ELECTIVE (SSC5c) REPORT (1200 words)

1 What is the burden of traumatic injury in South Africa? How does this differ from the UK? How are social factors implicated in any observed differences?

Every year upto 70,000 South Africans are killed as a direct results of traumatic injury with about 3.5 million seeking hospital treatment for injuries. These are likely to be underestimates due to limited reporting of injuries within disadvantaged communities. Homicide accounts for approximately half of all deaths, which correlates to a murder rate thirty times that of the UK. The predominant mechanisms of non-intentional injury are motor vehicle accidents, which account for approximately 9,000 deaths per year.

It has been observed that substance abuse is implicated in up to 80% of trauma admissions. Alcohol is the major subtance consumed but there are also considerable quantities of “tik” consumed, also known as methamphetamine. There are many complex societal factors contributing to patterns of drug consumption but chief among them must be high levels of unemployment (25% is a conservative estimate).

In addition to the significant emotional and practical burden on society of death by traumatic injury, there is a financial cost. Studies done in 1997 estimated the “cost of homicide” to be between R 90 to R 170 million (£5-9 million). This figure takes in to account the loss of economic productivity of the victim and the cost of justice procedures.

It is impossible to discuss traumatic injury in South Africa without mentioned the extreme levels of poverty. Statistics South Africa released a report in February 2015 detailing the demographics. They estimated that up to 27 million South Africans (50% of the population) live below the poverty line (R 779 / month = £43). Deprivation has huge consequences for any society but on this epidemic scale it destroys the very fabric of communities. When the stakes for just surviving are so high, it is hardly surprising that life is considered cheap by some, who commit murder for less than £1 gain. The rich-poor divide is also worthy of mention. It has been observed that murder rates are significantly higher in areas where there are large rich-poor differentials.

2 How is care for injured patients organised within hospital and how does this compare with the UK? Also, what are the differences for pre-hospital service provision and rehabilitation post-injury compared with the UK?

Trauma care within South Africa begins at the roadside where care is provided by both public and private emergency medical services (EMS). Private EMS agencies have different training structures than the public agencies and as a result are able to provide different levels of care. Many private EMS have prehospital care providers trained to advanced paramedic level which enables them to perform roadside rapid sequence induction. Unfortunately, private EMS will only despatch to incidents where they are quite confident that they will be well reimbursed, which is frequently not the case for injuries sustained within the deprived townships. I saw several cases where public ambulance crews brought patients in who required higher levels of intervention at the roadside but had to make do with more basic techniques. Most frequently this was to do with airway management. One case sticks in my mind where a patient aspirated significant quantities of gastric contents on scene and subsequently died from pneumonia in hospital. I cannot say for sure that this outcome would have been avoided, however, with prehospital intubation the risk of aspiration would have been reduced.

Groote Schuur Hospital is one of two tertiary referral centres for trauma within the Cape Town district. It receives patients from many regional units as well as serving as primary drainage centre for some of the southern suburbs. Trauma is situated within its own unit (C14) adjacent

to the emergency department (C15). For major trauma it is obvious that patients are received by C14, however, for minor or older injuries, especially in the older population, there was often wrangling between C14 and C15 about who should take the patient. The department was divided into 3 sections: green, yellow and red. Normally, the unit was staffed by two registrars, an intern plus 6th year and elective medical students. We had our own 24 hour rota and we were expected to have all shifts covered between 4-6 of us. Weekend nights could be very busy with one registrar runnning the red (resus) area with up to 8 intubated patients. It certainly provided plenty of procedural learning opportunities.

3 To understand better the management of trauma in a major, urban South African teaching hospital.

At Groote Schuur Hospital, trauma was managed according to acuity. Minor cases were handled fairly independently by elective students and interns. More major trauma, especially 'red' cases were run along Advanced Trauma Life Support (ATLS) principles by one registrar and one nurse, depending on staffing. There were frequently supernumerary doctors from Europe and electives students around to help, but obviously, the service is designed to provide care using only the permanent staff.

Much like the UK patients were brought in by EMS, however, there was no pre-alert system. I remember one Saturday night at the end of the month (pay weekend) where there were 3 intubated patients brought in simultaneously by EMS who had to queue down the corridor to wait for a resus bay. If a pre-alert system were in place, this delay in care may have been avoided by diverting to other centres.

Once the patient was in resus, handover was conducted with the patient on the ambulance trolley. Unlike the UK, people started working on the patients as soon as they arrived rather than waiting for completion of handover. I found that I frequently missed key points and would have to ask again to clarification. I appreciate that in such a busy and understaffed department, many staff just feel the need to get on with patient care and handover is seen as a distraction. The patients were assessed in ABCDE manner with necessary interventions performed at the appropriate time. The key part in this process was the great wait for a “folder number”. Patients had to be booked in by ambulance crews after handover and completion of EMS paperwork. This would often take up to 1 hour. Crucially, no scans could be booked until the folder arrived. In my view, this delay in care is extremely harmful to patients who require timely surgical interventions based on radiological investigation (e.g. head injury). I found this to be the most frustrating part of my time at GSH.

4 To gain some insight into working in a busy and challenging foreign environment to see whether I might like to spend time working abroad again in my future career.

I found the experience at GSH one of the most rewarding that I've ever had the privilege of undertaking. Initially, I found the different practices and procedures quite unsettling, e.g. use of restraints and limited use of analgesia. What I didn't appreciate was that the parameters in play here are not like the UK. The staffing levels, the volume and severity of injury and the patients' co-morbidities are on a different scale. What I gradually began to notice was the ingenuity of staff to find solutions to challenging problems. What I liked most was how welcome I was. Nurses, porters and doctors alike, I was welcomed into the team and people kept thanking me for coming, which made me feel very uncomfortable. Thanks to the team's generosity I was able to learn so much a relatively short space of time. I was given many opportunities to carry out procedures (chest drains, intubations, sedation, suturing) under supervision, even when the department was heaving and we were stretched. This whole experience was too short for me, there is much more to learn, I would love to go back when I'm further along in training.