

## **ELECTIVE (SSC5b) REPORT (1200 words)**

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

### **Medical Elective Report 2017**

I spent four weeks at Angkor Hospital for Children (AHC), Siem Reap, Cambodia as part of my medical elective. AHC acts as both a training hospital for paediatrics for all ranges of local healthcare professionals from those serving in the community right up to the level of specialists in tertiary care. Furthermore, AHC is a non-profit organisation working in conjunction with the Cambodian Ministry of Health, which aims to deliver free high quality healthcare for the paediatric population of Cambodia. The report that follows is an attempt to give a brief summary of my experiences and the lessons I learned here at AHC in comparison to the healthcare system of the United Kingdom (UK).

**Objective 1: What are the diseases in Cambodia that contribute the most to mortality and morbidity in the paediatric population of Cambodia? How does this differ to the UK?**

According to data from the World Bank (1), the estimated neonatal mortality rate (NMR) for the United Kingdom (UK) in 2015 was 2.0 per 1,000 live births while the Under-5 Mortality Rate (U5MR) was 4.0 per 1,000 live births. In comparison, the estimated NMR in 2015 for Cambodia was 15.0 and the U5MR was 28.0 per 1,000 live births. The commonest cause of death in the under-5s and neonates in Cambodia is pneumonia and prematurity respectively. Of note, while prematurity is similarly the major issue for neonates in the UK, neoplasms have overtaken respiratory conditions as the commonest cause of death for children in the UK (2). While both neonates in Cambodia and UK may be affected by the same problem of prematurity, the lack of treatment proven to reduce mortality and morbidity such as pulmonary surfactant and induced hypothermia means that outcomes for premature babies in Cambodia is often worse. Similarly, while patients in Cambodia and UK may both be affected by pneumonia, healthy children in Cambodia can easily die from it while in the UK with the availability of better supportive treatment and a higher prevalence of well-nourished children generally, it would have to be a very severe pneumonia or to be a very vulnerable patient that would succumb to it.

**Objective 2: To experience the challenges of delivering health care in a resource limited setting, to a high density patient population.**

I spent two weeks in the outpatient department (OPD) and two weeks in the inpatient department (IPD) in AHC. The OPD system here differs from that of the UK since Cambodia does not have a primary care service such as that in the UK which acts as a point of triaging which patients are more acutely ill and require further care. This means that the OPD in Cambodia sees a mixture of not only patients with chronic diseases requiring follow-up, but also a variety of acutely ill children which may require admission to the IPD. The effect of this is that there is a higher volume load of patients that needs to be seen which can affect the quality of care each patient receives as well as been a hurdle to opportunities for residents in training to get adequate learning on the job from their supervisors. Apart from the OPD and the IPD, AHC has been expanding over the years in terms of offering a wide variety of services for its paediatric population including a neonatal unit, a combined intensive care and emergency unit, and surgical departments, eye and dental clinics, social work and physiotherapy units. Similarly to the UK, the commonest illnesses the children presented with included

respiratory tract infections, gastroenteritis and viral illnesses. The last diagnosis in particular is often solely a clinical diagnosis since advanced investigative techniques such as PCR is not yet present here. Here however, there is a high prevalence of dog bites with the worry being that they may transmit rabies as dogs here do not have a strict rabies vaccination programme as in the UK. Even though dog bites is one of the most common presenting problems, immunoglobulin treatment is a limited resource here and it was interesting to watch the risk assessment qualifying for the treatment been carried out including determining what instigated the incident, and whether it involved high risk parts of the body such as the face. Speaking of vaccinations, I also saw several cases of mumps, a viral illness rarely seen in the UK due to its strong vaccination programme. Another new perspective for me was the presentation of patients with tropical infections which included dengue fever, typhoid fever, malaria and melioidosis. Of all of these infections, melioidosis was a new one that I had never heard off and indeed AHC is one of the main centres of research globally for this relatively unknown bacterial infection.

As a centre for education for healthcare professionals, I was quite impressed with AHC's teaching programme for its interns and residents. They had discussions, case presentations, bedside teaching and lectures surrounding a wide variety of topics. As a centre striving to improve on the delivery of good quality healthcare, I was also impressed to find out that AHC was the main centre for treating retinoblastoma in Cambodia and was looking to expand its treatment for other cancers. I even had the chance to meet the resident oncology fellow who shared about how he chose this specialty because he wanted to help patients, families and even his colleagues, see that cancer was no longer the terrifying death sentence it used to be in the past.

**Objective 3: How do the limitation of resources in Cambodia affect the treatment and health outcomes in the paediatric population of Cambodia? How does this differ to the UK?**

In terms of morbidity, the major concerning issues for the paediatric population in Cambodia included anaemia and malnutrition. According to the Demographic and Health Survey (DHS) 2010 for Cambodia (3), at the time of their survey, they found 56% of children aged 6-59 months to be anaemic. During my time here at AHC, I would regularly observe 5-6 beds out of the total of 35 beds of the inpatient department (IPD) to be filled with patients presenting with symptoms of dyspnoea and lethargy suggestive that their anaemia had reached a level of severity as to manifest with signs of hypoxia. The most common underlying cause of their anaemia I saw in the IPD was  $\beta$ -thalassaemia and malnutrition was another contributing factor. These patients often had palpable hepatosplenomegaly and had haemoglobin levels which were very low as to require blood transfusions putting them at risk of iron overload. In the UK, children would probably not reach this stage as firstly, they are more likely to be detected at birth, if their parents weren't first genetically screened for carrier status. Furthermore, patients in the UK have their risk of iron overload actively managed through treatment with desferioxamine and the option of bone marrow transplants.

WHO has defined several categories of malnutrition with stunting being the mildest form. Stunting is defined as a fall below minus two-standard deviations from the median height-for-age of the WHO standard (4). According to the 2010 DHS, 40% of children under-5 achieved this definition. In the IPD I saw a few cases of severe acute malnutrition, mainly that of marasmus where the patients presented with severe wasting to a point of their ribcages standing out very prominently. There was also a mortality review meeting which interestingly featured a case of a child presenting with signs of

kwashiorkor whose cause of death was queried to be due to refeeding syndrome. AHC works with parents through their social work unit to address this issue by assessing whether they need financial and food support as well as providing nutritional education based on the food sources available to them.

Finally, here, I had the opportunity to observe the very different outcomes of the patients here in comparison to patients in the UK who have more treatment options available. The best example would be the patients with haemophilia who often presented with painful swollen joints and fixed flexion deformities which impaired their ability to walk. This is a result of the lack of prophylactic doses of replacement for Factor 8 which is available for patients with haemophilia in the UK.

**Objective 4: How do the systems and resources for play and education present in this setting differ from the UK?**

As a volunteer for Project Play in the UK, I have a special interest in play and education, and its importance for paediatric patients, especially those with chronic diseases. Here at AHC, I was interested to find out how this compared to the UK. My observation was that there was a combination of an exposure to the intense outdoor weather and limited resources for play which lead to a lack of stimulation and missed opportunities for learning for the children here while they are in hospital.

Patients in the UK have facilities suitable for all age ranges whether it be sensory stimulation for babies or games and crafts for the older children. Most importantly, educational lessons are available for those requiring long-term hospitalisation to give them a chance to keep up with their schooling. In AHC, though they do not have similar resources, I was quite encouraged to see that they have play therapists and a social work unit that aims to support paediatric patients and their families holistically. The play therapists here in AHC rotate between the outpatient and the inpatient department. They teach origami and provide books and colouring activities for the children and even their parents!

On the other hand, I have spoken to patients who have stopped schooling unfortunately due to their chronic diseases which require them to make frequent trips to the hospital and often for long durations. In addition, the smaller number of hospitals in this country means that patients often have to travel long distances to get treatment in the hospitals which adds to the burden of interference with the families' daily lives. Another point to note is that procedures such as cannulation and drawing bloods are usually done with the help of play therapists in the UK who distract the child and help to reduce the distress that usually accompanies these painful procedures. Though this practice is not yet adopted in AHC, there are plans in work to have volunteer play specialists help integrate more play into the work of the hospital with its patients. Lastly, during my time in the OPD, I sat in clinics for epilepsy and cerebral palsy and therefore I saw a high number of patients with developmental delays, a large part of it being a contribution from birth asphyxia. At the moment, these patients receive physiotherapy and their families receive follow-up visits from the social work and home care unit teams who are more likely to be the ones coordinating their care compared to in the UK where it is led by nurse specialists or consultant paediatricians.

**(1 932 words)**

## References

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