

Diabetes in Chelmsford, Tower Hamlets and the World.

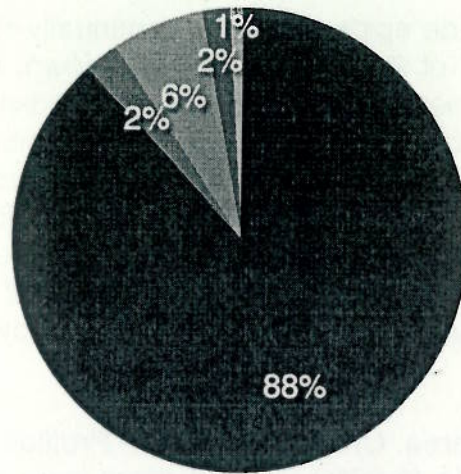
Diabetes is currently a worldwide epidemic with a continually rising incidence rate leading to a global prevalence in 2011 of 8.3%. As is already known, there are many risk factors that contribute to the development of diabetes in certain individuals. As well as genetics, this includes increasing age, obesity, a family history and ethnic origin - namely the South Asian population (up to six times more likely to develop diabetes) and the African and Afro-Caribbean population (up to three times more likely to develop diabetes). This is partly reflected in the statistics which confirm that India is home to the second highest number of people diagnosed with diabetes in the world, shortly preceded by China (61.3 million and 90.0 million people respectively), although this could be put down to the population density or perhaps even diet also.

Scaling this down to the local area, Chelmsford Health Profiles published by Public Health England show that 6078 people (3.69%) in Chelmsford were diagnosed with Diabetes in 2009, 6444 (3.86%) in 2010, 7153 (4.26%) in 2011, and 7568 (4.45%) in 2012. The figures show a steady rise in the percentage of the population who were diagnosed with diabetes between 2009 and 2012. These figures correlate to better results in terms of fewer diabetic patients, as compared to the rest of England.

In comparison, there were 10,454 (4.86%) patients diagnosed with diabetes in Tower Hamlets in 2009, 11,173 (5.07%) in 2010, 11,872 (5.05%) in 2011 and 12,269 (5.16%) in 2012. These results also follow the trend of increasing numbers of diabetics and indicate that Tower Hamlets has more patients who are diagnosed with diabetes as compared with the England average for the respective years.

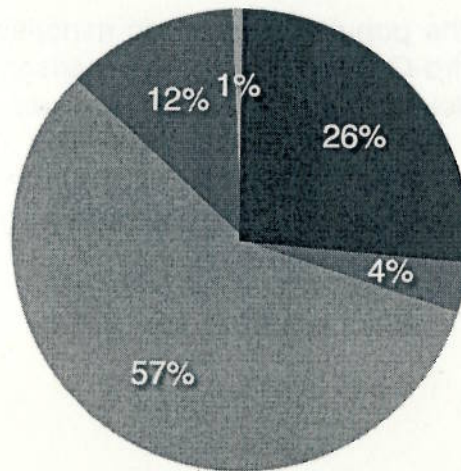
According to the difference in the population of ethnic minorities shown in the pie charts below (including Asians and Afro-Caribbeans) the comparison of the percentage of the population with diabetes was lower than expected. However I would have expected a larger difference between the two areas than 0.71%. This narrow difference may be explained by the increasing average age of the population in Chelmsford, therefore resulting in new diabetes diagnoses adding to the preexisting figures.

Pie chart showing the percentage distribution of ethnicity in Chelmsford



- White
- Mixed
- Asian/Asian British
- Black/African/Caribbean/Black British
- Other

Pie chart showing the percentage distribution of ethnicity in Tower Hamlets



- White
- Mixed
- Asian/Asian British
- Black/African/Caribbean/Black British
- Other

Chelmsford as a whole

During my research into Chelmsford and its diabetic population I came to realise how well it is doing as a whole in terms of health amongst the population as compared to the rest of England. With its continually rising elderly population, Chelmsford has managed to reduce the mortality rates over the last ten years, including early death rates from heart disease and stroke. This could possibly contribute to the reason for there being a relatively high percentage of the the population with diabetes.

The most significant current problem in Chelmsford is the increasing number of obese children as well as the low levels of activity amongst the adults in the area. This combined with a large percentage of adults smoking and drinking poses a significant risk for cardiovascular disease and for diabetes in the population, which agrees with the projected prediction of a steep rise in the incidence of diabetes globally.

Despite the health and well being of the population as a whole, Chelmsford does have some areas which are notably more deprived, thus causing a meaningful fall in male life expectancy by 5.9 years (between the wealthiest and most deprived areas).

What is being done to tackle the looming rise in diabetic patients

The National Diabetes Audit (NDA) has been ongoing for nine years and aims to analyse several aspects of diabetes care and management in England to ensure that patients are being diagnosed early and put onto the diabetes register, are being screened appropriately once diagnosed via the nine key processes of diabetes care and are receiving the target treatment set out by the National Institute of Clinical Excellence (NICE). The most recent audit that was published in 2010-2011 revealed a 6.5% increase in patients diagnosed with diabetes and a 2.9% increase in those receiving the nine care processes since the previous audit in 2009-2010.

The nine step process is the nine tests that NICE recommends all diabetics should have at their annual diabetic review. These are measurements of weight, blood pressure, smoking status, HbA1c, urinary albumin, serum creatinine, cholesterol levels, eye examinations and foot examinations. They are used to assess diabetic control and therefore to advise alterations in patient management so as to prevent the development of complications of diabetes sooner than expected.

The NDA is the world's largest annual audit and in the coming years it hopes to include pregnancy services for women and foot care services for people with diabetes. With increasing participation of health services nationwide, I believe this will be of significant help in tackling the epidemic that is diabetes.

My placement at Broomfield Hospital

During my attachment at Broomfield Hospital I essentially worked as a Foundation Year 1 Doctor under full supervision by my fellow doctors. I was immediately taken on as part of the team and was given such responsibilities as clerking patients, presenting, writing in their notes on ward rounds and completing necessary jobs on a daily basis. I found this hugely beneficial as I was able to practice time management, working as a team, communication with patients and staff, and of course learning how to formulate diagnoses and management plans. I had the opportunity to work with several doctors, allowing me to

explore different styles of patient management and therefore enabling me to develop my own individual style of working.

I had many opportunities to practice my practical, clinical and communication skills as well as juggling other responsibilities, all of which boosted my confidence and will be tremendously useful when starting my new job.

Although I did not come across many patients with endocrine complaints, this placement has equipped me well with a variety of general medical problems to include paracetamol overdose, motor neuropathies, and patients with seizures, which allowed me to apply my medical knowledge thus further consolidating it.

I thoroughly enjoyed my placement and would most definitely recommend it to future finalists as a pleasant transition from medical student to foundation year doctor.

References

Sandra Waddingham. 2011. Nine processes of care for diabetes. British Journal of Primary Care Nursing [Online] 8. Available at: <http://www.bjpcn-cardiovascular.com/download/3699>

Diabetes UK. 2013. National Diabetes Audit [Online] Available at: <http://www.diabetes.org.uk/Professionals/Service-improvement/National-Diabetes-Audit/>

Health and Social Care information centre. 2012. National Diabetes Audit [Online] Available at: <http://www.hscic.gov.uk/nda>

National Diabetes Audit, 2010-2011 [pdf] Available at: <https://catalogue.ic.nhs.uk/publications/clinical/diabetes/nati-diab-audi-10-11/nati-diab-audi-10-11-care-proc-rep-V4.pdf>

NHS Information and Data. 2013. Diabetes Audits. [Online] Available at: http://www.diabetes.nhs.uk/information_and_data/diabetes_audits/

Chelmsford City Council. 2013. Public Health Strategy. [Online] Available at: <http://www.chelmsford.gov.uk/publichealthstrategy>

NICE Pathways. 2012. National strategy and policy to prevent type 2 diabetes. [Online] Available at: <http://pathways.nice.org.uk/pathways/preventing-type-2-diabetes#path=view%3A/pathways/preventing-type-2-diabetes/national-strategy-and-policy-to-prevent-type-2-diabetes.xml&content=close>

Mid Essex Hospital Services,. 2013. Diabetes Service. [Online] Available at: <http://www.meht.nhs.uk/our-services/clinical-services/our-directorates-medical-specialties/diabetes-service/>

International Diabetes Federation. 2013. The global burden. [Online] Available at: <http://www.idf.org/diabetesatlas/5e/the-global-burden>

Office for National Statistics. 2013. Regional and local statistics. [Online] Available at: <http://www.ons.gov.uk/ons/regional-statistics/index.html#tab-sum-pub>

Summary

In this case the diagnosis is unclear as the anti-aquaporin-4 results are not yet available and there are no spinal lesions on MRI giving no indication of MS or neuromyelitis optica at this stage. The visual acuity and pain resolves with IV methylprednisolone and tapered oral steroids treatment returning to premorbid levels in the previous 2 episodes, and hopefully this episode also. The OCT studies have this time shown a small reduction in retinal thickness. This however is difficult to assess as the initial scan is during the 1st attack and may represent a degree of swelling. The infective causes have been eliminated and this could just be cases of isolated recurrent optic neuritis. A watch and wait scenario in this case is the only way forward and when the results are available other appropriate course of treatment maybe initiated.

Bibliography/sources

<http://www.uptodate.com/contents/optic-neuritis-pathophysiology-clinical-features-and-diagnosis?topicKey=NEURO%2F5251&elapsedTimeMs=3&view=print&displayedView=full>

<http://www.arupconsult.com/Topics/NMO.html>

<http://www.medscape.com/viewarticle/742442>

Oxford handbook of Ophthalmology

Palace, J., Leite, M.I., Nairne, A. and Vincent, A. (2010) Interferon Beta treatment in neuromyelitis optica: increase in relapses and aquaporin 4 antibody titers. *Arch Neurol* 67: 1016–1017