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Editorial

Paediatric emergencies in sub-Saharan Africa☆

Every health worker who cares for children has to deal with medical emergencies. They are common and can start with alarming rapidity, yet if treated quickly and effectively will often have a good, or at least better than expected outcome. No one can deny the importance of medical emergencies, yet many health workers who need to manage emergencies do not have access to the necessary training. Some are working in isolation, in remote facilities and without equipment conducive to excellent care. In most district hospitals, emergency medicine, outpatients and immunisation clinics are combined and run by the same staff. In a survey of African emergency care, Obermeyer, *et al.* found that of 192 facilities only 11 (6%) were in rural areas and only 36 (19%) were designated for children.[1]

A great deal of effort has gone into improving the situation; for example interactive, scenario-based courses such as ETAT (Emergency Triage Assessment and Treatment) and ETAT+, teach emergency care over a 5-day period.[2,3] Despite this many health workers do not have access to the training and practice that they need and desire. The situation is not helped by the frequent transfer between departments of health staff in many public hospitals.

In 2013 a one-day African consensus conference was held in Cape Town to determine what 'signal' conditions an emergency centre should be able to manage. Signal conditions were defined as shock, respiratory failure, dangerous fevers, altered consciousness, severe pain, trauma and burns. All of these conditions are potentially life threatening and managing them requires infrastructure, equipment, consumables, laboratory service support and trained staff. Lists of what are required to manage each condition are categorised as essential or desirable.[4] All of these conditions are important in children but health workers caring for children also need to be alert to possible maltreatment.

Good outcomes depend on doing the right thing at the right time, every time. This requires not only know-how, but also having the right tools (equipment, drugs), space and staff who work efficiently and well. Medical successes come with teamwork, multi-tasking, mutual respect, clear guidelines and pride in each other's skills. Parents and guardians are our strongest allies and their acceptance and cooperation is essential. Their trust and dignity in the face of possible disaster is humbling.

This special issue of the *African Journal of Emergency Medicine,* include a resource-tiered review of five paediatric emergencies along with a systematic review and meta-analysis comparing weight guestimates instruments. The authors all work in Africa and have extensive practical experience in the topics they review. Topics covered are the management of respiratory support, shock, acute convulsions, burns and child abuse. The aim is to be practical, applicable and evidence based. By sharing their experience with us they expand our horizons, demonstrate best practice and give options for care.

Acute seizures are common in Africa and often they are prolonged because of delay in presentation. Prolonged seizures cause neurological damage and ultimately death. The causes are multiple and many seizures are caused by underlying infections that also must be managed quickly and effectively. Ciccone et al. have reviewed the evidence for treating acute seizures in Africa and found very little.[5] Algorithms written for high-income settings assume an availability of drugs and specialist care that are not there in many African hospitals. Noting WHO guidelines and using their own experience, the authors give clear, pragmatic guidance on what to do when seizures are not controlled by first line, or even second line drugs such as diazepam and phenobarbitone. Their experience with drugs such as ketamine is very helpful to the practitioner who is running out of alternatives.

Critically ill children, whatever the primary cause, are in need of respiratory care. Globally chest infections are the most common cause of hospital admissions and pneumonia causes the greatest number of deaths.[6] Hansmann et al. in a review of respiratory support explain some of the pathology of respiratory failure and provide clear guidelines for when and how to give oxygen and to step up other respiratory support.[7] The authors show the importance of non-invasive ventilation especially in settings where intensive care and intensivists are unavailable. They contend that front line health workers given the right, simple tools and training can do much. The authors emphasise that respiratory care must be part of an overall emergency system that provides rapid assessment, identification and treatment of emergencies.

There has been much controversy around how to treat shock with strong opinions held on fluid management. The FEAST study advises caution with fluids in impaired circulation due to sepsis and since that study was pubished WHO have modified their guidelines on how to manage different types of shock.[8] Olipot and colleagues from Uganda have reviewed the evidence and provide guidance on what fluids to give, when and how much and to whom.[9]

There is so much more to managing burns than surgery and dressings and Broadis and Chikothi give us an excellent review and holistic approach to the burned child.[10] We are reminded that good clinical care depends so much on multidisciplinary cooperation.

Badoe in Accra has vast experience in diagnosing and managing child abuse. He notes a paucity of data and lack of locally appropriate guidelines in most emergency centres on the continent.[11] In his article he details the management of such cases but also calls on us all to help

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prevent it. Those of us working in emergency care have to be vigilant not to miss cases of abuse. He writes that abuse can be reduced with education of the public about forms of child abuse and with the health sector, social services and justice systems waking up to this serious threat to African children.

Knowledge is fruitless unless put into practice. Circumstances are dissimilar throughout the continent; the number of staff, available expertise, equipment and drugs differ. It behoves us all not only to do the best with our circumstances, but equally to take steps to improve upon unfavourable conditions when possible. Medicine is constantly changing, and emergency care is no exception. These reviews remind us that, however familiar we are with treating common emergencies, there is always room for improvement. Protocols - essential to good, consistent management - are not written in stone and need fine-tuning. These reviews push us to look critically at our own practice and improve them if we can.

We must aim high. In many centres 50% of inpatient deaths occur within 24 hours of admission.[12] By improving the care of children as they arrive at hospital we hope - no, we will - lower mortality and reduce morbidity.[13]

Conflict of interest

The authors declare no conflicts of interest.

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