PROCEEDINGS

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THE ROLE OF EXERCISE IN PREVENTION AND IN THE TREATMENT OF CORONARY HEART DISEASE

VIEWS ON THE REPORTS OF TWO WORKING PARTIES

EXERCISE AND THE PREVENTION OF CORONARY HEART DISEASE

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The Secretary of State in Scotland has recently drawn attention to the need to conserve NHS resources. This has to be achieved among other means by encouraging preventive measures and the development of a fully responsible attitude to health on the part of the individual and the community. One area of endeavour which could at one and the same time represent both a challenge and an opportunity to physical educationists is the prevention of coronary heart disease through physical activity.

Coronary heart disease is responsible for 28 per cent of all mortality in Scotland. The disease kills one in every three men and one in every four women annually. Two out of every three who die, do so suddenly, without previous warning and before they can have medical aid. In these circumstances there is considerable interest in promoting measures which will counteract the tendency to develop the disease in the hope that it may either be prevented altogether or at least delayed until a later age. Apart from conditions like high blood pressure and high blood fats whose presence can only be detected by a medical examination, behavioural factors like smoking, over-eating and eating the wrong foods together with physical inactivity, all of which are susceptible to self-correction, are attracting growing attention as having a largely unexploited potential for preventing coronary artery disease.

TABLE I

Factors predisposing to coronary heart disease

MEDICAL	Hypertension — diastolic BP > 100
	Hyperlipidaemia
	Hyperglycaemia
BEHAVIOURAL	Smoking
	Obesity
	High saturated fat intake
	Lack of exercise
	Stress

These factors are inter-related, and multiplicative, not just additive.

A recent report issued jointly by the Royal College of Physicians in London and the British Cardiological Society has reviewed certain studies in North America and in Britain in which high physical activity workers had coronary heart disease rates almost half that found in medium and low activity workers. Moreover sudden death was about three times more frequent in the low to medium activity workers.

A recent social survey drew attention to the fact that after leaving school and by the age of 22 years only 27 per cent of men gave regular physical activity as their chief leisure interest. Only 20 per cent indicated this interest after marriage and ten per cent after the first child was born. The percentages for women were 28, 10 and 2 per cent respectively. In the South of England semi-skilled and unskilled workers took the least active recreation (swimming, football, tennis, squash, athletics), skilled workers were intermediate and professional men took the most exercise. These and other studies suggest vigorous leisure-time activity to have a protective effect in middle-age against coronary heart disease. Where other factors such as smoking and overweight are present the need for combined action becomes more urgent. Smokers make a greater contribution to mortality and morbidity through coronary artery disease than through lung cancer. Concentrations of carboxyhaemoglobin — as high as 10% can occur in heavy smokers compared with the 1% or 2% in the non-smoker. This leads to a relative hypoxia.

Physical educationists are needed who are prepared to study the problems of securing the co-operation of middle-aged and younger men and women in participating in about five short bursts of physical activity of say twenty minutes duration five times a week. Although a study in a group of men and women aged 45 to 46 years of age in East Kilbride showed that they were prepared

to attend a sports centre at weekly intervals for six months and do exercises at home five days a week this sort of co-operation is not the general experience. Experiments are needed with a package of any form of physical exercise from brisk walking to swimming. Callisthenics could help loosen stiff muscles and joints but isometrics should be excluded as tending to raise blood pressure.

Only older people, those who are over-weight or who have had heart trouble need consult their doctor before commencing a course of carefully graded exercise.

In conclusion it would seem important that physical educationists should review their resources including their proposed curtailment, against the need to contribute to the prevention of coronary heart disease by devising a new approach persuading the community to participate in more physical activity either at home or in convenient and attractive surroundings offering inducement and incentive for continuous co-operation over prolonged periods. Simpler preventive measures such as these could have more impact in reducing the coronary disease death rate than extensive proliferation of intensive care coronary units.

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