Letters to the editor

Using insulin U 100 conversion to estimate the prevalence and problems of insulin-treated diabetic patients in the Republic of Seychelles

Dear Sir,

The Republic of Seychelles comprises 115 islands spread over 400,000 square kilometres of the Indian Ocean. Almost all of the population of 66,373 live on one of the three main islands, Mahe, Praslin and La Dique, and half the population are aged under 25 years [1]. The islands had no indigenous population until 1771 when French settlers arrived and were joined later by people of African, Indian and Chinese origin [2]. Since 1979 all health services have been freely available. Seventeen community clinics provide primary care throughout the main islands with one doctor for every 3500 inhabitants and one nurse for every 500 inhabitants. There are also two cottage hospitals staffed by community doctors and a general hospital in the capital (Victoria, Mahe), which has consultants in the main broad speciality areas. Diabetic care is provided mainly in the community clinics by nurses and doctors, with referral to the hospital diabetic clinic at the discretion of these doctors.

The inevitable cessation of insulin preparations other than U 100 was anticipated by a six month preparatory period. This culminated in a "changeover clinic" at the hospital for all insulin-treated patients. All other supplies of insulin and syringes were gradually eliminated and the doctors, nurses and pharmacists were made aware of the arrangements for transfer of patients from one form of therapy to another. The complete documentation of all such patients allowed study of the prevalence and management of insulin-treated patients in the Seychelles.

A total of 108 patients were seen in the changeover clinic ($n = 47$) and the regular weekly diabetic clinic ($n = 60$). One patient with limited mobility was seen on the island of Praslin during a separate review of all diabetic patients there. Examinations were performed by a nurse (weight, blood pressure, urinary sugar, ketones, blood sugar, estimation of visual acuity and installation of mydriatic) and by a doctor (recording of drug therapy, fundoscopy, reflexes, circulation, feet and injection sites). On completion of the examination patients were instructed in the use of the new insulin and syringes. They then met with a dietitian to discuss dietary aspects of therapy and clarify any earlier advice. Follow-up in their local clinic or hospital was arranged.

The study comprised 39 men and 69 women with a mean age of 54.1 years, i.e. a point prevalence of 1.62 per 1000 population. The mean duration of diabetes was 5.4 years (range 1–18).

Complications of diabetes identified are shown in Table 1 with data from the earlier study given for comparison. It should be noted that 3 out of 14 patients with a raised serum creatinine were also hypertensive.

Before U 100 conversion there were believed to be approximately 70 insulin-treated patients [3], a prevalence of 1.05 per 1000 population. However, due to a complete recording of all such patients in this study a substantially higher prevalence was revealed. As in the earlier study we noted that an excess of elderly overweight patients had Type 2 (non-insulin-dependent) diabetes mellitus, i.e. insulin-treated rather than insulin-dependent. It appears that the prevalence of true Type 1 (insulin-dependent) diabetes mellitus is low compared to global incidence [3, 4] even though the overall prevalence of diabetes mellitus is in the mid-range for similar (Pacific) populations. This may represent inadequate ascertainment or a true difference in the prevalence of the disease. The former explanation seems unlikely given the excellent access to medical and nursing expertise enjoyed by the population.

Major complications of the disease were mostly undetected before the study. Fifteen of 17 patients had retinopathy which had been undetected by their doctors despite regular review. Three of these patients required laser therapy which is now freely available and it is clearly important that adequate surveillance, with regular ophthalmoscopy, must be properly conducted. Lower limb problems related to vascular disease and neuropathy are a major prob-

Table 1. Diabetic complications in the Republic of Seychelles

	Insulin-using patients ($n = 108$)	all diabetic patients (%) ($n = 426$)
Retinopathy – background	12	23 ^a
proliferative	3	
laser-treated	2	
Cataract	8	27
Neuropathy – sensorimotor	12	12 ^a
autonomic	2	
Nephropathy – albuminuria	40	4 ^a
– raised serum creatinine (> 200 mmol/l)	14	
Vascular disease – micro	6	11 ^a
– macro	4	
Skin problems – ulceration	5	no data
– fungal infection	26	available

^a not subdivided in this earlier study [6]

lem for both the community and hospital medical services. Untreated fungal infections in these patients were also very common. Patient education about the importance of foot care given by doctors and nurses may rapidly and cheaply produce major benefits.

Shortly before U100 conversion the weekly diabetic clinic did not provide adequate facilities for monitoring or management of the disease. There were no regular measurements of weight, blood glucose or blood pressure. There was no estimation of visual acuity, fundoscopy with mydriasis nor indeed adequate clinical notes to be certain what, if any, clinical examinations had been performed. It is now accepted [5] that organisation of diabetic care is one of the most important factors influencing outcome. A flow-chart which we devised has now been used successfully for all diabetic patients attending the hospital clinic and is beginning to be introduced into the community clinics. One basic data collection has been achieved, further developments such as “shared care” cards and a method of tracing patients lost to follow-up could be usefully employed. In the long run, however, socioeconomic factors and educational status play a major role in patient compliance. Improved communication between patients and the medical team, combined with an increased understanding by the patients of their disease is essential for success.

Yours sincerely,
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References

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