Editorial

Coronary Heart Disease. Limitations to the Application to White Populations of Lessons Learned from the Underprivileged

IN THE literature, at symposia, and on other occasions when the cause of coronary heart disease is discussed, it is sometimes said that if only people consumed the low-fat diet of the Bantu, coronary heart disease would no longer be the major public health problem which it now constitutes among white populations. This view contains a measure of truth. On the other hand, it is seldom appreciated that while the Bantu have negligible mortality from coronary heart disease, they suffer from other cardiovascular diseases which together exact a high toll of morbidity and mortality. It is, moreover, insufficiently appreciated that a low-fat intake is only one feature of the Bantu diet; and furthermore that in comparison with whites there are a number of differences in manner of life, metabolism, and other respects, whose influence on coronary heart disease, directly or indirectly, may well be considerable.

Firstly, regarding heart diseases other than coronary heart disease, at Baragwanath Non-European Hospital (2,200 beds), Johannesburg, some proportions of the relevant admissions have been listed as follows: rheumatic heart disease (23.6 per cent), cor pulmonale (10.9 per cent), hypertensive heart disease (19.6 per cent), coronary heart disease (0.36 per cent), and, of chief interest, cryptogenic heart disease, formerly called "nutritional" heart disease (37.5 per cent). Now it is considered that the prevalences of rheumatic heart disease, hypertensive heart disease, and cor pulmonale are of the same order as obtains among white populations. On the other hand, cryptogenic heart disease, at least of the proportion indicated, appears to be almost peculiar to African populations. Despite intensive study of this disease, for which 400 to 600 cases (about half being new cases) are admitted annually at the above hospital, its cause remains wholly unknown. In addition, it has a poor prognosis; in a follow-up study undertaken locally 75 per cent of patients were dead within 5 years. Hence, this high mortality from cryptogenic heart disease must be placed side by side with the low mortality from coronary heart disease if fair perspective is to be retained. A further insufficiently recognized fact bearing on vascular disease in the Bantu is that they are just as prone as whites to die from cerebral hemorrhage and thrombosis.

The food intake of the Bantu, speaking very generally, is possibly adequate in energy value. In comparison with whites, the diet supplies a moderate protein intake (mainly of vegetable origin and supplying roughly about 1 Gm./Kg. body weight), a relatively low fat

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intake (30 to 60 Gm. fat, supplying 15 to 20 per cent of total calories), but a high intake of carbohydrate and crude fiber (derived from maize, "kaffir corn" (sorghum vulgare), wheat, also vegetables). Such a diet is low in meat, fish, eggs, and dairy produce. It will be apparent therefore that a low-fat diet does not necessarily constitute it to be a Bantu type of diet. While the influence of the non-fatty moiety on lipid metabolism, atherosclerosis, and coronary heart disease is not known, it is unjustifiable to consider that it is irrelevant.

But, in addition to the foregoing, Bantu differ from whites in a number of other respects, whose combined share in responsibility for the virtual absence of deaths from coronary heart disease may well be considerable.

1. Physical activity. Bantu are more active; their motor fitness in particular exceeds that of whites; judging by performance on the Harvard Step Test, the superiority of Bantu is outstanding.6, 7

2. Smoking. Observations suggest that the proportion of smokers (usually light) among the Bantu is about half that found among whites, although there is no doubt that the habit is increasing.8 Limited surveys indicate that cancer of the lung in males has about half the prevalence found in U.S.A. whites.8

3. Diabetes. In urban Bantu, the disease appears to be roughly half as common as among U.S.A. whites.9, 10 More important, the proportion of Bantu diabetics dying from coronary heart disease is extremely small.11

4. Liver disease. Contrary to customary belief, it has not been established that cirrhosis is more common in Bantu than in whites. However, hepatic fibrosis is considered to be present in over a third of Bantu over 40 years.12

5. Alcohol. At present Bantu are not high consumers of European liquor. Yet their traditional fermented cereal products ("kaffir beer" and magou), while very low in alcohol concentration (0 to 3 per cent) are imbibed in large volumes.13 These, together with various much more potent illegal concoctions, entail that the mean alcohol intake of urban males probably exceeds that of the male drinking population of the United States (i.e., exceeding about 45 ml. of alcohol per diem).14

6. Infections and blood viscosity. Bantu are prey to a number of infections that cause erythrocyte sedimentation rates often to be unusually high;15 values ranging from 20 to 40 (Wintrobe scale) are common. High sedimentation rates have been correlated with reduced blood viscosity.16

7. Coronary anastomosis. In the coronary vessels, capillary anastomoses of functional significance are more common in Bantu than in whites.17, 18

8. Stress. The Bantu have all the socio-economic stresses that are common in the poorer section of any white population. They have, in addition, the stresses linked with tribal beliefs, superstitions, taboos, etc. Nevertheless, in comparison with whites, characteristically, the Bantu are more equable in temperament, taking comparatively little thought for the morrow. They are exemplary exponents of the creed of "sufficient unto the day is the evil thereof." While often times their lack of providence and self-reliance is exasperating, their tranquillity of outlook is enviable.19

Since the peril from coronary heart disease in white populations is so serious, any population virtually free from acute episodes, whether white or nonwhite, should be studied intensively. However, sufficient has been written to indicate that in our enthusiasm over the low incidence of coronary heart disease among the Bantu, we must neither forget that these people suffer as readily or more readily than whites from other diseases affecting the vascular system; nor must we ignore that Bantu differ from whites in several respects in relation to diet, biochemistry, metabolism, pathology, and mental outlook.

Observations indicate that coronary heart disease in the Bantu, even among the more prosperous section, is less than what might be predicted.20, 21 A proportion of urban Bantu, admittedly small, is exposed to all the influences that, among white populations, are believed to favor coronary heart disease; yet in Johannesburg, with approaching two thirds of a million Bantu, at least 10,000 being over 65 years, it is doubted whether more than

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10 die annually from coronary heart disease. It is not possible to define the weight of protection afforded by the different factors to which allusion has been made. But we cannot help feeling that there are factors, not necessarily among those listed, whose specific protective influence is greater than that usually accredited.

What has been written does not detract from the modicum of retardation or amelioration of coronary heart disease in white populations that may follow prolonged consumption of a diet of reduced fat intake. But it is hoped that this endeavor to present the situation among the Bantu more holistically, will illustrate the caution required in applying lessons learnt from these and similar peoples to sophisticated western populations.

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References
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