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Title: Preparing for war? Global emergency surgery for pediatric casualties in armed conflict

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Topic: Emergencies in vulnerable patient groups

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Background:
With some of the world's largest humanitarian crises currently taking place, millions of children are affected in many ways; armed violence can lead to severe injuries, disabilities and even death. Understanding of injury patterns specific for pediatric casualties of armed conflict is essential to facilitate deployment preparations for humanitarian organizations that provide medical care in conflict areas, such as the International Committee of the Red Cross.

Aim:
The aim of this database study is to identify injury patterns and treatment requirements that are specific for child casualties in armed conflicts.

Methods:
Characteristics were analyzed of children (age <15 years) treated by the International Committee of the Red Cross between 1988 and 2006 in Butare, Kabul, Kao-i-Dang, Lokichogio, Kandahar, Novi Atagui, Peshawar and Quetta, or in the time period of 2009 through 2012 in a different treatment facility in Peshawar. Patient characteristics of pediatrics were compared to those of adult patients (age ≥15 years).

Results:
Out of all patients enlisted in the database, 15.4% (5,794/37,664) were aged <15 years. The mean age was 9.0 years (SD4.0); 75.8% (4,390/5,794) being male. Eighty-six percent (4,986/5,794) of the admitted children underwent surgery, with a mean of 2.3 surgeries per patient (SD 3.0). When comparing with adult patients, children are more frequently seen with fragment injuries (39.1% vs 24.0%), burns (3.6% vs 0.9%) and mine injuries (22.4% vs 15.8%; all with p<0.01); they are more often injured to multiple body regions

(38.4% vs 31.2% $p<0.01$) and vital structures (12.5% vs 10.1%; $p<0.01$), and have higher in-hospital mortality rates (4.1% vs 2.7%; $p<0.01$).

Discussion:
In the analyzed conflict areas, there are significant differences between adults and pediatrics in injury patterns and treatment requirements, with children often being more critically injured. The findings of this study can have implications for how the International Committee of the Red Cross and other humanitarian organizations prepare personnel for deployment and structure logistics in current conflicts.

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Position presenting author: underlined
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