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EMOTIONAL ADAPTATION OF CARDIAC PATIENTS

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ABSTRACT. Cardiac Rehabilitation Research Leyden (CRRL) concentrated its efforts on the evaluation of the cardiac patient in several areas of human performance.

This paper is concerned mainly with the emotional adaptation of the cardiac patient. Two sets of data are used to illustrate differences in emotional adaptation: Questionnaire scores on three personality scales: Neuroticism, Extraversion and Subjective experience of workload; and performance scores on several tasks in which the patient had no previous experience. Questionnaire data are available for about 200 patients; performance scores were obtained for a number of sub-groups of patients. Comparable results from non-cardiacs are available for the personality data and most task performances. The psychological data are interpreted along with medical information on pulse rate, blood pressure, anginal pain, dyspnoea, etc. under well-defined conditions. The interpretation of the results is restricted to a description of behaviour after infarction, or a cautious prognosis; the material available is not suitable for use in retrospective speculation. One of the findings shows a definite tendency in the cardiac-group to move to both extremes of the several personality scales, on which non-cardiacs show a homogeneous distribution. This effect was most striking on the neuroticism scale. Significant correlations between Extraversion and Neuroticism with angina and Extraversion with dyspnoea are found. The subjective load score proves to give a good impression of the general psychological make-up of the patient, and may prove to be a useful screening device. In the evaluation of the adequacy of behaviour after myocardial infarction, the matter of sedative medication is of great importance.

This project was carried out as part of a joint venture of the Netherlands Institute for Preventive Medicine TNO and The Cardiac Hospital Leyden. The group of participants consists only of myocardial infarction patients, altogether 97 persons. The purpose of this investigation was to give an outline of the process of emotional adaptation in cardiac patients, i.e., to assess the adaptational level, to indicate the relevance of the level of emotional adaptation thus assessed for rehabilitation practice, and to give a sketch of the coping strategies which patients choose and the adequacy of those strategies.

The level of emotional adaptation is defined here as the degree of the patients' preoccupation with his illness and the problems, real or imagined, generated by the illness situation.

A questionnaire was developed, consisting of items mainly concerned with fitness, effort and fatigue. The questionnaire, called Subjective Experience of Workload—or Subjective Load for short—consists of 53 items of the "yes–no" type, which are easily scored and processed. Some of the questions mention activities which are demanding for persons with a cardiac condition, such as: I get tired easily, even when I do nothing special. In the main, I feel rather fit.

Together with items of this kind, questions are mixed concerning activities which require no real physical exertion: I easily get backache. When I wake up in the morning, I feel worn out.

In this way a high score indicates a patient who is very much preoccupied with the effects of illness, while someone scoring in the middle range is someone with a realistic approach to his condition.

However, having shown that the questionnaire scores are valid as to the content of illness preoccupation there remains to be proven that this is a valid approach to the more central problem of emotional disturbance caused by the illness.

The first step in this direction is shown in Fig. 1 *a* and *b*.

The subjective load score can be predicted with some accuracy from the existence and the severity of cardiac complaints, i.e. from symptoms which have effects that the patient can register for himself. This applies to psychiatrists' ratings as well, the two most significant predictors being strongly connected with two common reactions to heart

[1] Paper read at the Council in Rehabilitation of the International Society of Cardiology

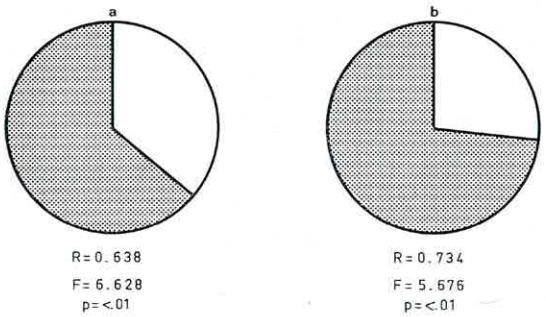

Fig. 1. (*a*) Subjective load and cardiac complaints. Most significant predictors: angina pectoris, dyspnoea. (*b*) Subjective load and psychiatrists' ratings. Most significant predictors: feelings of insufficiency, expectations of future.

disease: inability to resume former activities, and fear of fatal developments. Finally, the subjective load score correlates very significantly with the social workers' ratings of family problems ($r = 0.472$) and problems in social relations ($r = 0.334$).

Cardiac symptoms, psychiatrists' ratings, family problems, social relations—these are the findings which attest to the validity of the Subjective Load score as a measure of emotional disturbance or, conversely, emotional adaptation.

It still remains to be demonstrated that the level of emotional adaptation, assessed by this method, is relevant for rehabilitation practice. In Fig. 2 the mean scores of patients resuming their former work, lighter work, or not resuming work, are presented.

Patients resuming their former work have a significantly lower score; additionally, the fact is that patients with very high scores tend to be in the "no-work" category.

To summarize the arguments up to this point: the questionnaire Subjective Load consists of items which indicate the patients' preoccupation with illness effects. The Subjective Load score is closely related to emotional problems arising from the experienced severity of illness. Given the correlations of the score with family and social problems, it is permitted to conclude that the Subjective Load score is an indication of emotional disturbance—or emotional adaptation—of the patient. The level of emotional adaptation is an important indicator of whether or not the patient will resume his former activities.

Related to the question of the adaptational level is the question of which behaviour strategy the patient chooses to cope with his emotional problems. Of course, the patient does not choose consciously, or only very few do. But the more or less fixed behaviour patterns of the patient lead him to a certain strategy to cope with illness problems that confront him, influenced by situational factors.

In our research on the coping strategy question, we continued the approach outlined in a paper presented at the ergonomics conference in Birmingham 1967, that is, a combination of two personality scales, Neuroticism and Extraversion —similar to their namesakes in Eysencks M.P.I.

Neuroticism can be described as an indication of the sensitivity to problems and Extraversion as the degree in which behavior is tuned to the social environment. A combination of both scores should throw some light on the question of whether and how problems are acted out in dealing with the social environment. Each scale is split up along the median. In this manner there result four categories.

Continuing along this line of thought the categories can be taken as different strategies of coping behaviour:

(*a*) Low problem sensitivity which leaves room for active participation. Problems are compartmentalized to problem situations.

(*b*) High problem sensitivity, but still oriented towards the social environment. Low problem sensitivity and low environment directedness. In both cases behaviour is not strictly guided by either of the two factors. Therefore, these categories are combined.

(*c*) High problem sensitivity and low environment directedness. Behaviour is centred on per-

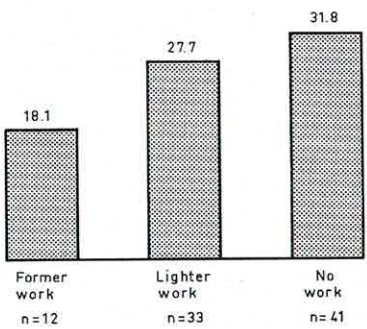

Fig. 2. Mean subjective load scores of patients in different categories of work resumption.

sonal problems which generalize to all behaviour areas.

As far as overt behaviour is concerned, the four categories are reduced to three problem-coping strategies.

In Fig. 3 the combined category is represented by the grey squares: the patients with either low or high scores on both scales.

Differences in complaints, psychiatrists' and social workers' ratings—all tested on statistical significance—lead to the following description of coping strategies:

Compartmentalisation: The patient has a realistic appraisal of his disability: the patient restricts disability problems and disabled behaviour to situations which are disabling. He has a positive attitude to work; is cautiously optimistic about the future and emotional problems are not necessarily mixed up with heart disease so as to cause anginal pain. Of course, the choice of this coping strategy becomes easier as the illness effects are less severe. Still, some of the more seriously incapacitated patients come into this category. These patients have decided to act as normally as possible.

Generalisation. The patient allows his disability problem to be generalised. His attitudes, his emotions, his behaviour in general, all are linked up with his heart-condition. In contrast with the first category, patients following this strategy have a negative attitude to work, are pessimistic about the future and their emotions cause anginal complaints. Being a patient has become a state of mind: the social role of the handicapped is accepted. The disability being invisible, he has to advertize his own handicap.

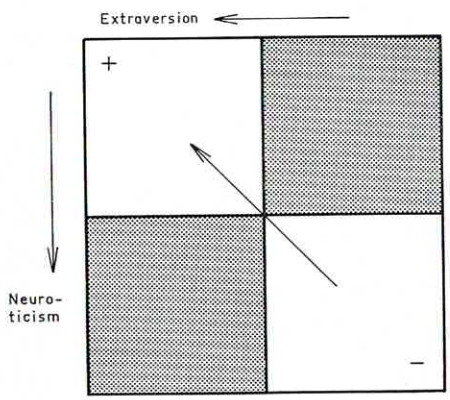

Fig. 3. Neuroticism and extraversion as indicators of coping behaviour.

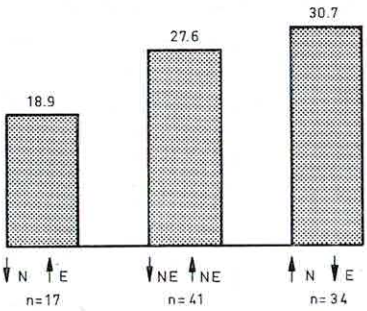

Fig. 4. Subjective load and coping behaviour strategies.

Vacillation: This is not a coping strategy in the strict sense. Perhaps it is correct to characterize this category as the absence of a well-defined coping strategy. The circumstances do not allow a straightforward choice. A number of patients in this category formerly held jobs demanding heavy physical work. They are very well trained and after myocardial infarction their effort tolerance declines to only the average level. But average is not good enough for the demands of their jobs. Add the fact that physical capacity is often their only working capital. Their attitude to work is good, their expectations of the future limited. Anginal complaints are frequent and severe in this category. Perhaps a change in circumstance will result in a choice of coping behaviour pattern. Follow-up data, now being gathered, will give an answer to this question.

All statements used in the description of the typology of coping behaviour are founded on objective observations and were tested statistically.

The last question to raise concerns the relationship between emotional adaptation as defined before and the three coping behaviour strategies. (See Fig. 4.)

The low subjective load score as a result of the Compartmentalisation strategy is to be expected: the tendency to normal behaviour does not allow for a high level of emotional disturbance.

The Vacillation category has a rather high score: the illness and its effects are foremost in the thoughts of these patients. Heart disease has impaired their working capacity and, though capable of a normal every day life, the illness and its effects are necessarily of primary importance.

The Generalisation strategy requires a constant reminder of the disabling condition of the pati-

ent to the environment as well as to the patient himself. Conformation to the disabled role entails thought and acts within that frame of reference. The Generalisation category has a significantly lower variance of Subjective Load scores as compared with the Vacillation category. To conclude: (i) Emotional adaptation as defined, is related to a criterion of rehabilitation success—work resumption. (ii) Several behaviour strategies in coping with the problems of heart disease can be distinguished. (iii) The choice of coping strategy is of consequence for the level of emotional adaptation.

It is probable that the distinction in coping behaviour strategies and their consequences is relevant for the guidance methods in cardiac rehabilitation.

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