ELECTIVE (SSC5c) REPORT (1200 words)

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

My elective took place at the MRC Unit, The Gambia between April-May 2015. This was a fantastic opportunity for me where I was able gain insight into the health care system of The Gambia; learn about conditions not seen so commonly in the UK and start developing skills in procedures I had not previously performed. Before I set out on my elective I set myself 4 objectives to reflection on upon on my return: 1) Describe the common infectious diseases seen in The Gambia and how they are treated, and compare this to commonly seen infectious disease in the UK; 2) Describe how medical services are arranged at MRC The Gambia, and how this compares to in the UK; 3) Describe the hepatitis B vaccination programme in The Gambia and the impact this has had on health; 4) Develop my skills in research through participation in projects at an international research centre.

Describe the common infectious diseases seen in The Gambia and how they are treated, and compare this to commonly seen infectious disease in the UK

I am particularly interested in infectious disease and tropical medicine, which is one of the factors that led me to undertake my elective at MRC The Gambia. In The Gambia I saw many patients with infectious diseases; many were similar to those seen in the UK but there were also those that were different. Sepsis was one of the most common reasons for admission at the unit. Common sources of sepsis included pneumonia, meningitis and urinary tract infection. These were managed similarly to in the UK with cultures taken first followed by antibiotics, IV fluids, and then monitoring the response. In the UK as part of the 'Sepsis 6' it is protocol to do a blood gas, however this investigation was not available at the MRC. The first line antibiotics for sepsis were ampicillin and gentamicin. Other antibiotics, which I have seen used less commonly in the UK, included chloramphenicol, which was often used for suspected osteomyelitis. It was also interesting to see that fever was often managed with tepid sponging, which is a technique I have not yet seen in the UK. Infections I saw which I have seen less commonly in the UK included severe osteomyelitis and abscesses. I think this is perhaps because people in The Gambia present to hospital later than in the UK once they have developed more serious tissue infections. One lady I saw had an osteomyelitis and from her history had had the problem for years, this was then treated with surgical resection of the bone.

Infectious diseases that I have seen less commonly in the UK include HIV, tuberculosis and hepatitis B. HIV management has changed recently at the MRC unit, as they are no longer allowed to provide pharmacological treatment. The HIV cases I saw were much more advanced than most cases I have seen in the UK with complications such as Kaposi's sarcoma, shingles, severe candidiasis and tuberculosis. Patients were managed for their complications and then referred to a unit who could provide pharmacological treatment. Tuberculosis is medically managed in the same way as in the UK with quadruple therapy and pyridoxine. They have an active contact tracing and prophylaxis programme at the unit and I was fortunate to spent a day with the tuberculosis outreach team providing prophylaxis to the contacts of patients with tuberculosis who are aged less than five years old, which was a great experience.

Describe how medical services are arranged at MRC The Gambia, and how this compares to in the UK

Admission to the MRC unit follows a specific protocol. A maximum of 150 of tickets are allocated for patients to be seen at the unit each day. Patients are seen first at the gate clinic and triaged by a nurse. Patients are then either treated at the gate clinic, referred to main clinic to see one of the clinic doctors or referred straight to the ward depending on how unwell there are. Patients who are to be admitted are clerked again once they get to the ward. This involves assessment of the patients by one of the ward doctors usually with one of the nurses in the treatment room where the initial investigations for the patient are done. The treatment in then initiated on the ward by the nurses. There are three wards at MRC one for paediatrics and one each for men and women. The inpatient capacity is about 40 patients. There are no surgical of obstetric facilities so patients with problems of this nature are referred to another nearby hospital such as Banjul. The inpatient facilities were very good and there were a relatively large number of nurses and student nurses on the ward. Some of the medications that are routinely used in the UK were not available and there were certain investigations that could not be done, however compared to other hospital I have visited in less well resourced countries in the past, the unit was very well resourced. It was interesting for me to visit and compare the main public hospital in the capital, Banjul, which was much more crowded with a much high patient to staff ratio and where a lot less diagnostic tests were available.

Describe the hepatitis B vaccination programme in The Gambia and the impact this has had on health

A vaccination programme for hepatitis B in The Gambia was started in the 1980s as part of a trial to test the efficacy of vaccination against hepatitis B in the prevention of hepatocellular carcinoma. Hepatocellular carcinoma is the leading type of cancer and the leading cause of cancer death in The Gambia; hepatitis B infection is a major risk factor for this. Results have shown a large reduction in the carriage of hepatitis B in The Gambia due to vaccination. A generation of patients who have been vaccinated are now coming to the age when they would start presenting with complications due to hepatitis B, such as cirrhosis or hepatocellular carcinoma. Therefore, soon more results about the effects of vaccination against hepatitis B on health will be available. It has been very interesting to learn about the epidemiology of hepatitis B in The Gambia. It has been shown that the majority of transmission occurs horizontally between children; however the actual mechanism of this remains to me largely unclear. I really enjoyed attending the liver clinic and learning about hepatitis B and its complications and it was great to use the Fibroscan, which I have never seen before. I was interested that more people I saw with hepatitis B and its complications were men. I have thought about the possible reasons for this which may include genetic differences affecting vulnerability to infection, differences in transmission rates, greater health care seeking behaviour in men, more opportunity for diagnosis of hepatitis B in men through activities such as blood donation, or increased risk of liver disease due to other risk factors such as alcohol intake or exposure to aflotoxin in ground nut. I look forward to hearing the results of the on-going hepatitis B studies as they are published, since this is an area of medicine that really interests me.

Develop my skills in research through participation in projects at an international research centre.

I am eager to develop my understanding of and experience in medical research, which was one of the reasons why I was keen to undertake my elective at MRC The Gambia. It was very interesting to meet so many clinicians who have been involved research in tropical medicine and learn about opportunities that might be possible for me in the future. I was very pleased to be able to undertake a small research project during my placement. Whilst at the unit I conducted a retrospective analysis of the last 5 years of admissions of patients with sickle cell disease to the ward. First I needed to identify

patients with sickle cell disease using the ward admissions books and then retrieve the patients' notes from the records room and go through them. I recorded details including the patients admitting parameters, their diagnosis and management and if there was any positive cultures what the pathogens were. At first the volume of information to go through was quite daunting and I found balancing my time between the project work and clinical work sometimes difficult. This made me think about what it may be like to balance commitments in a clinical academic career. It was very useful for me to learn about what kinds of challenges can be experienced when doing research, for example due to the record system, accessing necessary patients information was not always possible. It was great to learn about collaborating with others, as I needed to communicate with the ward staff, records room staff and laboratory staff to obtain the necessary information. Presenting my preliminary findings to a small group of staff interested in sickle cell research in future and at the department meeting were enjoyable and really helpful experiences. Now I am back in the UK I hope to write up my findings formally to submit for a publication.

In conclusion, I had a brilliant time at MRC The Gambia. I was privileged to meet clinicians and researchers who are doing extremely interesting work. The Gambia is a beautiful country and it was amazing to meet people and learn about their cultures. Differences in health systems and access to health care around the word are issues that particularly interest me. That many people in The Gambia cannot receive the health care they need because they cannot afford it is something at times I found exceptionally difficult. The people I met and the experiences I had have further inspired my interests in global health, tropical medicine and medical research.