR performed and both were documented as medical aetiology.

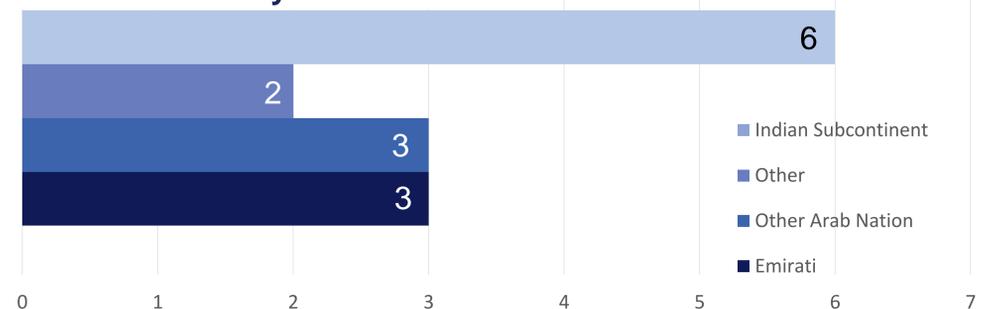
Gender



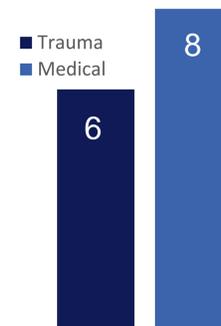
Age Distribution



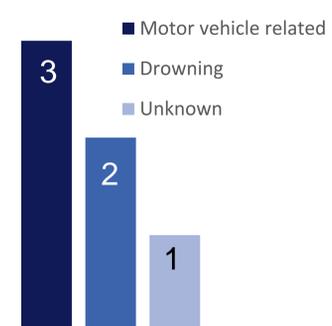
Ethnicity



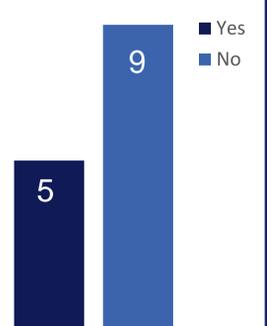
Aetiology



Traumatic Arrest Aetiology



Previous Medical History



Summary

- A low ROSC rate for paediatric cardiac arrest was identified in the population studied, in line with previous studies from the region.
- This highlights the need for public education addressing prevention of paediatric cardiac arrest, particularly prevention of trauma induced cardiac arrest, and the components of the paediatric chain of survival.
- Determining the baseline data presented in this study is essential in recommending and implementing strategies to reduce mortality from paediatric OHCA.

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Acknowledgements & contact details

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