SINTHU
VIVEKANANTHAN
INFECTIOUS
DISEASES

Elective essay

I completed my elective in Iquitos, Peru where I shadowed the medical staff of Hospital Regional de Loreto. During this time my aim was to understand the health system in this country and how it differed to that in England and also to learn about diseases that were more prevalent here.

Iquitos is the largest city in the Peruvian rainforest and is the second largest city in the world that can only be accessed by water or air. It is the largest city within the province of Loreto. Hospital Regional de Loreto is one of four in Iquitos. As this is within the Amazon basin, the diseases that occur here differ from that in England. Within the hospital there is an infectious diseases department. Here there were patient with conditions such as dengue fever, malaria and leptospirosis. There were also patients suffering from poisonous bites after contact with animals such as snakes. The climate here has specific wet and dry periods. During the time we were in Iquitos, the city had experienced a heavy rainy period and had suffered from the worst flooding in twenty years. Some areas were covered in water nine metres deep. As a result, there had been a leptospirosis outbreak from which there had been 300 cases and 3 deaths so far in 2012.

In Loreto, the area is very rural and as the population is very spread out in this area. Therefore compared to the 186-5774 inhabitant per km^2 in Lima (Peru's capital), there are around 4 inhabitants per km^2 in Loreto. Because of the dispersed population, there are large distances between the Peruvian people and their health care providers. Therefore many people decide to go to local healers and get alternative medical therapies or they may decide to just suffer the symptoms of the condition until it gets too painful to endure.

Many people in Iquitos are poor and earn around two Peruvian Nuevo sols per week. This is the equivalent to fifty pence. People are able to get access to health care if they pay for medical insurance. If they earn enough then their taxes can also go towards paying for any medical consultations or treatment. The hospitals in Iquitos have a limited number of resources and so treatment for some conditions can only be done in Lima. Therefore patients are transferred here providing that there are beds available. There is usually a two month waiting list for these patients. There were many patients I had seen that had allowed their condition to progress as they had not sought medical treatment early enough. One patient presented with a very large tumour growing on the anterior aspect of his thigh and another presented with a rare tumour called an ameloblastoma which originated from odontogenic epithelium.

The staff at the hospital seemed poorly supported compared to that in the UK. On the wards during my university placements it is common to see different types of healthcare personal attending to different aspects of the patient's healthcare. The multi disciplinary team involves those such as doctors, nurses, physiotherapists, ward manager and occupational therapists. However in Iquitos the wards were very quiet. The professionals I commonly saw were the doctors and the interns. The interns are student who have no yet graduated as doctors, however their course involves completing two years of training before they qualify. Therefore they do the jobs that doctors in the UK carry out in their foundation years. I understood that the fact that the hospital was understaffed was a big problem. As I mentioned earlier, there was a limited number of resources that the doctors had access to in the hospital. This limited the amount of treatment that could be provided and therefore

some patients would have to face the possibility of being put on a waiting list. The medical staff also faced problems of limited resources. During my stay on the intensive therapy unit, I observed the doctors work with much dedication and passion to care for patients from the paediatric ward. Two of the patients were especially unwell and their well being seemed to balance on a knife edge. A five year old girl suffering from broncho pneumonia, deteriorated considerably and went into respiratory distress. She was ventilated using a bag valve mask. At the same time a baby also in critical condition was suffering from dextrocardia, a patent ventricular sinus duct and pneumonia. The baby also went into respiratory distress and was ventilated using a bag valve mask. At the same time both children happened to deteriorate even further and had to be put on a ventilator. During this tense period there were only four trained personal on the ward. As there was lack of support the consultant had to intensely work with both children at the same time to keep them alive. The mother of the baby became very distressed but there was no medical staff available to console her and a medical student looked after her instead. This experience made me realise how well the health system was organised is in the UK. To make matters more difficult during the time that the children were on the ventilator, there happened to be a power cut. As there was no back up generator the medical staff had no choice but to ventilate them using a bag valve mask again. This is an example of how the doctors had to work with limited resources, however during the time I followed the children, it was a mark of how skilled the doctors were in working in such environments. The children had improved and were stable at the time I left the elective placement.

In the UK there are many regulations that are followed for the health and safety of both the patients and medical staff. An important safety tool is the sharps bin. During my stay on surgery I noticed that there was no use of sharps bins in the operating theatre. Also the sterile drapes used in theatre to only expose the area being operated on were reused material drapes and that sterile technique was not always strictly adhered to. During my time on the medical wards I observed that they were quite small and cramped and that there were not many side rooms.

Leptospirosis is a bacterial infection that is most common in the tropical parts of the world. It is increasing in poor areas of large cities. The main source of infection is from rats but it can also be carried by animals such as dogs and cattle. It is excreted in the animal's urine and can then survive outside the host provided that it has a warm, moist environment to live in. There is a mild and severe form of the disease. Ninety percent of cases are mild and involves the patient experiencing flu like symptoms such as muscle aches and chills. The more severe form can cause the patient to have jaundice, kidney failure, organ failure or internal bleeding. Investigations include liver function tests, full blood counts, chest x ray and if identified in the first 48 hours, doxycycline is the treatment of choice. Patients with the severe form are treated with penicillin G. Malaria another tropical disease is spread by the Anopheles mosquito. It is a protozoa and there are different strains called plasmodium falciparum, plasmodium vivax, plasmodium ovale and plasmodium malariae. Infection causes symptoms such as fever, sweating, rigors, anaemia and jaundice. It infects the liver and then acts as a parasite in red blood cells. Plasmodium falciparum causes a more severe form of malaria and symptoms a patient may have include renal failure, acute respiratory distress and bleeding. It is usually identified using a blood film. Dengue fever is spread by mosquitoes, commonly by Aedes aegypti and is found in tropical and subtropical regions. Patients experience a sudden high fever and may also have a macular rash. Their skin sensitivity increases and they then get a second rash that is similar to that found in measles. Other symptoms include fatigue, vomiting, pain on eye movements and joint aches. It is diagnosed by carrying out antibody titres and a PCR can also be performed.

There is no treatment, instead care is supportive. Fluids are given if the patient is dehydrated and treatment is given to reduce the fever. Yellow fever is another viral disease which is carried by primates and mosquitoes. They are transmitted to human by mosquitoes and have an incubation period of three to six days./ Symptoms include fever, headaches, chills and vomiting. This lasts for around three to four days however 15% of patients enter a second toxic phase where there is return of fever and other symptoms such as jaundice due to liver damage, abdominal pain and bleeding. It is diagnosed clinically and as there is no drug treatment available, care is supportive.

My stay at the Hospital Regional de Loreto has been a very interesting and educational stay and has given me a better insight into some of the problems poorer cities face when it comes to health care.

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