PAEDIATRIC TRAUMA

Student Selected Component (SSC) 5c:
Elective Report
(Lucy Battery)

Details of Elective:
Elective Subject: Paediatric Trauma
Location: Trauma Unit,Red Cross Children's Hospital,Klipfontein Road, 7701, Rondebosch, Cape Town, South Africa.
Dates:
Planned: 11/04/2011 – 13/05/2011
Actual: 11/04/2011-15/04/2011 & 10/05/2011-14/05/2011

Learning Objectives set by School:

1) **Describe the pattern of disease/illness of interest in the population with which you have worked and discuss this in the context of global health.**

The Red Cross Children's Hospital's specialist trauma unit serves as the tertiary referral centre for all trauma cases in children below the age of 13 years in its drainage area of ~2 million.

During my time at the trauma unit, I noted that a large number of the minor injuries that the children presented with were similar to those which I have witnessed in the United Kingdom (UK), such as foreign body ingestion and playground-associated injuries.

However, there were particular injury/illness areas that really emphasised to me the difference that the economical state of a nation can have onits healthcare burden.

Data compiled by Child Accident Prevention Foundation of South Africa (CAPFSA)showed that 1700 children had been treated for burns at the Red Cross Children's Hospital in a single year (2008-2009). Whilst the majority of these cases (82%) were caused by hot liquids, the second most common cause (7%) were caused by open flames such as candles[(1)].

Whilst I found these statistics alone quite shocking, I was even more saddened and frustrated to learn that the vast majority of such injuriescould have been prevented.

For example, the combination of the hot temperatures and windy weather (common in Cape Town summers) and the close proximity of dwellings in the low-cost/informal housing areas, mean that a small fire can spread extremely rapidly with devastating results.

Another patient population frequently admitted via the trauma unit (and accounting for the most severe morbidity and mortality of all admissions) are children involved in motor vehicle accidents (MVAs). Sadly, in South Africa, it is not a legal requirement for a vehicle or its driver to be insured, making the country's roads extremely dangerous. CAPFSA data has shown that 75% of children admitted were pedestrians; and of those children injured as a result of being passengers, the majority were noted to have been unrestrained at the time of the crash[(1)].

Again, I found such admissions to be particularly sad and frustrating as the children involved were injureddue to the actions of adults.

However, the patient group that had the most impact on me were those children admitted as the result of non-accidental injury (NAI). Sadly, South Africa is known to have relatively high levels of child abuse, with violence noted as being one of the leading causes of paediatric morbidity and mortality[2].

Whilst I often found being involved in such cases personally and professionally challenging, they did enable me to gain a better insight as to the salient features in a paediatric presentation thatshould instantly raise the suspicion of NAI.

2) Describe the pattern of health provision in relation to the country in which you have worked and contrast this with other countries, or with the UK.

In common with the United Kingdom (UK), South Africa operates both a public health care system, accessible to all qualifying residents at the point of delivery; and a smaller, private health care service.

In both nations, the vast majority of residents seek medical treatment through public health care: 82% in South Africa [3]and 88% in the UK respectively[4].

However, though the pattern of service usage may be similar, it is thought that the reasons for the vast use of the respective public health care sectors in the two nations are quite different.

In 2000, the UK's public health care system(National Health Service (NHS))was ranked 18th in a World Health Organisation (WHO) comparison of global health care systems[5].Though a slight increase in private health care usage was noted during the 1980s due to private health care providers promising reduced waiting times, increased access to speciality consultants as well as more comfortable hospital stays, in 2001, it was found that relatively few people (11.5%) chose to take out additional private health cover[4].

In spite of this high uptake of public health care, the total expenditure of the NHS is relatively low, accounting for approximately 8.4% of its GDP in 2007[6]. In addition, initiatives such as service delivery monitoring by independent organisations such as the National Institute for Clinical Effectiveness (NICE) combined with an emerging focus on organisational transparency and patient choice, strive to improve the key areas often criticised by private sector suppliers such as the aforementioned issue of patient waiting times[4].

By contrast, South Africa's public health care system was ranked 175th in the same WHO report[5]. Whilst South Africa's population is less than that of the UK (39,900 vs. 58 744 respectively) its spending per capita is higher ($52 vs. $26 respectively) [5]with the government contributing approximately 11% of its total expenditure on health. However,a combination of a focus of both resources and medical professionals (except nurses) in the nation's private health care facilities means that public health care institutions continue to struggle to meet the country's needs[5].

Therefore, whilst the percentage of South Africa's population who utilise private health care insurance is only approximately 6% greater than that of the UK, this is more a reflection of an inability to afford such cover by the nation's lower-socioeconomic classes as opposed to an active choice not to do take up such plans as in the UK.

However, certain exceptions do exist. For example, institutions of excellence such as The Red Cross Children's Hospital do receive substantial funding from private companies (such as Anglo-American and Coca-Cola) as well as charitable organisations (such as The Rotary Club). As a result of such funding, they are able to provide high quality health care, conduct internationally recognised research and serve as a training hospital for both under- and post graduate students.

Learning Objectives set by Student:

3) Health related objective:

To familiarize the student with all types of accidental and non-accidental (violence) related injuries in children.

Though the time that I spent at the Red Cross Children's Hospital was sadly shorter than originally planned, I do feel that I was able to substantially improve my understanding in the fields of accidental and violence related injuries in children.

As outlined above, the hospital's status as a Level 1 trauma centre for paediatrics meant that I was exposed to a wide range of injuries both in terms of nature and severity.

Due to the large number of orthopaedic admissions seen, I particularly feel that I have improved my ability to interpret paediatric imaging modalities such as X-Rays; especially when factoring childhood development phases in to the interpretation of an image.

In conjunction, I gained an appreciation of how imaging can be of particular when querying NAI, where a 3D reconstruction of a CT scan of a patient may reveal evidence of old, recent or multiple fractures; and in the management of paediatric trauma cases where a low dose full body X-Ray (Lo-Dox) scan can provide an instant snap shot of any gross injuries that the child has sustained.

4) Personal/professional development goals (to include some reflective assessment of activities and experiences):

Gain experience in assessment of and working in a developing country setting in a totally other health care system.

Extend research experience and become involved with a scientific (peer-reviewed) publication.

As outlined previously, my elective period spent at the Red Cross Children's Hospital afforded me the opportunity to work in an institution whose status as a Level 1 paediatric trauma centre enables it to provide first world facilities within a developing nation whose public health care provision is stretched and often inaccessible to the population it is designed to serve.

Accordingly, whilst a number of the children treated within my time there were admitted secondary to horrific, often preventable injuries, the combination of the trauma centre's specialist staff and exceptional resources meant that their respective prognoses were often far better than I would have previously imagined to be possible.

As such, whilst it was often difficult both professionally and personally to deal with such injuries, the trauma centre's ability to maximise the outcomes for its patients, meant that I found my time there to be a lot more positive than I had expected.

I also found the multicultural nature of South Africa's patient population frequently challenged my skills as a clinician. With 11 official languages recognised in the country (as well as numerous unofficial dialects), clerking in a new patient/caregiver often involved a proportion of time spent establishing which dialect the individuals spoke and, if necessary, locating a member of staff who could serve as a translator.

Similarly, the "rainbow nation's" numerous population groups meant that cultural and religious beliefs with regards to areas such as health care and the status of children in society differed tremendously. Whilst this therefore presented me with a steep learning curve, it did help me to appreciate how important it is to clarify patients' understanding following consultation with them as perception of standard practice in one culture may be the complete opposite in another.

I was also interested to see the way that the unit's staff tailored their management according to the personal circumstances of each child and their family. For example, whilst seldom used in developed nations, Gallows traction is used by the trauma unitfor the management of femoral fractures in children aged 6-18 months with great success;since, in the context of a developing nation, the use of a traction system which is easily transportable for parents (e.g. on public transport and taxis) and can be removed 3 weeks after injury, offers an extremely effective method of managing such fractures.

Looking to the future, since the time that I spent at the hospital was cut short due to a family emergency; I would very much like to return at some point in the future in order to further my learning with regards to the field of paediatric trauma. I would especially like to do this as my shortened placement meant that I was unable to achieve my stated learning objective of extending my research skills and becoming involved in a peer review publication.

References

1. Child Accident Prevention Foundation of South Africa (CAPFSA) (2009) Child Safe Annual Report 1 April 2008- 31 March 2009
2. van As AB, van Dijk J, Numanoglu A, Millar AJW (2008) Assaults with a sharp object in small children: a 16-year review. Pediatr Surg Int (2008) 24:1037–1040
3. SouthAfrica.info (2011) Health care in South Africa (Available online: http://www.southafrica.info/about/health/health.htm)

4. KaiserEDU.org Health Policy Explained (2011) International Health Systems: UK. (Available online: http://www.kaiseredu.org/Issue-Modules/International-Health-Systems/UK.aspx#)
5. World Health Organisation (2000) The World Health Report 2000 Health Systems: Improving Performance. World Health Organisation, Geneva.
6. Organization for Economic Cooperation and Development (2009) OECD Health Data 2009. (Available online: http://www.oecd-ilibrary.org/content/tablecollection/20758480)