

## **ELECTIVE (SSC5c) REPORT (1200 words)**

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

**Learning Objective 1: To explore the different common cardiovascular conditions treated in Japan comparing it the UK**

Mortality from cardiovascular disease (CVD) ranks second in Japan and in the UK, with cancer ranking first and respiratory disease being third; according to the Japanese Ministry of Health, Labour and Welfare and UK's National Statistics. With both of these developed countries having different cultures and lifestyle, it is an interesting trend to observe.

According to the statistics, Japan actually has a higher prevalence of CVD than the UK. With the latest figures available, in 2013, the number cardiac deaths in Japan was 197,000; whereas the UK had 160,000 cardiac deaths. The UK faces 175,000 cases of myocardial infarction annually, with over 1 million people diagnosed with atrial fibrillation. Such cardiac conditions amongst the others have a strong impact on the economy and health in both countries. For example, the British Heart Foundation states how the impact, treatment and prevention of CVD leads to a cost of £19 billion per year.

Osaka University Hospital has provided a good insight and representation on the common cardiovascular diseases being diagnosed and treated across Japan. From the clinical experience at Osaka University Hospital, both countries were diagnosing and treating exactly similar cardiovascular conditions. For example, during Cardiovascular Surgery and Cardiology attachments at Osaka University Hospital, they deal with common cardiac cases just like the UK, such as valvular heart disease, coronary heart disease (CHD), cardiomyopathy, heart failure and atrial fibrillation.

**Learning Objective 2: To compare & contrast the differences between the treatment of cardiovascular diseases in Japan with UK**

Interestingly, it is difficult to establish differences in the treatment of cardiovascular diseases between Japan and the UK. In Japan, the Japanese Circulation Society (JCS) provide the healthcare profession in any field, including Cardiology and Cardiovascular Surgery with guidelines on all aspects in diagnosing, treatment and prevention. Many of these guidelines do differ to UK's guideline, in terms of not including the latest new drugs which the UK have approved and added to their guidelines already for a few years now. One example is Ivabradine, which is one the latest approved drug in the UK for severe heart failure, which is not the case in Japan. The understanding is that Japan takes a longer period of time in approving new medications and treatments than UK and United States. Another example is Trans-aortic Valve Implantation (TAVI), which just got approved in Japan in 2014, whereas in the UK it was approved a couple of years before.

It is positive to observe that both countries have the latest technology and techniques in treating all kinds of cardiovascular diseases. During my Cardiovascular Surgery attachment at Osaka, I was able to observe first-class surgeries, including implantation of left-ventricular assisted devices (LVAD), TAVI, coronary artery bypass grafting (CABG), valve replacement (aortic and mitral), mitral valvulotomies,

repair of congenital heart conditions in children and adults, vascular cases such as Endo-vascular aneurysm repair (EVAR) and aortic dissection repair (emergency and elective).

During Cardiology attachment, there were many interventional treatments being implemented. We were able to see in action procedures like percutaneous coronary intervention (PCI) with angiography, electrophysiology intervention like inserting pacemakers and CRT; plus catheter ablation for arrhythmias, and insertion of Intra-Aortic Balloon Pumping for cardiogenic shock.

**Learning Objective 3: To compare & contrast the different health programmes in Japan and UK to tackle cardiovascular diseases**

Public health screening programmes in Japan are not very common but are highly encouraged, whereas in the UK, there are many active programmes and campaigns. For the field of Cardiovascular Medicine, Japan has recently announced the introduction of free community care check-ups for hypertension; first of its kind. Currently, 26.7% of the population according to World Health Organisation (WHO) suffer from hypertension. It is very clear from the WHO website that cancer, stroke and coronary artery disease are the most prevalent diseases in order in Japan.

For the former two, there are some screening programmes being undertaken in Japan but not for the rest. Interestingly, Professor Hiroshi from Osaka University Hospital is the lead in helping out with these free community health checks with the help of his colleagues and junior doctors. This shows great positivity, prevention and benefit for the future health of Japan. The health care system is based on an insurance system that is different to United States and the United Kingdom. In Japan, the insurance will help pay a certain amount of the treatment with the rest being paid kindly by the government. This system is partially similar to the private healthcare like in the United States. We are very fortunate to have the NHS in the UK, as treatment is almost free with the help of the tax-payment.

With the insurance-based system in Japan, public health screening programmes is less popular as many patients get their full annual health check up with their insurance sponsored medical clinic/hospital. Interestingly, general practice/family medicine is not very common in Japan. If someone suffers from a cold or flu, they unfortunately have to go the hospital to see a doctor. The only advantage for this is to be seen by an expert and get the prescription quickly. On the other hand, there is an overload on the hospitals.

**Learning Objective 4: To be able to gain a new educational experience at Osaka University by learning about their medical education system**

Medical education system in Japan has many similarities and differences with the UK medical education system. Similarly to the UK, a student can start at the age of 18 and the typical course is 6 years. If a student in Japan has carried out a degree before starting medical school, they can easily be transferred to the third year of medical school; which is not the common case in the UK. Interestingly, the first year consists of non-medical subjects, including modern languages such as German and English. Surprisingly, this year is designed like this to allow Japanese Medical Students to become well-rounded students and provide this opportunity to prepare to practice medicine abroad in the

future. All their resources like textbooks and lectures are all in Japanese, however during my placement at Osaka University Hospital, doctors have mentioned about the progressive movements towards having lectures in English. This benefits both academics and students to gain knowledge from foreign countries resources like journals, conferences, placements etc. I was very fortunate enough to have lectures timetabled in English by the doctors for me.

Interestingly, there are existence of multiple private medical schools across the country per city in Japan. This is the new development for the UK with first two private medical school just opened in England. Therefore, getting in medical school in Japan is not as competitive as in the UK. For Japanese students, they just require good academic achievement and pass the entrance exam. The process is different in the UK, where the requirements includes good academic achievement, personal statement reflecting volunteering, extra-curricular and interests, interview process and financial approval.

From my placement at Osaka University Hospital, I have observed many differences between the clinical year training at a hospital in the Japan and UK. The difference begins with the small number of students per class in Japan; with 100 males and 20 females. This strikingly is significantly small number, however at the same time a great disproportionate in the female: male ratio. In the UK, commonly there is a 50:50 but at my university it is around 60% females and 40% males. The reasoning for the Japanese disproportion lies from the existence of Japanese tradition of female being housewife or doing office job. This is surprising that this still exists in this generation. However, there seems to be a change in the trend and more females are coming into medicine.

During the placement, there were many set simulation days for practical days to have hands on practice on PCI with angiography, echocardiography and auscultation. This is surprising these hands on practice is only provided to the doctors in UK, if they go on courses or during their cardiology training. Medical students in Japan getting such experiences has inspired me to help provide recommendation to my medical school. Medical students in the UK to get such experience would require to go to conferences organised by the British Undergraduate Cardiovascular Association (BUCA). It can be difficult to organise in different hospitals as there are too many students per year around 300 in the UK; plus different hospitals have different facilities available that they can afford. However, it is a plus point for the future generation of medical students and such points will continue to supported by British Undergraduate Cardiovascular Association (BUCA); which is an organisation that I founded in the UK.