ELECTIVE (SSC5b) REPORT (1200 words)

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

Consider the pattern of disease and illness in Peru (specifically in Apurimac) and how this relates to global health trends.

The area of Peru in which I worked is a city named Curahuasi, within the Curahuasi district of Apurímac. It is a mountainous town at approximately 2680m of altitude. The area is often referred to as 'the Poorhouse of Peru' and the population is predominantly made up of Quechua Indians – the indigenous people of Peru. The hospital at which I worked is a mission hospital known as Diospi Suyana. People from across Peru flock to this hospital, and so it provides an interesting intersection of the needs of Peruvian people.

Upon working in this hospital, the first thing which became immediately clear was that a very common pattern of disease here is the presence of parasites. In many parts of Peru – including large cities – the water is not potable. This means that it was not uncommon to attend to patients with a series of symptoms ranging from the diffuse and vague to the acute and specific. However, through a mixture of empirical evidence, clinical knowledge, and stool samples, it soon became clear that the vast majority of these complaints could be attributed to parasites – often blastocystis hominis or giardia lamblia. In addition, helminths such as hookworm and roundworm are not uncommon. As a result, general advice suggests anti-parasite treatment every 6 months. This, however, is rarely observed and as such patients may present with symptoms of chronic infection. Particularly in children this can cause long term effects such as stunted growth and malnutrition.

Overall, the prevalence of these measures demonstrates that the level of water safety within the country is not in keeping with the measures set out by the World Health Organisation in their 'Global overview of national regulations and standards for drinking water quality'.

Another significant difference between Peru and the UK is the prevalence of gastric cancer. In Peru, gastric cancer is extremely common, affecting 15.8 people for every 100000 inhabitants. Whilst this is in part to do with the diet – including a diet rich in spicy and highly salty foods, it must be noted that Helicobacter Pylori, a type 1 carcinogen owing to its direct link to gastric cancer, is far more prevalent in Peru than in the UK. In addition, the rates of antibiotic resistance seen in H.Pylori is higher in Peru. This means that in the case that H.Pylori is even diagnosed, there is a reduced chance of eradication taking place.

It should be noted that the rate of reinfection with H.Pylori in the case of eradication is also particularly high in Peru. This, too, has been attributed to the lack of potable water available.

To describe the different means of health provision in Peru, and how they differ from what is available within the UK.

Within the Peruvian healthcare system, there are several different providers. The biggest of these are MINSa (Ministerio de Salud) and EsSalud. EsSalud is a health insurance offered by many employers, allowing access to healthcare for those involved in various trade unions. Since a law was put in place in 2009 requiring all citizens to have some form of seguro (health insurance), the poorest of civilians have also been provided with insurance in the form of a system called SIS. This allows them to access surgeries, medications and other health provision which they may be otherwise unable to afford by means of attending their local primary care facility, where they can be referred onwards to hospitals and doctors who take this type of insurance. Medicine in Peru also differs from the UK in that the private sector constitutes a large proportion of the healthcare providers, with 38% of healthcare controlled by this sector.

Outside of the secondary care setting, Peru has a system of primary care known as 'Puestos' or 'Postas'. These provide several services. It is often the first point of call for a person who is unwell, where they may be examined and treated. In addition, several important public health aspects are taken care of by the Postas including immunisation of children and cervical smear testing. This primary care aspect is similar to the UK, where we have our general practice clinics. However, in contrast to the UK's , postas do not always have a doctor present, relying on the expertise of nurses.

To investigate and describe the usage of antibiotics in Peru in comparison to the UK and whether these are in line with WHO objectives.

One aspect of Peruvian healthcare which became very clear to me during my time abroad was the approach to antibiotics. As previously mentioned, infectious diseases are a huge proportion of the country's disease burden. This ranges from illnesses commonly also seen in the UK such as bronchiolitis in the child, to a high rate of tuberculosis and waterbourne disease. As such, antibiotics ought to play a significant role in treatment of bacterial illness. This is, indeed, the case. However, from what I saw, this was not always handled responsibly. Although the Postas provided great services in the availability of immunisation and screening for certain conditions, the use of antibiotics was often entirely irresponsible. During my time with one of the Paediatricians, it was clear that a viral illness was making its rounds. Children presented with coughing, sneezing, fevers and sore throats. On careful examination of these children, it soon became clear that the vast majority were purely suffering an acute viral illness which needed supportive management and symptomatic relief. However, I was concerned to see that many of these children were already being given entirely superfluous Amoxicillin, acquired either by prescription from their Posta or simply purchased over-the-counter by the parents. This overuse of antibiotics, in itself, can contribute to antibiotic resistance. More concerning, however, was that it was not uncommon to hear from patients that they simply ceased taking their antibiotics when they felt better.

In the UK, antibiotic overuse and misuse is, of course, also a problem. When presenting to a GP, it is not uncommon for a patient with a viral illness to demand antibiotics. However, as both a medical professional and a patient in the UK healthcare system, it seems to me that that general awareness of the public of the dangers of antibiotic misuse is higher, owing in part to advertising and re-education by healthcare professionals.

In the case of Peru, I was particularly concerned as empirically, I also saw a two year old child with pyelonephritis. On culturing of the bacteria involved, it was found that she had a Multi-resistant strain of E.Coli, a terrifying prospect for clinicians in charge of a young child with recurrent infection.

Overall, the use of antibiotics was not helped by the lack of regulation of their purchase, nor the lack of public health education provided, and I found myself very concerned when reviewing the WHO publication entitled: "The World is Running Out of Antibiotics" as I could easily see how this might come to pass – and particularly at risk are people in resource poor countries such as Peru.

To improve my understanding of healthcare in a different part of the world, to improve my confidence as a medical practitioner outside of the comfort of environments similar to how I have trained, and to gain confidence and fluency in my Spanish language skills.

Working in a new environment as a medic was a challenge in many ways. Primarily, I was working in the hospital and speaking in Spanish, a language which I have learned but is not one I use regularly. As such, basic skills such as history taking and instructing patients during examination were more challenging than usual. As well as this, there was the difference in culture to contend with. Having studied in London, I feel I have a good understanding of different cultural approaches to medicine and illness, however this group of predominantly Quechua people - some of whom are extremely poor - challenged this assumption. Perhaps in line with the education standards and the result of extreme poverty, I found the concept of prevention to be a difficult one to share with many of the patients. It was not uncommon, for example, for female patients to have never had a smear test. This was a shocking revelation to me, as in the UK the currrent 'adequate' uptake rate of screening tests is approximately 72% (NHS Digital, 2017). Whilst this is far from ideal, it seemed that despite the possibility of a free annual cervical smear test available at the Postas,the uptake rate amongst this people group appeared to be far lower, with reduced understanding of its importance. Indeed, this mindset made common, chronic conditions such as Diabetes Mellitus harder to treat, as understanding is key to compliance. Despite these difficulties, I soon found that I was able to learn ways in which to communicate effectively, interpret responses (for example, distinguishing between various descriptions of pain). As well, although the experiences I had as a medical student in East London were invaluable, I particularly enjoyed being able to do less specialised medicine, especially in areas such as paediatrics, in which I had previously felt uncomfortable.