ELECTIVE (SSC5b) REPORT (1200 words)

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

Elective Report: An Elective Placement in Obstetrics and Gynaecology

At St Thomas' Hospital in Central London, 673 women who were expected to deliver in 2016 were classed as "high-risk" pregnancies. These were pregnancies in which pre-existing maternal medical conditions, medical problems that had arisen due to pregnancy or a history of previous obstetric complications meant that there was a high risk of complications to the mother or baby.

Data collected by the High-risk Midwives team at St Thomas' Hospital shows that the most common risk factor affecting these pregnancies was diabetes which affected 173 cases out of the total 673 high-risk pregnancies. Of these, 68 cases were affected with gestational diabetes, 40 with type 1 diabetes and 50 with type 2 diabetes.

Diabetes is a growing problem worldwide with prevalence rapidly increasing in both developing and developed countries. As of 2014, 422 million people worldwide suffer from diabetes[1]. The International Diabetes Federation estimates that during 2015 hyperglycaemia affected 20.9 million live births (16.2% of live births) worldwide[2]. Diabetes during pregnancy can affect both the mother and the baby. For women with pre-existing diabetes, this may lead to a worsening of any existing diabetic retinopathy or diabetic nephropathy. Women with gestational diabetes are at a higher risk of developing type 2 diabetes in the future. During pregnancy there is a higher risk of miscarriage and premature delivery. The fetus is also at higher risk of congenital heart and neurological abnormalities as well as polyhydramnios and macrosomia which itself may complicate the delivery of the baby. In addition, the baby is also at an increased risk of developing diabetes in later life. [3]

However this list of health complications of diabetes is not exhaustive as diabetes does not only complicate pregnancy but is also a risk factor for many serious conditions such as ischaemic heart disease, stroke, retinopathy, nephropathy, neuropathy and chronic foot ulcers. People with type 1 diabetes have a life expectancy 20 years shorter than the general population and those with type 2 diabetes have a life expectancy 10 years shorter than the general population [4]. The World Health Organisation (WHO) attributes the dramatic rise in diabetes to the increasing incidence of type 2 diabetes. Risk factors for the development of Type 2 diabetes include a complex interaction between genetic and environmental factors. However, obesity, unhealthy diet, physical inactivity and smoking have been identified as the modifiable risk factors that should be addressed in order to control the global epidemic of diabetes.

The other leading causes of high-risk pregnancies at St Thomas' are maternal mental health conditions and maternal cardiac conditions which complicated 45 and 40 pregnancies respectively. The MBRACE-UK Report 2012-1014[5] records the rate of maternal mortality in the UK is 8.5 per 100,000. Maternal suicide is the leading cause of direct maternal death during pregnancy or up to one year after the end of pregnancy in the UK, with 2 women per 100,000 dying by suicide. Maternal cardiac disease is the leading cause of indirect maternal death in the UK, also claiming 2 per 100,000 lives. As such the MBRACE report places great emphasis on the recognition and diagnosis cardiac disease in pregnancy. The increasing maternal mortality from cardiac disease since 2003 has in part been attributed to

increasing maternal age, increasing levels of obesity, and more accurate recognition of cardiac pathology at autopsy.

In addition to the role of obesity in diabetes and cardiac disease in pregnancy, obesity is also increases the risk of developing life-threatening conditions such as: pre-eclampsia, thromboembolism, postpartum haemorrhage and post-operative infection. All of these conditions contribute to maternal mortality in the UK, as is shown by the graph from the MBRACE-UK 2012-1014 Report below.

Figure 1: Causes of Maternal Death in the UK, 2012-2014[5]

Obesity is also associated with increased risk of: macrosomia; instrumental deliveries and caesarean section; failed epidural; failed intubation and increased risk of fetal loss and maternal mortality.[6]

Despite the fact that there is good access to health services throughout the UK which are freely available to at the point of care, there is still much room for improvement in maternal mortality. However, worldwide maternal mortality figures paint a much bleaker picture.

Maternal mortality in developing countries in 2015 was 239 per 100 000 live births [7] versus 8.5 per 100,000 in the UK. Almost 99% of maternal deaths occur in developing countries. However, even within developing countries, there are huge differences in maternal outcome between women of high and low income and between women living in rural versus urban areas. "The complications that account for nearly 75% of worldwide maternal mortality are:

- **severe bleeding (mostly bleeding after childbirth)**
- **infections (usually after childbirth)**
- **high blood pressure during pregnancy (pre-eclampsia and eclampsia)**
- **complications from delivery**
- **unsafe abortion" [7]**

As shown by Figure 1 above, these complications have a very low mortality rate in developed countries. This difference can be explained by the fact that almost all women in developed countries receive routine antenatal checks and are assisted by skilled healthcare staff during their delivery whereas only 40% of women in developing countries received the recommended antenatal care. The WHO has identified 5 major factors which restricts access to healthcare in pregnancy in developing countries:

poverty, distance to health facility, lack of information, inadequate services and cultural practices. The WHO has now set up a Global Strategy to work towards overcoming these barriers to healthcare. [7]

During my six week elective placement at Guys and St Thomas' NHS Foundation Trust I have been able to gain an insight into a career in Obstetrics and Gynaecology. From spending time in gynaecological and obstetric procedures to the many specialist clinics, I have been able to realise that this is a variety of different facets to this career. I was also able to explore the different subspecialties in obstetrics and gynaecology and had the chance to ask questions to aide my learning. Overall I have thoroughly enjoyed my experience at Guys and St Thomas' and Obstetrics and Gynaecology is definitely a career path I may want to pursue in the future.

References

[1] WHO Global Report on Diabetes 2016 http://www.who.int/diabetes/global-report/en/

[2] International Diabetes Federation, Care & Prevention of Gestational Diabetes 2017 http://www.idf.org/our-activities/care-prevention/gdm

[3] NHS Choices Diabetes and Pregnancy 2015 http://www.nhs.uk/Conditions/pregnancy-and-baby/pages/diabetes-pregnant.aspx

[4] Diabetes.co.uk, Diabetic Life Expectancy 2010 http://www.diabetes.co.uk/diabetes-life-expectancy.html

[5] MBRACE-UK, Saving Lives, Improving mothers' care 2012-1014 https://www.npeu.ox.ac.uk/downloads/files/mbrrace-uk/reports/MBRRACE-UK%20Maternal%20Report%202016%20-%20website.pdf

[6] Guy's and St Thomas', Clinical Guidance, Obesity and low BMI in pregnancy 2016

[7] WHO Maternal Mortality Factsheet 2016 http://www.who.int/mediacentre/factsheets/fs348/en/