Middle Articles

HOSPITAL TOPICS

Study of Patients' Psychological Attitudes to a Coronary Care Unit

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British Medical Journal, 1969, 4, 795-798

Summary: Seventy-four consecutive male patients aged 38 to 63 years were admitted to a coronary care unit with their first myocardial infarction. Their attitude to the unit was studied by interview and personality tests. Only six patients found the unit anxiety-provoking. Dependency feelings were found to occur frequently, both after transfer from the unit to the general wards and after discharge from hospital. It is suggested that the weaning process from the unit should be gradual and that at least one follow-up outpatient appointment should be arranged, as well as good liaison between the family doctor and the hospital.

Introduction

It is recognized that one of the significant factors in rehabilitation after a myocardial infarction is the psychological impact of the illness on the patient (Hellerstein and Ford, 1960; Seldon, 1963). It is likely that the foundation of the individual's pattern of reaction is laid down when his anxiety and fears are at their greatest—that is, at the earliest stage of his illness. The patient is therefore particularly vulnerable to the type of handling he receives at this time. It is becoming increasingly common for patients to be placed in a coronary care unit during the critical days after an infarction. This kind of care exposes the patient to an acute form of treatment for the first few days in the unit, followed by transfer away from the unit to another ward and ultimately discharge from hospital. In this paper we report the results of an investigation into the feelings and attitudes of 74 consecutive patients admitted to the Central Middlesex Hospital coronary care unit during the three phases of their care.

The study is not primarily concerned with the emotional problems engendered as such by a myocardial infarction; these have been dealt with extensively, especially in the American and Australian literature (Hellerstein and Ford, 1960; Goble *et al.*, 1963; Seldon, 1963). Our aim was confined to an investigation of the patient's feelings towards the environment, with its changing characteristics, particularly whether the coronary care unit was found to be reassuring or anxiety-provoking.

Description of Unit

The unit consists of a small three-bedded room 18 ft. 6 in. by 19 ft. (5.6 by 5.8 m.), an adaptation of part of a general ward. A fourth bed can be made available through a sliding door which opens into a single room when the unit is full. The bedside monitors and emergency equipment are in full view of the patients, who can be screened from one another by curtains when necessary. The unit is a light, active, fairly

noisy room, with a great deal of interaction between patients and between nurses and patients.

There are four full-time nursing staff to cover the unit during the 24 hours, comprising initially two staff nurses and two State-enrolled nurses. The number of trained nurses was, however, at times reduced, and coffee and lunch breaks had to be covered by nurses from the general ward. The patients are cared for medically by a team consisting of a consultant, registrar, research registrar, and house-physician, for whom the unit is part of their medical work. Since the establishment of the unit in 1966 the aim of the staff organization had been close teamwork between nursing and medical staff, as the vital role of the nurse, carrying heavier medical responsibilities in a coronary care unit than her counterpart in the general ward, was recognized.

Methods

The patients studied were 74 men under the age of 64 with their first myocardial infarction—consecutive admissions to the unit between April 1967 and April 1968. Six other patients were seen, but these died in hospital and have not been considered further. The information given in this paper is one aspect of a wider follow-up study of the psychological and social implications of a myocardial infarction for these 74 patients. The patients were admitted direct to the unit from the casualty department after the diagnosis of myocardial infarction, and were discharged as a rule about 72 hours later to the general wards for the remainder of their three- to four-week stay in hospital.

The psychiatric social worker made contact with the patients by spending several hours a day in the unit. During the course of informal talks in these first few days the patients were specifically asked about their impressions of the unit by means of open-ended questions. Two or three days after transfer to the wards they were again asked about their feelings towards the unit in retrospect, what factors they found agreeable or disagreeable, and how they felt about transfer to the ward. Information regarding follow-up medical care was gained from the medical records and by requesting patients to give their opinion of this in follow-up interviews held three months, six months, and one year after myocardial infarction.

The psychiatrist also asked 54 of the patients about their attitude to the unit and the equipment, on average four weeks after their stay there.

Measurements

The following factors have been studied in relation to the patient's attitude to the unit and hospital care.

Age.—The mean age of the patients was 54 years (range 38 to 63).

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Social Class.—According to the General Register Office Classification of Occupations, 16 patients came from social classes I and II, 43 from social class III, and 15 from social classes IV and V.

Duration of Stay in Unit.—The median length of stay was three days (range 2 to 11 days). All five patients who stayed over nine days and seven of the 10 who remained between five and nine days did so because of the severity of their illness rather than the shortage of beds in the general wards.

Severity of Illness (Medical Evaluation).—The severity of the illness was classified by the physician into three grades: grade 1, uncomplicated course (39); grade 2, moderately ill (heart failure, less serious arrhythmia) (21); and grade 3, severely ill (cardiogenic shock, severe pulmonary oedema, serious arrhythmia, or cardiac arrest) (14).

Attitude to Illness (Patient's Evaluation).—In reply to questions about their feelings towards their illness the patients described three main attitudes: (A) 9 did not recognize they were ill or needed the degree of attention they received; (B) 26 recognized illness but anticipated steady recovery; and (C) 39 viewed their illness as very serious, and often thought themselves to be or to have been near death.

Personality Tests.—Sixty-one patients completed the Eysenck personality inventory form and 60 the Taylor manifest anxiety scale—50 during their stay in the wards and 11 after discharge from hospital. The mean scores on the neurotic scale of the Eysenck personality inventory was 8.7 (range 1–21), on the extrovert scale 10.7 (range 3–20), and on the Taylor manifest anxiety scale 11.4 (range 0–32).

Previous Psychiatric History.—Division was made on the basis of evidence gained from the patients—previous psychiatric treatment (6), patient admits to neurotic symptoms in past (18), no evidence from patient of previous neurotic symptoms (50).

For testing statistical relationships the continuous variables above (age, duration of stay, and scores on the Eysenck personality inventory and the Taylor manifest anxiety scale) were each divided into three arbitrary categories (low, medium, and high).

Results

There were no refusals to co-operate among the 74 patients, though only 61 were motivated enough to complete the personality questionnaires.

The answers given by 51 out of the 54 patients who were asked by both of us about their attitude to the unit were in complete agreement. Of the other three patients, two did not admit to finding the unit anxiety-creating in retrospect, and one, in his interview with the psychiatrist after leaving hospital, stated that he had found experiences in the unit disturbing.

Attitude of Patients to Coronary Care Unit

On the basis of the answers given the attitude to the unit was divided into the three categories (see Table I). These exclude the transient feelings of anxiety and depression which the majority of patients experience at some time.

TABLE I

(1) Unit experienced as reassuring	32 patients
(2) Unit experienced with neutral effect	36 "
(3) Unit experienced as anxiety-provoking	6

For statistical purposes categories 2 and 3 have sometimes been combined as "non-reassuring." There was no significant statistical relation between the reassured and the non-reassured patients with respect to age, scores on the Taylor manifest anxiety scale, and on the Eysenck personality inventory, and previous psychiatric history. There were, however, associations between the attitude to the unit and social class, duration of stay in the unit, severity of illness, and attitude to illness.

Social Class.—Only 3 of the 15 patients (20%) in social classes IV and V found the unit reassuring compared with 29 out of the 59 patients (49%) in social classes I, II, and III ($\chi^2=4.14$, $P<0.05$) (Table II).

TABLE II

Social Class	Reassuring	Neutral	Anxiety-provoking
I and II	7	8	1
III	22	19	2
IV and V	3	9	3

Severity of Illness (Medical Assessment).—Patients who were moderately ill appear to receive most reassurance from the unit (Table III). The differences between patients with illnesses of mild and of moderate severity were not significant ($\chi^2=1.83$), but those with severe illnesses were significantly less likely to be reassured than the other two groups ($\chi^2=5.90$, $P<0.05$).

TABLE III

	Reassured	Not Reassured
Uncomplicated course	17	22
Moderately ill	13	8
Severely ill	2	12

Duration of Stay.—It is noticeable that none of the patients who remained in the unit for longer than eight days found it reassuring (Table IV); these, of course, were also the patients who were most severely ill.

TABLE IV

	Reassuring	Neutral	Anxiety-provoking
0–4 days	26	28	5
5–8 "	6	4	0
9–11 "	0	4	1

Attitude to Illness (Patients' Evaluation).—Eight of the nine patients who after an initial fleeting chest pain did not feel they were ill enough to merit any special attention had a neutral attitude towards the coronary care unit (Table V). The

TABLE V

	Reassuring	Neutral	Anxiety-provoking
Patients did not feel ill	1	8	0
Illness recognized but steady recovery anticipated	18	8	0
Illness viewed as very severe	13	20	6

intermediate group who recognized the severity of their illness but were optimistic about its outcome felt most reassured, and those who considered themselves seriously ill experienced the whole range of reactions.

Relation between Patients' Evaluation and Medical Assessment of Severity of Illness.—There is some agreement between the patients' view of their illness and the medical assessment. Eight of the nine who had difficulty in recognizing their illness were medically classified in grade 1, and of the 14 assessed as severely ill (grade 3) 13 saw their illness as severe (Table VI).

TABLE VI

Medical Evaluation	Patients' Evaluation		
	A	B	C
Grade 1	8	19	12
" 2	1	6	14
" 3	0	1	13

Transfer from Coronary Care Unit

Of the 74 patients who left the coronary care unit 38 went to the adjacent cardiothoracic department wards, where there

was some continuity of staff care, and 36 to other medical wards. These two groups did not differ with respect to age, social class, attitude to illness, or scores on the Eysenck personality inventory and the Taylor manifest anxiety scale. They did, however, vary in severity of illness: 11 (79%) of the 14 severely ill patients ($\chi^2=5.12$, $P<0.05$), but only 6 (29%) of the moderately ill patients, went to the cardiothoracic wards.

Attitude of Patients.—The majority were pleased about their transfer from the unit to the ward, as they viewed this as evidence of their improvement, and found no major difficulties in adapting themselves to the ward environment. A substantial proportion (10 patients), however, were depressed or anxious about their transfer, and another 10 were critical of the ward care as compared with unit care (Table VII). Patients trans-

TABLE VII.—*Adaptation to Transfer from Coronary Care Unit to Ward*

	Cardiothoracic Department Ward	Other Wards
No difficulty	33	21
Depression or anxiety	2	8
Critical of ward care	3	7

ferred to other wards were significantly more often depressed or critical than those in the cardiothoracic wards ($\chi^2=7.62$, $P<0.01$). Though the distribution of patients with regard to the severity of illness did differ between the cardiothoracic and other wards, this was not the only cause of the variation in attitude; the percentage of patients who were critical or depressed was lower in the cardiothoracic wards for each category of severity of illness.

Outpatient Follow-up

Patients were given outpatient appointments, or referred to the anticoagulant clinic when they were receiving anticoagulants, at the discretion of the physician supervising their management. Twenty patients received no kind of routine medical follow-up appointment. They did not differ from the other patients with respect to age, social class, or scores on the Eysenck personality inventory or the Taylor manifest anxiety scale. None of the 20, however, had been severely ill (grade 3) and only five had been moderately ill (grade 2). Seven of those patients with no follow-up appointment had been discharged from the cardiothoracic wards and 13 from the other wards.

Nineteen patients were re-referred to the hospital in the year after the study, eight of whom were considered to have had further myocardial infarction or ischaemia (Table VIII).

TABLE VIII.—*Re-referral of Patients to the Hospital*

Reason for Re-referral	Outpatient Appointments	
	Yes	No
Non-specific symptoms	1	7
Angina (2), shoulder pain	1	2
Myocardial infarction or ischaemia	7	1
Not re-referred	55	10

Of the other 11 patients, eight had non-specific symptoms, one had shoulder pain, and two had angina. Nine of these 11 had had no outpatient appointment—three were discharged from the cardiothoracic wards and six from the other wards. Proportionately more patients re-referred from the moderately ill group (four out of five) than from the mildly ill group (5 out of 15) had no outpatient appointment. The incidence of angina, however, was the same both in the patients who were re-referred and in those who were not re-referred, so it seems that factors other than physical disability alone account for re-referral. Altogether 46% of patients with no outpatient appointment were re-referred, but only 4% of those who had outpatient appointments were re-referred for reasons other than infarction or ischaemia. These results were highly significant ($\chi^2=15.30$, $P<0.001$).

When seen at the follow-up research interview, 7 out of the 20 patients who had not received a follow-up medical appointment said this had caused them considerable anxiety. Five brought this up spontaneously as a criticism. Only two stated they were glad to have no follow-up appointment as this must imply that they were completely well. Eleven patients expressed no dissatisfaction that they had not received a medical follow-up appointment but were pleased that contact was maintained in the research follow-up interviews.

Of those who received no outpatient appointment the 10 re-referred patients had higher scores on the Taylor manifest anxiety scale and on the neurotic scale of the Eysenck personality inventory, and returned to work at a later date than those not re-referred (Wilcoxon 1-tailed test, $P<0.05$ in each case).

Discussion

It was recognized that a study of attitudes towards the coronary care unit would present difficulties for the patients, who would not find it easy to be objective, particularly if this involved criticism of the staff and environment they were dependent on. It was hoped that this difficulty would be minimized by the fact that the psychiatric social worker was neither a doctor nor a nurse and that the patients were asked to express their feelings at different times during their stay in hospital. This hope was reinforced by the psychiatric interview conducted by a psychiatrist, who was not a member of the treatment team, just before discharge or immediately afterwards. The consistency and congruity of the results lends force to their reliability.

Clearly there was no significant relation, in this group of patients, between attitude to the unit and anxiety, neuroticism, extroversion, or introversion as measured by the Taylor manifest anxiety scale and the Eysenck personality inventory. Nor was there any significant relation between the patients' attitude and their previous psychiatric history. Fears entertained about the general suitability of such units for anxious or neurotic patients are not confirmed by the results. This finding will encourage their use for the obvious medical advantages without any worry about deleterious effects on anxious personalities, though special attention has to be given to anyone who is clearly overanxious. Three of the six patients who found the unit anxiety-provoking carried such a low threshold of anxiety. But such highly vulnerable persons would probably need special reassurance in any setting.

Apart from the specific needs of the few markedly anxious patients, the overall results suggest that a coronary care unit has minimum adverse psychological effects on patients. In this study only 6 out of 74 men found it anxiety-provoking, of whom three were markedly anxious, one had a paranoid personality, and two had communication problems—one through deafness and the other through language difficulties. Such encouraging results are in close agreement with those of another detailed study carried out in the Massachusetts General Hospital by Hackett *et al.* (1968).

In their detailed review those writers carefully distinguished between intensive care carried out in recovery rooms, where patients consisted largely of those recovering from cardiac surgery, and strictly coronary care units. The former have come in for criticism such as the patients' presence there being an "ordeal" (Egerton and Kay, 1964) or that patients respond by a "catastrophic reaction."

Such responses are singularly absent in the present study. The six patients who found the unit anxiety-provoking found the equipment distressing, but for the rest of the patients this was not the case. Indeed, for them the reaction to the equipment was summarized by one patient, who said "machinery means efficiency. If something does go wrong there must be more chance of putting you right with all this equipment."

More distress was caused by the oxygen masks, as patients associated these with a serious illness and found them uncomfortable, than by the monitor and its leads. All the patients were male, and many mentioned the fact that they were used to complicated technical machinery in their work, which helped them to accept it in the unit. Such a possible bias is countered by the population of the Massachusetts General Hospital, which contained men and women, in which the women responded more positively than the men to the monitor's presence.

Certain features in the unit were considered beforehand as likely to be distressing to everyone. These were cardiac arrest in or death of another patient. Though it was evident that these episodes do cause some increase of anxiety and tenseness among the other patients, at the time only three patients admitted to finding these experiences particularly disturbing in the long term, two belonging to the small group that found the unit anxiety-provoking. Even so, at a follow-up six months later they were no longer showing signs of anxiety and had returned to work.

The factors that were found to be significantly related to the attitudes towards the coronary care unit were not those connected primarily with personality or the environment. The three factors that emerged as significant were social class, severity of illness, and attitude to illness. These factors have not been reported hitherto in other studies appraising psychological hazards.

A significantly smaller proportion of social classes IV and V found the unit reassuring. One possible explanation is that while they were subjected to the same atmosphere and treatment procedure as the others the reassurance they received proved insufficient through difficulties in understanding and communication. The more severely ill the patients were physically the less reassuring they found the unit. This may be accounted for by their greater preoccupation with survival, the concomitant increased anxiety, and their diminished awareness of the unit. The diminished awareness has been related to confusional toxic state. In this study 5 of the 14 severely ill patients became confused. The significant relation between duration of stay in the unit and attitude is clearly related to the severity of the illness. The more severely ill stayed longer in the unit, and also found it less reassuring.

One feature of particularly clinical importance emerged when the patients' attitudes to their illness were evaluated. Nine patients did not consider their condition as serious, and felt obliged to accept this degree of intensive care in the absence of commensurate physical disturbance. Since there was a close relation between the patients' estimation of their own illness and the medical evaluation of the severity of the illness, this reaction cannot be accounted for by mechanisms of denial alone. Such patients require, therefore, a much more detailed and persistent explanation on the part of the doctors and nurses, particularly about the possibility of arrhythmia or arrest even in the absence of pronounced physical symptoms.

"In the final analysis, the success of a coronary care unit depends not on the sophistication of the electronic equipment within it but on the ability, dedication, and esprit de corps of the personnel who work in the unit." These are the words of the second Bethesda Conference of the American College of Cardiology held in 1965 (Report, 1965). They are likely to be repeated in all studies examining coronary care units. The principal factors for the feelings of reassurance were given as the nurses, doctors, and the assorted range of equipment. The feeling of safeness due to constant nursing attention was the point most stressed in one form or another by the patients. "You never feel alone and there is always someone to tell if you have any pain at all." Even though the nurse assumes a much greater responsibility than her counterpart in the general ward for the moment-to-moment care of the patient, the doctor is expected by the patient to be the main and ultimate source of explanation and reassurance.

Because the process of caring for patients in the unit can become a routine matter and there are always pressures on time, occasionally individual needs were not recognized in terms of time and sufficiency of explanation. On these occasions the patients complained, but the instances were few. American reports have stressed the need for privacy and individual rooms. Our findings suggest that the patients welcome the presence of other patients in the room and stress the benefits from communication with them. Social class differences of attitude may well be significant here. Only two patients, both of social class I, out of 74 desired more privacy.

Dependency problems have been reported in the American literature (Klein *et al.*, 1968). Those workers reported both emotional and biological changes when patients were transferred from the coronary care unit. They suggested, but only on the basis of studying 14 patients, that when the patient is unprepared for the transfer the psychological stress may cause a variety of cardiovascular complications as well as being associated with increased production and excretion of catecholamines. Our findings were not directly related to physiological measurements. Six of the 74 patients did develop further major complications in the general ward and had to return to the unit. Two of these had been agitated and felt insecure on transfer to the ward, but the other four were very positive about the move and became depressed on returning to the unit, implying they were severely ill again.

As seen in our findings the problem of dependency falls into two phases: one related to transfer from the unit to the general wards and the other related to discharge from the hospital. Though the majority of patients welcomed the transfer, 10 became depressed, anxious, and critical of the ward as compared with unit care. Patients were significantly more depressed and critical when they moved away from the adjacent cardiothoracic wards to other parts of the hospital. The evidence for separation anxiety arising from the disruption of essential dependent links is also shown when patients were discharged from the hospital. No fewer than 46% of those who did not have a follow-up outpatient appointment were re-referred for reasons other than infarction or ischaemia, compared with 4% of those who had follow-up appointments.

It is not difficult to see that the patient who knows he has been close to death and for three days watched over closely by nurses and doctors is experiencing at some level, conscious or unconscious, some of the most extreme fears of his life. At the same time he is surrounded by an intense degree of tending and reassurance. These are conditions which produce marked regression and dependency and result in certain patients feeling anxious if they are removed far from the sources of reassurance or the links with the hospital are abruptly disrupted.

It is important that the weaning process be gradual, and, if possible, all patients should be transferred to an adjoining ward with some continuity of medical and nursing care, with at least one outpatient follow-up appointment and a good liaison between the family doctor and the hospital.

This study was carried out with a research grant from the Department of Health and Social Security. We would like to record our thanks for co-operation and assistance to the physicians and nurses concerned, particularly Dr. W. M. McNicol and Dr. A. E. Tattersfield. Our thanks are also due to Mrs. W. R. Fox for her statistical help.

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