

INTERACTION BETWEEN PSYCHIC AND SOMATIC RISK FACTORS OF MYOCARDIAL INFARCTION

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On the basis of our previous experience and the results of studies by other authors, we believe that there may exist various kinds of interaction between somatic and psychic risk factors in myocardial infarction: summation, potentiation, inhibition or cancellation. On the other hand, there seems to be a correlation between psychic elements of personality and endocrine profile, which may well effect or even govern somatic elements. Some subjects seem to show evidence of immunity from myocardial infarction; this is true even in persons already handicapped by somatic risk factors but having a particular psychological attitude.

We suggest here a project of prospective study,

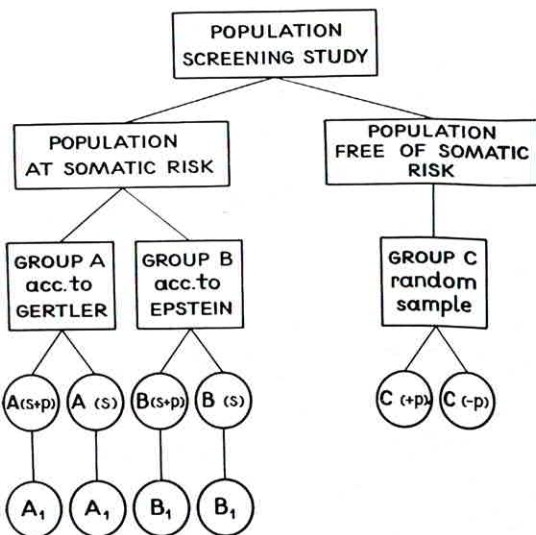
the purpose of which would be to evaluate the influence of systematic physical training on somatic and psychic risk factors of myocardial infarction, and on its incidence. Schematic illustration of the trial design and the groups to be studied is given in figure 1.

Subjects of the study would be men, selected by screening, aged 40 to 59, permanent residents of a large city, constituting a uniform social and economic group. This population would be divided into 3 groups: A and B, containing men with somatic risk factors, and C, composed of randomly selected men without somatic risk factors of CHD.

Gertler's Discriminant Score is computed for group A on the basis of serum levels of cholesterol, uric acid, and phospholipids; index of mesomorphic body build, and family history of coronary heart disease. For group B the risk of myocardial infarction (either high or low) is calculated by the method of Epstein, and hypertension, overweight and tobacco smoking are taken into account here. All subjects from each group would be first psychologically examined as to the existence of psychic risk factors. In this way each group becomes divided into two subgroups, one without these factors, the other composed of men with such psychic risk factors. According to the results of our studies psychic risk factors include disturbances in the emotional sphere (lack of stability and emotional hyperexcitability), disturbances of personality (exaggeration of psychic needs, drives and aspirations), susceptibility to frustration and defects in the functioning of self-defence mechanisms.

All subjects would undergo cardiological examination with special reference to the presence or absence of CHD, endocrinological examina-

GROUPS UNDER STUDY IN THE PROJECTED PROGRAM



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tion, determination of physical and psychical capacity on graded effort, evaluation of professional physical fitness (at work) and of the family situation (including sexual problems). Incidence of CHD, and of other diseases (particularly diabetes and peptic ulcer) and temporary sick-leaves would be observed prospectively.

In each of the groups A and B two subgroups would be created randomly or voluntarily: A_1 and B_1 being subjected to physical training whereas A_2 and B_2 as well as C remain at the normal level of physical activity.

The program of standardized physical training would be established depending on each subject's individual capacity. The training would be systematic, with periodic control of its effect on basic parameters, which may well be normalized (even temporarily) under the influence of training.

In fractions A_2 and B_2 , remaining at the normal level of activity, available dietetic, hygienic and pharmacological means are used to eliminate the risk factors of myocardial infarction. In fractions A_1 and B_1 , if some parameters do not show improvement after a time, for instance one year of observation, pharmacological and dietetic treatment would be instituted besides continuation of the training. Group C (both subgroups) serve as a control.

The study is planned for 5 years.

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