

ELECTIVE (SSC5b) REPORT (1200 words)

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

Objective 1: To understand the pattern of cardiovascular conditions in South Korea and discuss this in the context of global health

Yonsei University Hospital is a tertiary cardiac centre, treating a wide range of complicated cardiac diseases. Patients come from all over the country to receive specialized treatment not available in their local hospitals or for a second expert opinion. In general, the disease demographics in Korea is similar to many of the other developed countries. The incidence of coronary heart disease, the commonest cardiac disease in the developed world, has been on the rise in Korea since the early 1980s with a growing Western influence. Furthermore, with the population becoming elderly, the incidence of degenerative valvular diseases such as aortic stenosis is also somewhat reaching that of other developed countries. Particularly common among the valvular diseases in Korea however is rheumatic mitral valve disease. Patients who suffered with rheumatic fever that was inadequately treated in their childhood several decades ago developed chronic cardiac sequelae such as mitral stenosis or valve prolapse. These patients require surgical replacement of the diseased valve as the progressive inflammation of the valve can lead to cardiac thromboemboli causing atrial fibrillation or ischaemic stroke. The teratogenicity associated with warfarin required following the valve replacement is a dilemma for younger female patients. Also becoming increasingly diagnosed is TB-related pericarditis and in turn cardiomyopathy, as the immune system of some of the working population becomes weak due to the heavy workload. Though TB is generally very well-managed in Korea, refractory cases that progress to such cardiac complications have been reported.

Objective 2: To understand the pattern of health provision in South Korea and compare this to the UK

The pattern of health provision in South Korea is a largely privately funded system. The majority of the population have coverage by the national health insurance system, namely the government. An employed individual pay around half of a monthly premium for the insurance and the other half is paid for by their employment. When the individual uses a healthcare system, they pay around 30% of the total cost and the rest is covered by insurance. If unemployed however, the individual pays the full monthly premium and when a healthcare cost is incurred, similar ratio of insurance coverage is offered as those that are employed. For those at the poverty line, the government provides a full coverage, with the exception of some rare diseases not covered, leaving the patient, often in the lower socioeconomic class, to pay for the full cost by themselves. With cancer, the government covers up to 95% of the clinical care costs, leaving very little for the patient to pay. The national insurance health scheme provides regular health check-up including basic blood tests, GI endoscopy, hearing and eye check. This enables early detection of any new disease and subsequent treatment or necessary monitoring.

This contrasts with the UK's National Health Service (NHS) which is entirely government-funded. A proportion of the tax collected is spent for healthcare and the patient does not have to pay for any of their healthcare costs. Small percentage of the population also have a private health insurance, usually provided by their employment but this scheme is used secondary to the NHS when the patient wants to be worked up for a diagnosis or treatment faster than can be achieved at the NHS.

Objective 3: To explore the common risk factors for coronary heart disease in Korea

The widely known risk factors for coronary heart disease in the Western culture are diet high in saturated fat, obesity, smoking, and diabetes, amongst many others. This is very much a different story in Korea. To make Korean food involves the use of various sauces that are high in salt and/or sugar. Thus, while obesity or high-fat diet may not be the most pressing issue in Korea, the use of salty or sugary additives are likely to have contributed to the chronic epidemic of hypertension and diabetes; there is an increasing debate about this however in the research field. Up to 70% of adults aged 65 years or older are hypertensive and it is thought that less than half of the country's population have normal blood pressure. The management, both in educational awareness and medical treatment, has greatly improved over the last two decades, however, there are concerns among some scholars that with the current intake of sodium, the hypertensive epidemic will deteriorate to a degree that may affect the lifespan of the population. Diabetes has been a more recent issue, with up to a quarter of the population in the pre-diabetic stage. While the prevalence of diabetics under active treatment was around 5% in 2006, the figure rose to 10% in those aged 30 years or older in 2013. Even more worrying is that the incidence in the elderly has doubled over the last decade, reaching up to 30% in those aged 70 years or older. Such trend is of concern amongst physicians in Korea as more than half of diabetics also have hypertension requiring treatment and it is therefore highly likely that the overall prevalence of hypertension and that of coronary heart disease in turn, in the coming years will follow a similar trend.

Objective 4: To understand the management of acute coronary syndrome (ACS) in Korea and compare this to the UK

Yonsei Cardiovascular Centre is one of the country's tertiary cardiac centres and is widely known for its exceptionally rapid management of acute coronary syndromes. With every case, an extensive checklist is completed and checked multiple times. The checklist exists for on admission, post-intervention and discharge. The admission checklist includes the patient's history and investigation findings, but more importantly, the Killip classification system. Developed in the 1960s, the Killip Class is a standardized risk-stratification system used to determine the clinical status of patients post-ACS and predict mortality following ACS. It directs the physician to look for the most significant objective features in the patient, such as additional heart sounds, signs of heart failure, or shock and depending on the findings, puts the patient into one of 4 classes, the highest indicating the poorest prognosis. This enables rapid detection of any signs of deterioration and subsequent timely management and prevention of potential complications. The checklist also indicates strict time limits by which certain processes need to occur. For instance, the post-intervention checklist includes the time when the stent was inserted, and the door-to-balloon time. If there is any delay in insertion, there are also possible reasons provided to be ticked. Such strict objective criteria ensure a constant service quality control and where there needs to be improvement.

Though the actual work-up and intervention is not significantly different to Korea, the UK does not have such a stringent protocol to be 'ticked off'. This means that depending on the level of experience of the doctor or the hospital treating the patient, management of ACS may vary, potentially allowing for a similar situation to the 'postcode lottery' phenomenon; where the variation in healthcare funding among regions in the country lead to different levels of healthcare quality, impacting on the service patients receive.