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IMPERIAL COLLEGE LONDON DIABETES CENTRE

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From the Desk of:

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Diabetes In The UAE: A Crisis And An Opportunity

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For some, diabetes is a global steam train that is unlikely to be slowed or derailed before reaching its destination - the mass illness of populations everywhere. For others, it represents a challenge that needs to be urgently dealt with. I am one of the others. It is indeed a difficult moment for mankind but we can overcome this by taking some smart and simple steps. The human race must embrace the challenges diabetes presents.

My work is devoted to this so called epidemic, a term which usually describes infectious diseases. Diabetes clearly isn't an infectious disease, but it must be controlled in a similar way. Diabetes will otherwise become like another epidemic, smallpox, now happily consigned to history. Smallpox plagued populations for centuries, for example claiming an estimated 300-500 million lives in the last century.

Diabetes does its damage more slowly. It is a chronic disease that arises when the pancreas does not produce enough insulin, or when the body cannot effectively use the insulin it produces. This leads to raised glucose levels in the blood and can cause long-term damage to the body and failure of various organs and tissues. Type 2 diabetes accounts for more than 90 per cent of cases. Type 1 diabetes occurs when the body does not produce enough insulin and type 2 diabetes is when the body does not respond to its effects, causing a build up of glucose in the blood. It is type 2 diabetes that is reaching epidemic proportions in many countries of the world, including the UAE.

Thankfully infectious disease is much better controlled these days. Sanitation and antibiotics have seen to that. However, we now live longer, exercise less, and higher calorific convenience food is more plentiful than ever. It is this rather dangerous combination of factors which have propelled unprecedented increases in obesity and diabetes.

The figures make for painful reading. The International Diabetes Federation (IDF) estimates that 4.8 million people died as a result of diabetes and its complications in 2012, while US\$471 billion was spent treating it. The UAE has regularly featured in the global top 15



nations for diabetes prevalence. According to the latest IDF figures, 18.9 per cent of the UAE population is living with diabetes and like elsewhere, the number is expected to keep rising-unless action is taken.

Meanwhile, diabetes generates much media coverage in the UAE, however it doesn't provoke the type of shocking headlines as was the case with smallpox even though it is already one of the biggest causes of premature death in the UAE, accounting for around a third. On top of that, mean expenditure on diabetes healthcare was estimated by the IDF at \$1,774.85 per person in 2012, nationwide.

A recent study on the subject by consultancy firm Booz Allen Hamilton found that the cost of treating diabetes and its related complications was \$8.6 billion and already consumes 40 per cent of the UAE's healthcare budget. The same study also forecasts that medical costs attributable to diabetes and pre-diabetes will increase to \$1.04 billion by 2020, representing a 58 per cent increase from 2010. Yet figures only tell part of the story. The true cost is borne out across the entire economy. Complications of diabetes are where costs soar. Roughly half of people living with diabetes don't know they have it.

Patients with diabetes that is not controlled, risk complications of strokes, heart attacks, blindness and kidney failure requiring expensive dialysis, not to mention a chance of a premature death. Heart attacks and strokes are well known to be expensive to any country. Apart from the obvious suffering is the fact that such individuals often need care, and in addition, they often no longer form part of the workforce that could contribute to the country's GDP.

But there is every chance that we can change this and produce different figures in years to come. There is now good evidence that patients who take their diabetes seriously, can control the disease and prevent the complications. Not only will this reduce the numbers suffering a serious disability, but it will also significantly slash the economic burden. Put simply, investing in an infrastructure that will discover and control diabetes will in the long run both reduce suffering and save money. Diabetes is very new to the world and it hardly existed in the UAE until the nation started to reap massive oil revenues in the 1970s. Wealth, development and progress have come hand in hand with inactivity, obesity, poor diet and sickness.

There may also be a genetic element. Emiratis may have an additional genetic risk of type 2 diabetes. Emiratis with an increased genetic risk of diabetes will become diabetic when they overeat whereas the same poor diet in others might not cause diabetes because they don't have the same diabetes genes. This is borne out by research and the reason why I devote as much of my time to the UAE. We are currently looking at genetic sequences in different populations in the world. It is exciting research and is looking like we are going to find that some populations are more genetically inclined towards diabetes. There are some genes that are present in Emiratis, for example one called TCF7L2, that increase the risk of diabetes in those who become obese. Any discovery around genes is a hugely exciting breakthrough.



For the time being bariatric gastric bypass surgery has been suggested as one way to treat obesity and overcome diabetes. Our research suggests that this operation works on the hormones that control hunger and eating and changes in these hormones cause the person to feel less hungry and lose weight. It offers hope to many and is set to explode in the next few years.

In order to maximize the benefit of surgery, we are trying to target those patients who will benefit most from the treatment. It seems that patients who have diabetes as well as obesity benefit more than those who only have obesity. Surgery is very costly and may have risks and side effects. One day we will have cheaper and more viable drug treatments that will replace surgery by mimicking the hormonal changes of this operation.

Social Sustainability is at the heart of Abu Dhabi's *Vision 2021* and tackling diabetes is very much part of that. The National Diabetes Strategy is also evidence that authorities are serious about the issue.

It's hardly realistic or fair though to heap the entire burden on government shoulders and some feel that the individual should take responsibility for their health. Nonetheless it is the duty of the Government and Healthcare professionals to educate people. How can someone help themselves when they don't even know they have diabetes?

Dr Maha Barakat, Medical and Research Director and Consultant Endocrinologist at Abu Dhabi's Imperial College London Diabetes Centre (ICLDC), recently said that the management of diabetes nationwide requires the collective effort of the public and private sectors, including the catering and pharmaceutical industries.

I believe that Dr Maha is right. ICLDC does amazing work on treatment, research and education. But we need many more such centres to meet increasing demand. I'm optimistic that the substantial increase in diabetes in the UAE can be reversed. Valuable work is already being done at community and grassroots levels. ICLDC's Diabetes Knowledge Action is a nationwide campaign which encourages people to adopt a healthy lifestyle and has reached more than 160,000 people directly over six years. Others are doing similar work.

Education is so crucial. Since we are genetically inclined to eat to ward off starvation, it is only natural that mankind is doing so. Patients with diabetes need education on how to deal with it. This takes time and reminders. We know that diet and exercise can prevent diabetes. In a large trial called the "Diabetes Prevention Programme" that was published in the *New England Journal of Medicine* in 2001, regular exercise was shown to halve the incidence of type 2 diabetes.

Societal attitudes must also change. Commercial interests currently make fast food too cheap and easily accessible. Authorities might wish to raise taxes on fast food outlets, thereby making them more expensive.



In many cities around the world, the authorities have encouraged people to cycle by making it affordable and accessible. The heat and dangerous roads make this more difficult in the UAE. But all options must be pursued. As the saying goes: prevention is better than cure. If we prevent a case of diabetes, we prevent all the expensive complications that might occur. If we at least control the diabetes, we can minimize the complications. Investment in preventing and treating patients with diabetes is thus very worthwhile.

An example of an investment that has paid off hugely is the eradication of smallpox. At the time, immunizing millions of people was expensive. The World Health Organisation (WHO) said that around \$300m was spent on the successful mass vaccination programme between 1967 to 1980 and estimates that a billion dollars are saved every year from not having to deal with disease. Unfortunately, there is no magic vaccination for diabetes.

Instead we already have the solution. We know that diabetes is mostly man-made and only exists because of advancement and lifestyle changes. We must now use this advancement to adapt the way we live and make diabetes a footnote of history.

Ends

Photo caption: Professor Karim Meeran

Professor Meeran said that diabetes can be reversed, and education is crucial to achieve this.

About Imperial College London Diabetes Centre

Imperial College London Diabetes Centre is a one-stop, state-of-the-art, out-patient facility that specialises in diabetes treatment, research, training and public health awareness, with two centres – one each in Abu Dhabi and Al Ain.

The purpose-built centres are an initiative of Mubadala Healthcare, in partnership with the UK's Imperial College London. Mubadala Healthcare, a division of Mubadala Development Company, is specifically dedicated to investment in strategic, high value and economically sustainable projects that meaningfully enhance the private healthcare infrastructure of Abu Dhabi and the UAE.

The launch of ICLDC in 2006 is testament to the vision of Mubadala Healthcare to develop projects that protect and enhance the nation's health. ICLDC has offered diabetes prevention, education and treatment to more than 160,000 people.

'Diabetes-Knowledge-Action' is ICLDC's award-winning public health awareness campaign. It was launched in 2007 under the patronage of Her Highness Sheikha Fatima bint Mubarak.

ICLDC holds the Joint Commission International (JCI) Clinical Care Program Certification (CCPC) in Diabetes Management and JCI Accreditation for Ambulatory Care. When the Centre



in Abu Dhabi received the awards it became the only healthcare provider worldwide to hold both certifications and the first facility in the Middle East and third globally to hold JCI's highly-acclaimed CCPC specifically for the clinical management of diabetes.

For more information log on to www.icldc.ae

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