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Dental Caries in Whites and Blacks

From time to time, the public is startled by a further report on the extreme commonness of dental caries. Such a report is that on adult dental health in Scotland.[1] Commenting on the information given, a leading article in *Lancet*,[2] entitled 'Something rotten in Scotland and elsewhere', noted that 44% of Scots over the age of 16 have lost all their natural teeth; over half go to the dentist only when their teeth hurt. Recently, in the United States, it was stated that 'Although less than one half of the population . . . receives dental care in each 12-month period, the cost of treating caries exceeds 2 billion dollars in a single year'.[3]

Because of the ubiquitous nature of dental caries in Whites, it is intriguing to note that in the USA, caries is far less severe in Blacks than in Whites. In a Ten State Nutrition Survey just published, Rowe *et al.*[3] investigated the effect of age, sex, race and economic status on the condition of permanent teeth. These workers reported that 'Data showed a consistent, dramatic and meaningful difference in dental caries experience between Black and White children at all ages. This difference transcends socio-economic grouping, nutritional level, and development status. This study also showed an apparently protective effect of poverty insofar as dental caries is concerned. Children from lower income families experience less dental caries than children from higher income families'.

The results of most investigations on the prevalence of caries in Whites and Blacks prove that the former are far more susceptible. In a major survey made in the USA in the period 1960 - 1962, decayed-missing-filled (DMF) scores at 18 - 24 years averaged about 14 in Whites, but only 8 in Blacks.[4] In the UK, observations on Black immigrants compared with Whites have revealed a similar difference. In South Africa, Retief *et al.*,[5] who studied the DMF scores of urban high school pupils, reported them to be about five times higher in Whites than in Blacks, although the latter were accustomed to consuming a partially westernised diet.

In the Ten State Survey mentioned, Rowe *et al.*[3] suggested that 'A greater frequency of food intake or a higher sucrose consumption may be responsible for the difference observed, but data to support such a conclusion were not available'. The first possibility is controversial. Begramian and Russell[6] found no significant differences in DMF scores between groups partaking or not partaking of between-meal foods. The second possibility would seem inapposite, since large-scale studies in the UK revealed sugar consumption to be greater in families with low incomes.[7]

Calcification in Whites, for reasons which are not clear, appears to be inferior in some respects to that in Blacks. In the USA, mineral matter per unit volume of bone in Whites has been found to be lower than that in Blacks.[8] Prevalences of hip fractures and of osteoporosis are lower in the latter.[9] In South Africa, hip fracture is far more frequent in Whites than in Blacks,[10] and vertebral osteoporosis is much commoner in White than in Black women.[11] Recently, Lutwak[12] has suggested that a wide calcium-phosphorus ratio in the diet promotes the development of periodontitis and osteoporosis, a view which would seem out of harmony with what has been observed in South African Blacks, whose diet is low in calcium and high in phosphorus.

South Africa offers virtually unrivalled opportunities for inter-ethnic studies on dental caries and for research on osteoporosis and its sequelae.

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