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This article was influenced by our experiences during a four week elective at Vila Central Hospital in Vanuatu, during which we were able to observe the impact of diabetes on both patients and healthcare workers.

Jean* lies in the operating theatre of Vila Central Hospital in Vanuatu, about to receive a below elbow amputation of her left arm. The surgeon asks if she’s ready while holding her right hand, from which two fingers have been previously amputated. She is not ready, but does she have a choice? She is 49 years old and has been struggling to control her type 2 diabetes mellitus (T2DM) for the past 10 years, in between the responsibilities of looking after her family. The sepsis from the wound on her finger is rapidly ascending up her arm, and this is the best option to avoid losing the entire limb, as had happened to her leg two years earlier.

This is only one of the numerous amputations on diabetic patients conducted at the hospital each year.

Background

The global prevalence of non-communicable diseases (NCDs) is on the rise, especially in developing nations, and Vanuatu is no exception. [1,2] Diabetes, mainly T2DM, affects approximately 13% of the population of 265,000 on this island nation and is a significant cause of premature death in adults.[3,4] One of the major factors contributing to this increase is globalisation, which has caused a shift away from traditional lifestyles and local food to a more sedentary lifestyle and Western diets.[2,5] Although the rates of diabetic complications have declined in developed nations over the past two decades [6], the opposite trend is observed in developing nations where there has been an increase in diabetic complications, such as peripheral neuropathy and peripheral vascular disease, frequently leading to complicated ulcers that result in amputation.[7,8] Amputation has significant impacts on the patient’s quality of life, especially when living in areas of low socioeconomic status where physical labour makes up a major part of everyday life. Furthermore, it complicates access to healthcare due to the difficulties of moving around with an amputation. Some factors contributing to this health issue come from an organisational level due to the lack of health infrastructure and resources.[9] However, additional individual factors such as knowledge and attitudes towards healthcare also significantly impact health outcomes and need to be addressed in the development of interventional strategies.[10]

Importance of traditional medicine

The majority of the population of Vanuatu are Melanesian, with a few islands that have Polynesian populations. In Melanesian culture, there is a strong belief that spirits affect all aspects of daily life.[11] Many local people have a spiritual view of health, accepting disease as a part of fate rather than seeing it as something that can be prevented.[12] They will also frequently use complementary medicine, locally termed ‘kastom medicine’, to treat illness. A study conducted at Vila Central Hospital reported that 86% of the staff and patients had used kastom medicine and 28% of the staff interviewed had sought kastom medicine within the past year.[13] Many traditional healers in Vanuatu also reported that diabetes was one of the illnesses routinely treated.[12]

A number of factors contribute to the strong presence of kastom medicine. The strong sense of community and maintenance of tradition within Pacific island cultures may influence treatment decisions, with patients preferring to seek support from their local community or family, whom they are more familiar with.[11,12] Traditional healers are well-respected members of the community, and they often combine ‘botanical expertise’ with spiritual knowledge to give culturally acceptable explanations for and treatment of illness.[12] Other factors may include practical considerations such as the accessibility and affordability of services.[12]

As a result, presentation to hospital is often
delayed. Many patients like Jean only present when late complications of diabetes develop, most commonly a severely infected wound for which the only available treatment is amputation. This generates a vicious cycle in which people in the community start to make negative associations of hospitals as a place for amputations, rather than for improving their health. This further contributes to a reluctance to present to hospital in a timely manner for routine check ups or when complications first arise.

Despite these negative associations, people in Vanuatu do not reject the idea of using Western medicine. Studies on health interventional strategies have revealed that individuals in Vanuatu are open to new ideas from overseas, are inclined to agree with researchers’ efforts, and see health screening as a positive and encouraging act.[12,14] This may be partly due to the respect for authority and strong sense of hierarchy that makes up an important aspect of their culture.[11] Therefore, perhaps community-based education about the role of hospitals as a place for monitoring and preventing complications could break this vicious cycle and encourage earlier and more frequent presentations to seek appropriate healthcare.

Local knowledge about diabetes
There is currently no formal diabetes education given to newly diagnosed diabetic patients in Vanuatu, a vital service usually provided by the diabetes educator as part of multidisciplinary management in developed countries. As is the case for many patients, most of what Jean and her family know about managing her condition comes from nurses at the local clinic where she collects her medications every few months. This includes basic dietary advice such as cutting back on refined sugars, salt, and deep-fried foods, as well as an emphasis on the importance of taking metformin and insulin daily. These are two of seven vital self-care behaviours identified by the American Association of Diabetes Educators to reduce complication rates and improve long term outcomes.[15,16] The others are exercise, self-monitoring of blood glucose levels, problem solving, risk reduction, and healthy coping skills, which Jean could not recall discussing at the clinic. Given that most day-to-day management falls on patients and their families, education on self-care behaviours is important to give them the skills to make better lifestyle and treatment choices.

Opportunistic education is common in Vanuatu, where there are limited healthcare resources and low nurse and doctor to patient ratios.[17,18] Nurses provide patients with practical, timely, and culturally relevant advice when they come in for other services such as medication dispensing and glucose monitoring. This may be the only chance to catch patients living in more remote areas who are only able to visit clinics a few times a year. However, without a national program, the quality of diabetic education is highly variable and some patients fall through the cracks. This is often the case for those living in rural areas who tend to be poorer and have lower levels of education.[19]

One such patient experiencing limited healthcare due to geographic isolation is Simon*, a 55-year-old farmer living in a rural area of Efate, who was recovering from a forefoot amputation for a gangrenous toe one year after being diagnosed with T2DM. He was unaware that hyperglycaemia was asymptomatic or that it could lead to complications. As a result, he stopped taking medications while feeling well and had not thought to seek healthcare until he noticed an ulcer on his right toe.

With little chance of a prosthetic device being available, this is a devastating outcome for someone who was previously independent and performed very active work. Diabetes education at diagnosis and a regular follow up schedule may have delayed complications for Simon and may benefit other patients in similar situations. In addition, some diabetic patients have noted a lack of motivation to maintain good physical health but that more regular health checks would encourage them to make and maintain more positive lifestyle changes.[5]

Culturally appropriate strategies
Although diabetes education and regular health monitoring have obvious benefits, it is uncertain how to best implement a culturally appropriate intervention in a country with limited resources and a small population spread over dozens of islands. Creative solutions to these challenges have been trialled locally and in other disadvantaged communities worldwide. As a way of addressing the shortage of healthcare workers, local volunteers with T2DM and medical, nursing, and allied health students could be trained to lead group education sessions.[20,21] There is also scope for involving traditional healers in the long term management of diabetic patients, especially in remote areas where access to health clinics is difficult and limited. When
asked in a survey, many traditional healers in Vanuatu reported having worked with health clinics and were willing to collaborate with hospitals providing Western medicine.[12] Involvement of local communities to develop more relevant resources, as well as educating family members, also increases patient engagement. [22] This was useful in other cultures with similarly strong family and community ties as they often live under one roof and are closely involved in caring for the patients.[23]

Although most of these studies are small, the outcomes for both patients and educators are promising. There is the potential to use strategies like these to develop larger scale, evidence-based diabetes education programs that can achieve lasting reductions in HbA1c levels through long term reinforcement, involving patient input, and clear goal-setting.[24,25]

What needs to be done
T2DM and NCDs have been recognised as a growing problem by the Republic of Vanuatu Ministry of Health for over a decade and most recently in the National Sustainable Development Plan 2016 to 2030.[26] This plan acknowledges that T2DM is a complex issue and must involve collaborative and comprehensive solutions. This includes the implementation of high-priority interventions, identified by the World Health Organization as having a low cost to disability-adjusted life year reduction ratio. The key ones include the provision of antihyperglycemic medications, foot care, screening and treatment for retinopathy, and access to home blood glucose monitoring.[27]

Another major part of the plan is to address poor health literacy and unhelpful attitudes towards diabetes through public health campaigns and further training in diabetes education for nurses. [26] As traditional medicine is already a culturally important part of health care for many, there is also a push to establish a more formal role for traditional healing to complement standard care. However, despite progress in the right direction, more research is still needed to determine the types of interventions that would be most effective in Vanuatu’s cultural context.

*names have been changed

About the Authors
Elizabeth and Anita are final year medical students from UNSW. They are interested in global health disparities, in particular the rise in non-communicable diseases and the growing impact of environmental issues. In their spare time, they enjoy travelling and exploring different cultural perspectives.

Conflicts of Interest
N/A

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Images
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References


