Country in Focus: turning the tide of diabetes in Fiji

Lifestyle changes have led to a huge rise in obesity prevalence in Pacific Islanders. Jules Morgan reports on the problem of noncommunicable diseases in Fiji and efforts underway to address it.

With its rugged coastline, palm-lined coral beaches, and lagoons, Fiji is an ideal destination for those seeking a tropical climate. But beyond the utopian landscape is a multicultural society burdened with a health crisis. Changes in lifestyle—a decline in traditional dietary customs and increased physical inactivity—from more than a century of colonial influences, and steady integration into the global cash economy has had a substantial and sobering effect on the prevalence of noncommunicable diseases (NCDs). Diabetes prevalence in adults in the Pacific Islands Region is among the highest in the world (WHO, 2010), and Fiji is no exception.

There were an estimated 57 640 cases of prevalent diabetes in Fiji in 2013. In a total adult population (20–79 years) of 54 306 000, the prevalence rate is over 10·9% (World Bank Data, 2013). This is expected to increase globally in the next two decades, and it is unlikely that Fiji will buck this trend. In parallel, the financial burden of NCDs on Fiji's health-care system is also ballooning.

Efforts to curb the complications of diabetes in Fiji therefore face substantial challenges. Diabetes Fiji (previously the National Diabetes Foundation of Fiji) has the remit to access, educate, and provide medical treatment to the island's entire population. In August, 2010, Diabetes Fiji appointed a new President, Dr Abdul Wahid Khan, a general practitioner with a special interest in diabetology. Khan recognises that the organisation benefits from its present governance—health-care leaders who can respond with appropriate medical interventions—but in time, with more infrastructure and stability, the organisation will evolve according to its priorities, with the aim to hand over governance to people with diabetes. Fiji's steady transition from indigenous community lifestyle traditions towards a more urban and western-orientated environment continues to take its toll on the burden of NCDs—so-called lifestyle diseases. Khan recognises that civil society needs to act alongside the health authorities. Addressing health-care infrastructures and investing in training health professionals is crucial, but education at the community level is equally important.

In the past 3 years, the Fijian Ministry of Health, assisted by Diabetes Fiji, has responded by setting up three diabetic hubs in central, western, and northern divisions. Dr Rajeshwar Sharma, a clinician in the central division's capital city Suva, tells *The Lancet Diabetes & Endocrinology* that "each hub is set with a team to provide one-stop-shop for diabetes care. This includes a doctor, clerical personnel, nurses, diabetic educators, nutritionists, physiotherapists, and counsellors". Patients are usually referred from other health faculties to the hubs, which have twin parallel clinics: one for uncontrolled diabetes, and one for foot care.

In July, 2014, the Minister of Health, Dr Neil Sharma, issued a statement about the rising threat of diabetes to Fijian society. He launched a new initiative of free diabetes screening at established hubs. Such screening clinics might help to curb the devastating effects that late presentation is having on the diabetes epidemic—early intervention is now a priority.

However, pressures on the health-care system are drastically impeding progress in tackling diabetes and its complications. Although medications for diabetes (classified as essential drugs) are funded by state health care, stocks are often depleted and insufficient. Low availability of diagnostics for diabetes and its complications (eg, tests for HbA_{1c} and microalbumin, and the high cost of glucosticks), and scarcity of wound dressings for diabetic foot treatment also affect the delivery of optimum health care. Procurement is often delayed because suppliers operate overseas, there are no funds for stockpiling, and with an improper quantification of need because of unreliable data, Fiji's overburdened and under-resourced health-care system faces yet more challenges.

Three in every four people with diabetes in Fiji are undiagnosed. Without optimum disease management, repercussions are inevitable. As in other low-income countries, poor management creates a high prevalence of peripheral neuropathy, which leads to foot ulcers and chronic foot sepsis, with amputation the only option in advanced cases. Amputations are associated with increased morbidity and mortality, and Fiji is battling with the highest amputation rates in the Western Pacific Region.

Dr Isimeli Tukana, National Advisor for Non-Communicable Diseases and Head Clinician at the Wellness Centre, Suva, told *The Lancet Diabetes & Endocrinology* that, in his view, this clinical scenario is "an outcome of a primary health care system that is nonresponsive to the Fijian NCD crisis". Indeed, statistics from Diabetes Fiji on the rate of amputations in Fiji (one every 12 h) is staggering. Factors that increase risk are unhygienic living conditions, walking barefoot, foot injuries, and rodent bites—all associated with poverty and worsened by delayed presentation.

Tukana agrees that foot care is both a lifestyle, and resource and financing

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For the **WHO news** see http://www.who.int/bulletin/volumes/88/7/10-010710/en/

For **Diabetes Fiji** see http://www.idf.org/membership/wp/fiji/diabetes-fiji

For the **article in *Fiji Sun*** see http://www.fijisun.com.fj/2014/07/18/ncds-minister-warns-on-rise-of-diabetes/

For the **World Diabetes Foundation's projects in Fiji** see http://www.worlddiabetesfoundation.org/projects/fiji-wdf12-735

For **World Bank data on health expenditure per capita** see http://data.worldbank.org/indicator/SH.XPD.PCAP

For **WHO's Global Health Data Repository** see http://www.who.int/gho/database/en/

issue. "Fijian health-seeking behaviour is associated with cultural and environmental factors…compounded by the lack of clinical expertise in podiatry". He adds that the World Diabetes Foundation's support in establishing a foot care project is directly aimed at "improving diabetes at the primary health care level." Sharma also stresses the importance of educational programmes such as the Footcare project, a three-step model of foot care designed to assist health practitioners in Fiji and train primary care doctors, clinical nurses, and peer groups.

Increasing diabetes prevalence also leads to rising rates of kidney disease. Renal dialysis is not free. Availability of renal dialysis is low owing to costs, and is provided through a private–public partnership. The Kidney Foundation of Fiji opened an outpatient diagnostic centre earlier this year, but both the operational and treatment costs are high. Run by a non-profit organisation, The Kidney Dialysis Centre offers lower cost treatments but at a cost of FJD$250·00 per patient per treatment dialysis, it is, in most cases, still beyond a patient's means, and medical insurance is not a benefit many can afford. The threat of widespread kidney disease has worrying cost implications and improving intervention measures must crucially be central to diabetes management strategies.

2013 World Development Indicators show health expenditure per person in Fiji is low, at US$177 (PPS$197), among the lowest for Pacific Island countries. By contrast, in high-income countries this figure is between $1030 and $6140 per person. Health-care funding largely comes from taxation revenue, but with a low tax base from a small pool of taxable income earners, the government's allocation resources are limited. The outcome of an underfunded health care system is that an inadequate pot of money has to go a long way, and cannot cope with a booming disease-burdened population.

Added to underfunding is a limited workforce: there are only 0·4 practicing physicians per 1000 people in Fiji, which falls into WHO's lowest health workforce density band. This low ratio is partly caused by high migration rates of health professionals to neighbouring developed countries. Rural populations are marginalised because medical centres with trained clinicians tend to be based in urban areas. Providing a free health service is laudable, but government resources for health expenditure are simply inadequate.

Addressing management infrastructures is key, but prevention is also high on the agenda for the health authorities, and for Diabetes Fiji. Fiji is fast becoming more modernised. Tourism and the infiltration of western media influences have brought enticements to unhealthy living. Imported white rice and noodles are easier and cheaper to buy than locally grown indigenous sources of carbohydrates, such as plantains, bananas, and breadfruit. Fijians are similarly abandoning traditional high-starch diets and opting for processed foods that have a longer shelf-life and cost less. To address the increasing obesity rates in Fiji, adjustments are needed. A drive to boost the agricultural and fishing industries by promoting local produce will help to counteract the commercialisation of highly refined imported food but will need a collaborative commitment.

In an effort to address lifestyle concerns, the Ministry of Health devised the Wellness Program project, focusing on activities and attitudes with a drive to change behaviour patterns. Talking to *The Lancet Diabetes & Endocrinology*, Khan acknowledges that targeted advertising to children and adolescents, and the saturation of supermarket shelves with cheap unhealthy food is a "formidable task to battle". Tackling this conditioning requires education and awareness, but, as Khan predicts, this will not be enough. "More legislation is needed", he says, to curb what he considers to be "the primary cause of NCDs—sugar-sweetened beverages and junk food". He explains that the glamour of calorie-rich and nutritionally poor imported foods cannot compete with the promotion of traditional foods, despite nutrition being a core subject in the school education system.

In 2000, the Ministry of Health banned the import of a fatty offcut of lamb, known locally as sipi, which had become a ubiquitous protein source for the islanders. However, since Fiji is heavily import dependent, there are calls for more legislation on food security on imports, especially in labelling sodium, trans-fat, and saturated fat content on packaged and tinned foods. Fiji's Ministries of Agriculture, Health, and Trade and Commerce are working together to progress a Food Security Bill, and, according to Khan, recent legislative regulations have been enforced on sodium levels in processed food. Khan adds that Diabetes Fiji has teamed up with the Consumer Council of Fiji and the National Food and Nutrition Committee to "organise an umbrella organisation of Civil Societies called the Alliance for Healthy Living", a partnership that Khan believes will be a "tour de force" in the fight against sugar-sweetened beverages and the negative effects of advertising.

A collaborative effort is clearly needed. Khan has led Diabetes Fiji in making great strides in identifying where limited resources are best diverted, and he stresses that the involvement and intervention of Civil Societies is crucial to halt the NCD epidemic. The diabetes epidemic in Fiji might seem insurmountable, in view of the socioeconomic challenges, but Diabetes Fiji has clear objectives and Khan remains optimistic. "Our aim is to register all people diagnosed with diabetes in Fiji, empower people with diabetes through establishing diabetes community groups, decrease the level of amputations, and be the prime advocacy institution for diabetes in Fiji."

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