ELECTIVE (SSC5b) REPORT (1200 words)

A report that addresses the above four objectives should be written below. Your Elective supervisor will assess this.

I spent 2 weeks in Aksum, Ethiopia as a student representative on the Barts-Aksum exchange partnership programme. Aksum is a city in the in the north-eastern part of Ethiopia, situated in the Tigray region, and with a population of around 56,000. The programme was established in 2013 to provide clinical support and training to the students and faculty of the newly opened medical school. The medical school was one of 13 new institutions set up by the Ethiopian government to address the country's severe shortage of doctors. In 2010 there were only 5000 medical practitioners serving the entire country (0.025 doctors per 1000 people, compared to the UK where there are 2.8 doctors per 1000 people). The first cohort of doctors graduated last year and as new doctors come through each year it is hoped that this will, over time, go some way to improving healthcare for the Ethiopian population, particularly outside the capital.

During my time in Aksum I spent most of my time in the EM department, helping an Emergency medicine consultant from London deliver training to the staff there. I also saw patients on the wards and met some of the hospital doctors and the medical students. As discussed below there were stark differences between the medical care and resources available to patients in Aksum compared to those using NHS services in the UK.

1. Patterns of disease in the northern Ethiopian population within the context of global health

There are many factors contributing to the poor health status of Ethiopia. Ethiopia is a poor country. Around half the population live on less than $1 per day. Less than half the population have access to safe drinking water or adequate sanitation facilities. As will be discussed further in section 2, the health system is also underdeveloped. Low agricultural productivity and frequent droughts render the population vulnerable to malnutrition, and stunted growth is common amongst children under the age of 5. Life expectancy for men and women respectively is 63 and 67. There is also a high maternal mortality ratio (420/100,000) and mortality ratio for children under the age of 5 (64/1000).

The top 10 causes of death in Ethiopia include: LRTI's, HIV, diarrhoeal disease, malnutrition, birth asphyxia and birth trauma. This is a very different picture to the leading causes of death in more developed countries such as those in western Europe, where diseases such as ischaemic heart disease, cancer and diabetes rank highly. Indeed, many of Ethiopia's high-ranking causes of death are potentially preventable or curable through better health education, improved sanitation, and wider availability and uptake of vaccinations and antibiotics.

Most of the Ethiopians I saw were extremely slim (the only people bordering on being overweight were the doctors!), although I was told by one of the medical students that diabetes was on the rise. There did not seem to be a high prevalence of smoking amongst the local population and although beer was a popular drink, alcoholism or liver disease did not seem to feature highly amongst Ethiopia's most pressing health concerns.

2. Health provision in Northern Ethiopia

As discussed above, Ethiopia is a developing country with poor disease indicators. This puts a massive burden on the country's health services. According to WHO statistics the health system is unable to provide health services for over half of its almost 100 million population. Healthcare provision is unequally distributed across the country, with most of the country's hospitals and doctors concentrated in the capital Addis Ababa, although only 7% of the country's population live here. In contrast, the rural population are underserved and many people do not have access to basic healthcare services. In addition, the healthcare facilities themselves are often poorly equipped, and staffed by personnel who are not sufficiently qualified.

These facts were borne out by my experience of healthcare services in Aksum. I spent most of my time at Aksum University Referral Hospital, a new hospital opened in 2016. This hospital was built to cope with the overflow of patients from Aksum's existing hospital St Mary's, which serves a population of 1.5 million, and provide work for the doctors graduating from the new medical schools across Ethiopia.

It is still early days for the Referral hospital, but what was most striking to me was how empty it was, particularly in view of the fact that this is a country with a high burden of disease and poor health. It was also a stark contrast to the busy NHS wards and clinics I am used to from my rotations in East London. The Referral hospital can accommodate up to 200 in-patients, but in the 2 weeks I was there I don't think there were ever more than 15 beds in use. It is hard to know the exact reasons for this, but I think a number of contributing factors. An obvious reason is that the hospital is difficult to access. It is around 5km from the main town of Aksum and accessible only by a circuitous route along a rocky path. We were lucky enough to travel either in the hospital minibuses, or by a private Bajaj (an Ethiopian rickshaw) but these forms of transport were not accessible to many locals.

Another possible deterrent was that once the patient had actually arrived at the hospital services such as x-rays, blood tests, medication and even cannulas had to be paid for. Another factor was that perhaps the local population were simply not of the mind-set to access healthcare services, or even aware of them. This is an ideological or cultural issue more to do with public health education than service provision itself. This struck me the most on a visit to the local health centre, which provided vaccinations, free family planning counselling and contraception as well as HIV and TB treatment and testing. Again, considering the large population this resource served, the clinic was remarkably quiet.

3. Healthcare services and patients in Aksum

During my time in Aksum hospitals I saw patients with tropical diseases I had never seen before such as malaria and visceral leishmaniasis. I also saw patients with diseases also common in the UK, but at much later stages of presentation that I had previously encountered, including a cachectic looking lady with massive ascites who appear to suffering from the advanced stages of a malignancy. I also witnessed a death from a perforated peptic ulcer (h pylori is not widely diagnosed or treated in Ethiopia). The hospital also did not have access to the treatments for upper GI bleeds available to us in the UK such as endoscopic interventions or tranexamic acid.

The EM department was extremely quiet (for reasons discussed in the following section), and most of the presentations I did see were due to assault, including a man who had been hit on the head with

an axe by his brother, a woman who had been shot in the legs by her husband, and a man who had been shot in the abdomen by his neighbour. These cases were quite distressing when one compared the treatment available to these patients in Ethiopia, compared to that which they would have received in a country with better healthcare and resources. In the case of the lady her legs were put in traction and she was eventually transferred to a hospital in M'kele a city 4 hours drive away where there were orthopaedic surgeons. This took place after 16 hours and the only analgesia she received during this time was IM diclofenac. The man shot in the abdomen unfortunately died from a massive internal haemorrhage, that could have potentially been prevented by a surgeon with the necessary skills had there been one available.

4. Resources, equipment and training

The Emergency department of the Referral hospital in Aksum had nowhere near the kind of resources that one would expect as standard in the UK. Most essential medicines were available from the pharmacy and X-rays, ultrasounds and basic blood tests could be performed. There was reliable electricity, but no running water for the last 5 days I was there.

During our time in ED we found a lot of equipment unused in cupboards such as an uncharged defibrillator, airway adjuncts, oxygen masks and O2 saturation probes. There was also an unopened ABG machine in the ICU department that was not in use due to lack of reagents. I was also struck by the fact there did not seem to be a systematic approach in use towards the immediate assessment of an acutely unwell patient. From our perspective this was incredibly frustrating to see, but I also think it is extremely important to question the judgmental feelings that arise as result of witnessing such poor standards of healthcare and seek to understand the broader determinants contributing to this situation. The main factor at play here I think was a lack of training and support. This was certainly the case in the example of the defibrillator – none of the staff we spoke to had been trained how to use it. In addition, most of the doctors in the hospital had only been practising for one or two years so were relatively inexperienced, and there was a distinct lack of senior support. There were only one or two doctors in the whole hospital over the age of 35. There was also a high turnover of staff in the hospital meaning that there was little continuity in terms of developing systems or protocols. The Referral hospital is Aksum is still in its early days and hopefully it will be up and running more efficiently over the next few years.