

Frequency of Diabetes Mellitus in Mtoko

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Although we might expect a clear increase in the number of cases of diabetes mellitus in the African population we do not think this has been adequately shown. We know that the disease seems to be far from common although there appears to be many cases at Harari Hospital due perhaps to the very large population increase in the whole country. Further we should remember that this is a referral hospital to which cases of diabetes are often sent. In 1961 Carr and Gelfand, in a survey of African people living in Highfields, Salisbury, showed that diabetes mellitus was a rare disease. A similarly conducted investigation in the same township about ten years later again found the disease uncommon although more cases were encountered (Wicks *et al*, 1973). A survey carried out in a tribal trust land 120 miles distant from Salisbury in the north-eastern district of Rhodesia about the same time revealed no cases in this sample of people living in their traditional environment (Wicks *et al*, 1973). Thus, despite the impression gained by clinicians in the larger centres of Rhodesia, according to these findings, the disease is still infrequent and far less than described in a European population.

Still more recently, the investigation described in this paper was undertaken in order to determine once again the frequency of diabetes mellitus in rural Africans. This survey was conducted from All Souls' Mission Hospital, situated about 100 miles from Salisbury. In this region the life of the people is still largely traditional and although mission endeavour has continued for years and Christianity taken root, most of the people still respect their ancestral spirits. The rainfall is poor with probably an average of 20 inches a year and drought far from unknown. The staple cereal is maize or sorghum (*mhunga*). On the whole animal protein is scarce. However, trading stores are fairly common and from them a variety of food can be procured, including sugar and cold drinks. Clothing is of the European type and good buses run to and from Salisbury so that men working in and around this city often come home at weekends. They leave their families in their villages and send them their earnings.

The traditional African in the Mtoko area has two main meals a day, each consisting of a thick porridge, called *sadza*, made from 400 grams of maize or finger millet (*mhunga*) meal, generally eaten with green vegetables, usually a variety of cabbage, known as *derere*, cooked in monkey nut oil. For a change other vegetables, like onions, tomatoes or pumpkin leaves are used. Beef or pork may be eaten about once a week, dry beans three times a week and an egg about once a month. Sour milk is consumed twice a week and 200 grams dry bread daily. Drink consists of black tea with plenty of sugar once a day, African beer (fermented cereal) once a week and cold drinks about twice a month.

FINDINGS

During the period 1.7.73 to 1.7.74 the urine of every patient seen or examined at All Souls' Mission Hospital was tested. The Clinistix Reagent strips were employed. Children under one year were not included. Although many Africans knew their ages, those of a large number of them could only be estimated approximately from the appearance of the patients. The results of these tests are given in Table I. Out of a total of 5 456 persons tested no case was detected with sugar in the urine.

TABLE I

Age	Male	Female	Total		
1— 1.11	239	247	486		
2— 2.11	145	141	286		
3— 3.11	91	91	182		
4— 4.11	87	83	170	1 124 of 1— 4.11	
5— 6.11	104	142	246		
7— 8.11	105	114	219		
9—10.11	102	104	206		
11—12.11	106	126	232	903	5—12.11
13—14.11	128	98	226		
15—16.11	118	135	253	479	13—16.11
17—18.11	85	145	230		
19—20.11	30	73	103	333	17—20.11
Above 21	515	2 102	2 017	2 617	Adult
			5 456		

COMMENT

In a rural area of Rhodesia where sucrose is being consumed, perhaps not in very large quantities as yet, but where the diet is still traditional in quality diabetes mellitus is apparently rare. The Africans of these regions have been influenced to some extent by European culture, some perhaps to a significant degree. The dress is western, a large number of people even wearing shoes. Schools flourish in many parts; school children and even adults understand English. The motor car and bus

are seen daily throughout the district. Many churches exist and stores selling western articles of food and clothing are found throughout the length and breadth of the area.

Diabetes mellitus might be expected more often there than it is. The disease occurs in Rhodesia and a fair number of cases are seen in a large central hospital like Harari Hospital, where, in fact, no week passes without at least one case appearing in each of its medical wards. Some are referred from the Salisbury African townships in which about 500 000 Africans live. It is difficult to know the exact incidence of the disease but it is seen very uncommonly in tribal trust lands such as Mtoko. Wicks *et al* (1973) mention a survey carried out in the Mount Darwin District of Rhodesia in which 999 persons over the age of 14 years were examined and no diabetes was discovered.

Seftel, Keeley and Walker (1963) state that it is generally accepted that diabetes is common in urbanised Bantu. Its prevalence in rural Bantu is unknown but the impression formed was that it is very low. Edginton, Hodkinson and Seftel (1972) studied the pattern of disease at the Jane Furse Memorial Mission Hospital in Sekhukhuneland, Transvaal, and found 16 diabetics (one juvenile and 15 of maturity onset). They refer to the relatively large number of previously undiagnosed diabetics, constituting about 3 per cent. of female admissions and 8 per cent. of those over 40 years of age, the majority of whom were illiterate. They suggest that at least in Sekhukhuneland the disease is not rare. Haemochromatosis might have been a common feature as well as an increasing consumption of refined carbohydrate. In the Johannesburg Bantu, especially in women, refined carbohydrate consumption is a major feature in the very high prevalence of obesity, which in time is commonly associated with diabetes. It is significant that a quarter of the Jane Furse Memorial Hospital cases were obese.

SUMMARY

A survey of patients of all ages visiting the All Souls' Missions Hospital in Mtoko revealed none with glucose in the urine. Thus diabetes mellitus would appear to be a rare disease in this traditional area of Rhodesia.

REFERENCES

- CARR, W. R. AND GELFAND, M. (1961). *C. Afr. J. Med.* 7, 332.
 EDGINTON, M. M., HODKINSON, J. AND SEFTEL, H. C., (1972). *S. Afr. med. J.* 37, 1213.
 SEFTEL, H. C., KEELEY, K. J., WALKER, A. R. P. (1963). *S. Afr. med. J.* 46, 968.
 WICKS, A. C. B., CASTLE, W. M. AND GELFAND, M. (1973). *Diabetes* 22, 723.