

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

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

**1. I would like to observe how the pattern of disease differs in Punjab compared to that of the western world, mainly England and the consequences of this for global health**

Most surprisingly, and something that still causes me some confusion is how common Takayasu arteritis is in India. The incidence of which in the UK is 1 in 1 million. In the space of 2 weeks in PGI I observed at least 35 cases. As this is not a communicable disease I would assume gene/environment would play some part in the aetiology. Although the consequences for global health are not clear, increasing migration would mean doctors around the world should be prepared to deal with unfamiliar disease. As I expected, communicable disease were a very common presentation at PGI. For the first time in my training I have observed rheumatic heart disease and its complications. Prior to this, my only contact with this disease was through a text book as it is incredibly rare in the UK. With increasing access to healthcare in India, the incidence of this once common disease is falling. However, what surprised me the most was the abundance of Tuberculosis. Moreover, not just pulmonary tuberculosis, but extra pulmonary disease such as TB pericarditis and Potts disease. Worryingly, due to poor compliance, sadly TB is becoming more resistant to the standard 4 drugs. During my time here, I have come across a term, extensively resistant TB which basically means no drugs are effective against the bacterium. The prognosis for this subtype is very poor. The consequence for global health is worrying. The spread of this TB throughout India and the world provide an incredible challenge to healthcare authorities to try and combat and eradicate the disease. Especially with increasingly more travel throughout nations.

**2. My second objective is to observe the differences in allocation of funding and resource management in Punjab compared to the UK.**

This was an interesting observation at PGI. This incredibly large institution attends to over 500 patients a day at its emergency departments. A lot of the patients that attend PGI are in the later stages of the disease process as it is a tertiary centre, where people are referred to when local hospitals have exhausted their options. This means a lot of patients present with shock/low GCS and require intubation and ventilation. The emergency departments do not have enough ventilators to deal with the patient demand. Therefore, relatives must bag valve mask their kin until the patient improves, an ITU/HDU bed can be found or unfortunately until they deteriorate. Although there are ample nurses available, again due to the sheer number of patients requiring emergency intubations in the halls of the emergency department they cannot spend their entire time bag valving patients. Secondly, at PGI, all drugs and equipment apart from emergency drugs such as those used for cardiac arrest must be purchased and collected from the hospital pharmacy before they are administered. These drugs are at an incredibly low price and makes allocation of resources of PGI simpler. It also means staff can concentrate on pure medical needs. Moreover, in the UK obtaining a non-emergency CT scan can take weeks and MRI months. In India this was not the case at all. Due to the high population numbers and abundance of private hospitals, patients were able to obtain these scans within days. They then brought in the scan report with them to hospital admissions and outpatient clinics. I found this efficient and I believe the UK, which is facing an allocation of resource problem due to a sole public system, could think about adopting this method.

3. I have an interest in endocrinology and diabetes. Therefore, I would like to observe the burden of diabetes in North India and to see if it is a rising epidemic as it is in the UK. I would like to then observe what strategies are being used to deal with this and if the UK/India can learn from each other.

India was previously, compared to the western world a famished country with poor nutrition. However, over the last few decades it has become increasingly wealthier, the population more nourished and generally people are living better quality lives. However, with more wealth, more food and western diet influences along with south Asians having a higher baseline risk of diabetes unfortunately, diabetes is becoming more common. Most patients understand this term as "sugar " problem here but do not understand the long term consequences. Patients are incredibly compliant with their medications in India from what I have observed, probably better than the UK. However, there is a war against allopathic vs homeopathic medicine in India and unfortunately, some patients would rather take the latter approach deciding to ignore allopathic altogether. I observed a 14-year-old girl who attended medical emergency with severe DKA who needed ITU support. The reason was because their parents decided that homeopathic medicine would be more beneficial.

4. Practice diagnostic ability in rural settings with limited resources.

Looking at this objective now, it seems a bit pre-judgmental. Although doctors at PGI have a firm understanding of basic clinical skills and used them for their practice I was surprised by how much more advance they are at using ultrasound than the UK. Most Junior residents, who are recent MBBS graduate have a good ability to provide point of care ultrasound scan (POCUS). They were proficient at carrying out basic echocardiograms, rush scans to look for potential sources for shock and also assessing inferior vena cava diameter. Consultants during ward rounds also practiced POCUS to aid their diagnostic and therapeutic decisions during ward rounds. Although this was a limited observation, I saw how a simple/noninvasive and relatively quick procedure (less that 10 mins) would lead to a in change diagnosis and therapeutic decision. A recent study by the African journal of emergency medicine concluded that pocus provided new vital information in 45% of cases and in 25% of cases lead to an altering of diagnosis or therapeutics (Stachura et al., 2017).

On reflection of this observation, I have set a goal for my academic foundation block. I would like to attend ultrasound courses to become more aware and proficient of its ability. Furthermore, ideally, I would like to look at implementing limited POCUS teaching for senior medical and foundation year doctors. I believe this would be vital in increasing diagnostic accuracy and therefore expedition of appropriate therapy. For example, a simple ultrasound scan to assess the inferior vena cava diameter would assess the fluid status of a patient in shock. This quick simple assessment would triage the patient to either requiring fluid challenges or more advance inotrope therapy in a specialist unit. This would further lead to less complications such as pulmonary edema from inappropriate fluid therapy. This is something I observed here at PGI and found it worked really well. I would love to take this skill with me back to the UK.

## References

Stachura, M., Landes, M., Aklilu, F., Venugopal, R., Hunchak, C., Berman, S., Maskalyk, J., Sarrazin, J., Kebede, T. and Azazh, A. (2017). Evaluation of a point-of-care ultrasound scan list in a resource-limited

emergency centre in Addis Ababa Ethiopia. *African Journal of Emergency Medicine*, 7(3), pp.118-123.