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**Elective Report  
Western Regional Hospital, Belize**

**1) Discuss the prevalence and presentation of Type 2 Diabetes Mellitus in Belize in comparison to the UK.**

The ministry of health has estimated that in 2008, 13.1% of Belizeans over twenty years of age are affected by diabetes<sup>1</sup> making it the leading cause of death in Belize and the highest diabetes related deaths in the Caribbean<sup>2</sup>.

In comparison, the known population diagnosed with diabetes in the UK in 2010 was 4.26% which equates to 2.8 million people<sup>3</sup>.

The answer to how Diabetes had become such a health crisis in Belize became rapidly evident during my elective out there.

The main risk factors for developing type 2 diabetes are obesity, hypertension, high cholesterol, lack of exercise and poor diet. The ministry of health estimated from figures in 2008 that the obesity rate in Belize was as high as 60%, meaning nearly 200,000 Belizeans are overweight. Furthermore studies show 30% are reported to be hypertensive<sup>1</sup>.

Although a multitude of reasons exist for the high rates of obesity, one being a consequence of a lack of health education, one of the most interesting was that of their cultural beliefs.

Many patients explained to me that a 'round' woman was a sign of well-being, prosperity and fertility. This signifies the importance of clarifying cultural beliefs before educating people with scientific knowledge.

Another great variance between Belize and the UK was the stage of disease at the time of seeking medical attention.

In the UK, a combination of easy access to GP surgeries, information via the internet and public awareness schemes has meant that diabetes can be detected early on. In contrast there was an overwhelming number of patients presenting to the hospital in Belize for the first time with signs and symptoms of end stage organ damage, for instance the accident and emergency department was commonly filled with patients presenting with gangrenous peripheries.

Consequently a high proportion of surgeries that I assisted in were amputations.

Although the amputation rate is expectedly higher in Belize given the aforementioned figures, it appears the UK also faces issues with amputations deemed to be preventable. The department of health in England conducted a study between 2004-2009 revealing that on average 70 amputations take place a week on diabetics<sup>3</sup>.

**2) Describe the management and services offered for diabetics in Belize in contrast to those offered in the UK.**

The first objective leads us onto question the shortfalls used to manage diabetes and how to help reduce its incidence.

It is evident that one of the most importance and fundamental changes is the need to educate people in order to create an awareness and thereby enable people to take responsibility for their own care.

In the UK the primary care trust plays a major role in preventative medicine, with an understanding that prevention is better than cure. In comparison, the management seen at the hospital in Belize was focused on treating the diabetic complications rather than addressing the cause.

Consequently for those with confirmed Diabetes, a lack of education with regard to the importance of monitoring blood sugar levels to stop further vessel damage as well as no access to regular hospital appointments to assess for organ damage, has meant that rapid disease progression is seen much more frequently than in the UK.

However the issues does not revolve solely around creating awareness. For those diagnosed with the condition the treatment available is extremely limited. The restrictions on resources means there is currently no dialysis machines available in public hospitals, forcing those who can afford treatment to go private or leave the country.

The BMJ reported that in the UK it is estimated that between 6 to 27 per cent of Type 1 diabetics will progress to Diabetic nephropathy and between 25 to 50 per cent of Type 2<sup>4</sup>. Knowing that poor glucose control increases the risk of worsening nephropathy, it comes as no surprise that Diabetes is the leading cause of death in Belize and has been deemed the 'silent killer'.

**3) Describe the limitations of health care with relation to monetary restrictions between the UK and Belize.**

The advancement of medical technology has facilitated much faster and less invasive techniques for many procedures. The following case scenario that I observed describes one example of the limits of accessibility for patients of these advances in a developing country.

A 30 year old woman with long standing crohn's disease had developed what clinically appeared to be an abscess. Given the lack of CT scanners available, only an ultrasound could be ordered, which confirmed the presence of a fluid level.

The next most appropriate step would be to drain the abscess ideally via an ultrasound guided aspiration. The lack of this equipment meant that if the patient wanted to have free treatment the only option was surgical exploration to remove the abscess which comes with all the risks of a general anaesthetic. If the patient wanted to have the ultrasound guided aspiration, they would have to pay for the procedure to be carried out in a different hospital as well as the cost of the bed for their stay and transport. The experience opened my eyes to the difficulties facing a population with only partially free health care and the fear of uncertainty it placed on its people.

**4) What experience did I most value and will implement in my foundation post?**

One of my initial reasons for doing an elective in a developing country was the ability to expose myself to conditions and management techniques not seen in the UK.

One of the most striking aspects on my arrival to the Western regional hospital was the lack of equipment. The hospital had no CT scanner or MRI machine and ordering an ECG was considered a sparse luxury.

Nonetheless the ability of the doctors to adapt their skill set to cope with such a diverse range of situations was inspirational.

Given the limited number of medical staff and resources available a great deal of team work and support was required to enable professionals to overcome many obstacles. For instance on one occasion there was only one consultant surgeon in the hospital and there was a thunderstorm which meant the electricity supply in the theatre was running on the battery reserve. A call was received to inform the hospital that a boy with appendicitis was soon to arrive. As theatre was due to close at 4pm, due to the shortage of staff and thunderstorm, a massive collective effort ensured the boy was treated surgically within the time and resource constraints.

Similarly, I hope that through mutual respect and enlisting the skills of other individuals, patients will receive a high quality of care and foremostly patient safety is ensured.

Words: 1117



## REFERENCES

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<sup>3</sup>Diabetes UK. URL: [<http://www.diabetes.org.uk/Professionals/Publications-reports-and-resources/Reports-statistics-and-case-studies/Reports/Diabetes-prevalence-2010>]

<sup>4</sup>Home P, Mant J, Turner C, et al. Management of Type 2 diabetes: summary of updated NICE guidance. BMJ 2008; 336: 1306-8.

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