ENDOCRINOLOGY

Elective Report

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1. Discuss the pattern of diabetes mellitus in Samoa and compare it to the global pattern of this disease:

The World Health Organisation (WHO) Western Pacific Region (found online at *http://www.wpro.who.int/about/about.htm*) describes the whole of Micronesia and Polynesia as having above average levels of both obesity and type two diabetes mellitus; Samoa is no exception. The first data recorded from Samoa was in 1978 (Prior et al, 1978). This study showed the prevalence of type two diabetes to be 8.1% in men and 8.2% in women living in urban areas, and 2.3% in men and 4.4% in women living in rural areas. A repeat of the study, carried out in 1991 (Collins V.R. et al, 1994) showed an age-standardised increase in the prevalence of the disease in both men and women in urban and rural areas in the preceding thirteen years. The WHO STEPS study, carried out in 2002 (McMurray et al, 2006), found the prevalence of type two diabetes in Samoa to have increased dramatically to 23.1%. Throughout all studies the same pattern emerged: diabetes in Samoa was found to be more common in urban dwellers, in women, and in those aged over fifty five; the prevalence increasing in all these groups over time.

Globally, the WHO (accessed online on 20.05.11 at http://www.who.int/en) states that 220 million people currently suffer from diabetes mellitus, with 90% of these cases being type two (i.e. 198 million people with type two diabetes). Taking the world population as 6.9 billion (sourced from the world bank online on 15.05.11 at http://www.worldbank.org) this puts the global prevalence of type two diabetes at 2.9%. However, with striking variance between countries, this is a crude and somewhat meaningless method in which to compare Samoa with other countries. Thus, for simplicity, the next paragraph will focus on a comparison of disease pattern with the UK.

In the UK, as in Samoa, the prevalence of diabetes has been rising over the last two decades. From 1996 until 2009 there has been an increase in the number of people with diabetes, from 1.4 million to 2.6 million (QOF, 2009). The current prevalence of diabetes in the UK is 4%, of which 90% is type two (QOF, 2009). This varies between countries, with England having the highest prevalence of 5.1%. Thus, although the prevalence of diabetes is much lower in comparison with Samoa, the pattern of it increasing dramatically over the past few decades is similar. Also, like in Samoa, diabetes becomes more common with age. However, whereas in Samoa the biggest rise is seen in the over fifty five age group, in the UK it is not until the over sixty five age group where the greatest jump is seen (from 8.5% in the over fifty fives to 15.7% in the over sixty fives)(Information centre, 2008). In Samoa, women have consistently higher levels of diabetes at all ages compared with men, however, the reverse is true in the UK with men being much more likely to suffer from diabetes. The reasons behind this have not been studied, however, having observed Samoan culture I have been aware that whilst the men do more strenuous work the women have a very sedentary lifestyle which may contribute to the development of diabetes. Studies in the UK have consistently shown that those from lower social classes are much more likely to develop diabetes (QOF, 2009). One meta analysis showed that the most deprived in the UK have a 2.5 times greater than average likelihood of having diabetes (Information centre, 2006).

A recent study found that Samoans with diabetes lacked regular health checks and that only 35% of those surveyed had had their blood glucose levels checked in the last twelve months (Samoan MOH, 2005).

This lack of monitoring may have as much to do with the health beliefs of many Samoans as with the provision of care. Samoa has a Church-based and family-orientated culture whereby elders are revered. Hence, once children reach the age of five they are expected to do all household chores such as cooking, cleaning and looking after the youngsters whilst their parents lead a very sedentary lifestyle. This means that encouraging physical activity is difficult – a study showed that 21% of the population do no physical activity (not even walking) at all (Simmons et al, 1998). Although the WHO identified 68.5% of diabetics in Samoa as currently taking tablets in reality many of these patients stop taking their medications soon after starting, stating reasons such as cost, asymptomatic and a belief that God will take care of them (Simmons et al, 1998).

With this in mind it would be fair to surmise that the incidence of diabetic complications was high. Anecdotally and from what I observed during my time in Samoa I would say that this is the case especially since many patients present late with advanced illnesses such as diabetic retinopathy. However, data on diabetic complications is scarce. One study conducted in 1991 found proliferative retinopathy in 4.5% of diabetics and raised urinary albumin levels in 26.0% of diabetics (Collins et al, 1995) but this is likely to have increased as the prevalence of diabetes has increased.

In summary, the WHO has identified diabetes as the 5th leading cause of morbidity requiring inpatient care and the number one cause of mortality in Samoa (McMurray et al, 2006). The Samoan Ministry of Health has listed it as a top priority and has started using implementing public health messages and legislation to stop the upward trend. However, until the message is fully understood by the general public and lifestyles are changed diabetes and its complications are going to be a burden on the already overstretched healthcare system in Samoa.