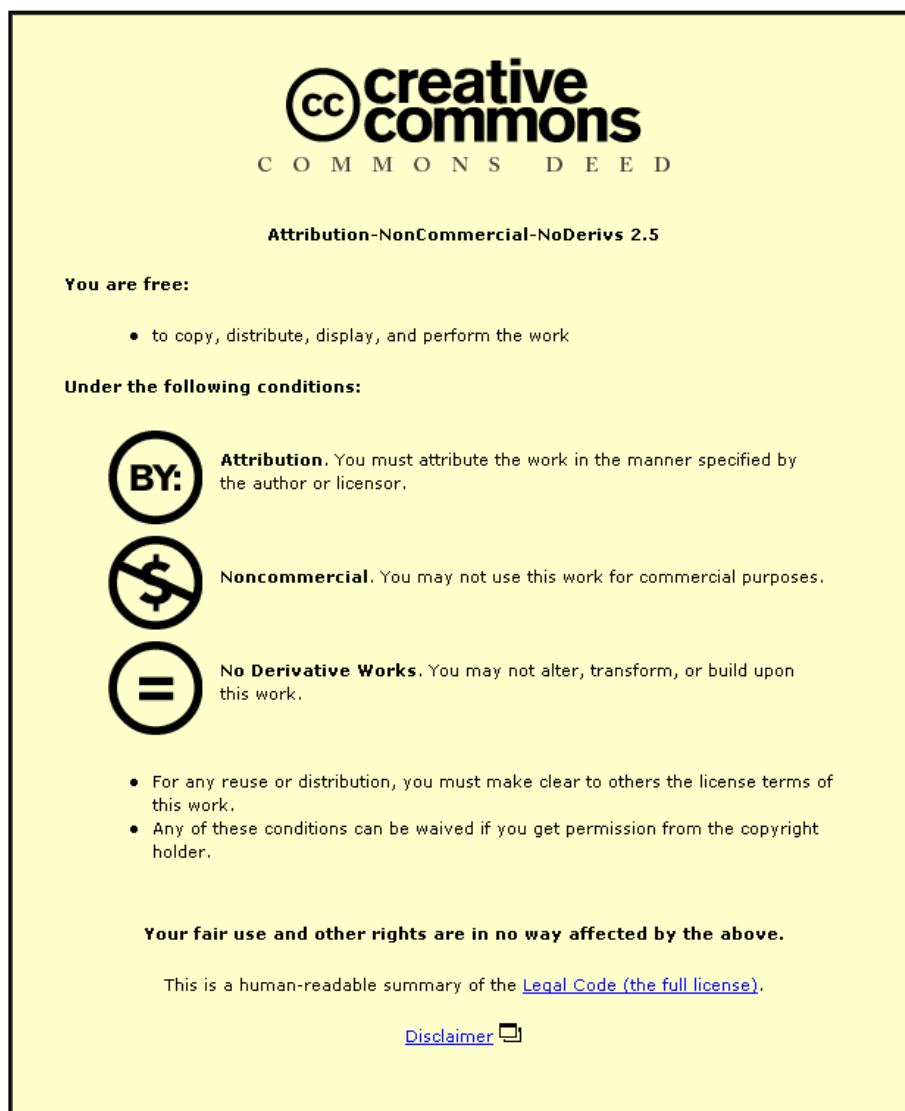


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**Efficacy of Counselling for Coronary
Patients and Partners.**

by

David R. Thompson

A Doctoral Thesis

**Submitted in partial fulfilment of the
requirements for the award of
Doctor of Philosophy
of the
Loughborough University of Technology**

February 1989

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DEDICATION

I would like to dedicate this thesis
to my son, Luke, and hope that, in part, it
makes up for the time that should have been his.

ABSTRACT

The purpose of this study was to monitor and compare levels of anxiety, depression, satisfaction and knowledge in male coronary patients and their spouses, throughout the patients stay in hospital and at one, three and six months following discharge from the hospital. A programme of in-hospital educative-supportive counselling was introduced to determine whether it significantly affected reactions.

The study design took the form of a randomized controlled trial. The counselling was provided to couples during four 30 minute sessions by a coronary care unit registered nurse.

Findings from the study provide evidence to support the overall contention that this simple programme confers additional benefits over and above the usual management regime. These benefits include statistically significant reductions in reported anxiety and depression, and increases in satisfaction and knowledge in both partners.

The programme of support was simple and easy to implement, requiring little investment in training personnel and none in additional staff, finances or other resources.

It is concluded that in-hospital counselling for coronary patients and partners is therapeutically effective and efficient.

Proposals are made for practice change and recommendations are given for the direction of future research.

ACKNOWLEDGEMENTS

Thanks are due to my academic supervisor, Dr Ray Meddis; to Chris Cordle; my clinical colleagues; and the patients and spouses who were, and are, the reason for any attempt to better the provision of care.

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CHAPTER 1

PSYCHOLOGICAL REACTIONS TO ACUTE MYOCARDIAL INFARCTION

Introduction

The experience of suffering a heart attack (myocardial infarction) is virtually always frightening and painful, arousing intense distress in the patient and family, especially the spouse. Later, as the fear of death recedes, they are confronted with the consequences of physical impairment and the experience of surviving a sudden life-threatening crisis. The patient and spouse in particular are likely to be faced with an uncertain future and worry about the patient's ability to resume work, the fulfilment of family obligations and the curtailment of activities that have been important sources of satisfaction and support.

Psychological reactions

There is now available an impressive body of evidence that a significant proportion of coronary patients experience at least some degree of emotional distress, which may be denied or suppressed. According to Hackett and Cassem (1984) the psychological symptoms encountered are mainly centred around two states of mind: anxiety and depression. In a review of the literature, these authors suggest that anxiety "is a state resembling fear. The sufferer being apprehensive and hyperalert, with signs of heightened autonomic activity." (p.437). The main reason for the anxiety is the threat of sudden death, although other worries such as the ability to resume work and leisure activities, and function successfully within the family

and society may be contributory factors. Hackett and Cassem view depression as "a state of sadness due to a loss, often of strength, energy, or independence." (p.437). Other psychological problems experienced during recovery from an acute myocardial infarction (M.I.), such as insomnia, irritability and loss of libido, usually have their roots in underlying depression.

Hackett et al. (1968) have reported that this depression is reactive in nature and rarely assumes psychotic proportions. They emphasize that it is a normal response to sustaining a myocardial infarction, and is often masked by the patient's fear of death, worry about diagnosis, and concern about the immediate future.

Anxiety and depression are often compounded by lack of information, misunderstandings about the heart attack and expected rates of activity and recovery, and inadequate, vague and conflicting advice (Mayou et al. 1976).

The emotional and social responses of patients and their families, particularly spouses, to acute myocardial infarction may be conveniently considered under the following headings.

Response to hospital

The initial emotional response of patients has been documented by Hackett and his colleagues (1968) who conducted a series of ten studies on 50 myocardial infarction patients in a coronary care unit (C.C.U.). In one study judgements of predominant mood for each of the patients were made from a variety of sources, including nursing records, observations by relatives, impressions by the investigator and subjective reports from the patient

himself. Anxiety was judged to be present when the patient complained of being anxious or when he appeared nervous, sweaty, restless or constantly requested reassurance or medication. Depression was judged to be present either when the patient appeared despondent and tearful or if he admitted to sadness or discouragement during interview. 40 of the 50 patients were judged to be anxious, and 29 admitted being depressed or exhibited behaviour consistent with depression. The majority of patients were either reassured by the cardiac monitor or indifferent to its presence. Dominian and Dobson (1969) studied 74 consecutive male first myocardial infarction patients admitted to a C.C.U. Only six patients found the unit anxiety-provoking.

The course of emotional changes following acute myocardial infarction was first documented by Cassem and Hackett (1971). Of 441 consecutive patients admitted to a C.C.U., 145 (32.7%) were referred by a nurse or physician, or both, to the authors for psychiatric consultation. The most frequent reason for referral was anxiety (47 cases), stemming from fear of death or physiological complications, and depression (44 cases), related to decreased self-esteem. Other patients were referred for a variety of management problems, stemming from excessive denial of illness, inappropriate euphoric or sexual behaviour, or hostile conflicts with staff.

Based on the timing and nature of requests for these consultations, Cassem and Hackett developed a model for the time course of such distress. According to the model, anxiety predominates during the first two days in a C.C.U. and subsequently declines. This diminished anxiety is a function of the defence mechanism of denial, which is usually predominant on the second day. Depression peaks

on the third and fourth days as the impact of the heart attack is felt.

Although this time model was based on experience with only those patients referred to Cassem and Hackett for psychiatric consultation, subsequent reports have tended to confirm and extend the ubiquity and time course for such reactions. For instance, in a series of in-depth studies Cay and her colleagues (Cay et al. 1972a & b; Cay et al. 1973; Dellipiani et al. 1976; Vetter et al. 1977; Philip et al. 1979) have systematically documented and delineated the frequency, type and severity of psychological reactions in coronary patients admitted to hospital. Serial measurements have generally demonstrated that anxiety is highest on admission to the C.C.U. and immediately after transfer to the ward, falling rapidly over the following week, and rising just prior to discharge.

Cay et al. (1972b) reported psychological disturbances in 62% of the 203 men they studied 8-10 days after their first myocardial infarction. The predominant symptoms were anxiety and depression, the assessment being based on clinical interview with no attempt to measure the severity of these symptoms.

Stern et al. (1976), also relying on clinical assessment, found 49% of patients to be anxious or depressed during their stay in hospital.

Mayou et al. (1978b) rated psychological symptoms on a 4-point scale one week after admission and found 78% of the first myocardial infarction patients they studied to be mildly or moderately distressed.

Studies which have looked at age of the patient (Billing et al. 1980) and physical severity of the infarct (Cay et al. 1972 a & b; Cay et al. 1973; Dellipiani et al. 1976; Stern et al. 1976) have found that these are unrelated to the occurrence of either anxiety or depression. Although Vetter et al. (1977) found that women patients admitted to a C.C.U. were considerably more anxious than men.

In a recent study (Silverstone 1987) of 108 patients admitted consecutively with a diagnosis of myocardial infarction, 48 were classified as depressed as assessed with the Montgomery-Asberg rating scale (Montgomery and Asberg 1979) between 2-24 hours after admission. Of these 48 patients, 8 died and 6 suffered either a cardiac arrest with successful resuscitation or further infarction. Of the 60 who were not depressed, one died and one suffered a further infarction. The author concluded that depression in the first 24 hours after myocardial infarction is an indicator of considerably increased risk of early death, reinfarction, or cardiac arrest.

Several studies (Hackett et al. 1968; Dominian and Dobson 1969; Klein et al. 1968) have noted adverse effects (including anxiety, depression, reinfarction and arrhythmias) associated with transfer from the C.C.U. to general medical wards. In one study Klein et al. (1968) found fewer of these changes among patients who were systematically prepared for transfer and who were each followed throughout and after hospital stay by a designated nurse and physician.

Response after discharge

The emotional distress, particularly depression, of most coronary patients reaches a peak after discharge from

hospital. Wishnie et al. (1971) found that of the 24 patients who reported that they were looking forward to returning home 21 rated themselves as being anxious or depressed 3-9 months after discharge. Cay et al. (1973) found that over half of the patients they studied remained 'emotionally upset' at 4 and 12 months. This 'emotional upset' (a term used, though not defined, by the authors) seemed to be related to whether a person had returned to work.

In two studies of males who had suffered a first heart attack, Thompson et al. (1982, 1987) found high levels of anxiety at six weeks post-discharge. Specific sources of anxiety reported by these patients included return to work, the future and possible complications.

During the first month following the heart attack, depression is abetted by a subjective sense of weakness and fatigue. Thereafter it frequently resolves. However, Stern et al. (1976; 1977) found 15-20% of all patients after infarction were depressed one month after discharge. If left untreated, three-quarters of these continued to be depressed, and half became even more markedly depressed at one year.

Response of the spouse

The threat associated with myocardial infarction causes various problems for the whole family, in particular the spouse. The spouse is frequently forgotten in an environment essentially devoted to patient, but not family, care. Yet it is frequently the spouse who has a major role in the patient's readjustment during convalescence and her behaviour is an important

determinant of the rate and extent of the patient's recovery.

Cay (1982) has claimed that the wives are more anxious than their husbands, at least during the initial period of his illness. Certainly the period following the patient's discharge from hospital is particularly stressful for the wife, who often feels vulnerable, unsupported and over-protective towards her husband.

Wishnie et al. (1971) in their interviews with 18 patients and their families 3-9 months after the patients' heart attack, found that all of the families demonstrated significant anxiety about the patient's recuperation and their role in promoting or retarding the process. Wishnie et al. reported that "The wives in particular tended to overprotect their husbands in an aggressive way. They felt guilty at having been somehow instrumental in the genesis of the heart attack and were frustrated at being unable to express grievances and anger lest such action bring on another M.I." (p.1294).

Skelton and Dominian (1973) found that 25 wives of the 65 interviewed at three months following their husband's myocardial infarction suffered from feelings of anxiety, depression, tension, sleep disturbance, appetite disturbance, and (in some) psychosomatic symptoms. Of these 25 wives, 22 experienced severe grief while their husband was in hospital. In two studies (Mayou et al. 1978a & b) 82 wives of men suffering a first myocardial infarction reported considerable distress at one week, two months, and one year following the husband's admission to hospital. At one year, 18 reported severe "mental disturbance" and 19 reported moderate "mental disturbance".

Apart from high levels of anxiety and depression post-discharge, spouses express dissatisfaction with the quality and quantity of information and support they have received from health professionals. In a series of studies, Mayou and his colleagues found that the spouse as well as the patient had a low level of understanding of advice and information (Mayou et al. 1976) and that the family suffered consequences which were often as great as for the patient (Mayou et al. 1978a, b & c). They drew attention to the important role of the spouse in the patient's readjustment during convalescence and their influence on the rate and extent of the patient's recovery. They concluded that more practical help and advice should be provided for wives of coronary patients during the hospital stay, and for the whole family throughout convalescence.

Hentinen (1983) found that most of the 59 wives she studied reported various signs of stress, particularly insomnia and fatigue, as well as dissatisfaction with professional advice and support. Even when support and information is routinely provided to wives during their husbands' stay in hospital, a significant proportion report physical and emotional distress and general dissatisfaction (Thompson and Cordle 1988).

Apart from feelings of guilt, the spouse may experience various threats, including loss of partner, changes in life goals and financial circumstances, a new role within the family, and recurrence of myocardial infarction (Bedsworth and Molen 1982).

In an extensive review of the literature on psychosocial aspects of recovery from ischaemic heart disease, Doehrmann (1977) adds information about the strains that arise in

the patients interaction with family members. Fearing another heart attack, they tend to become overprotective or too demanding, and family tensions are common during the recovery process.

Emotional factors affecting outcome

Several studies suggest that depression in coronary patients may be correlated with poor outcome as measured by poor vocational adjustment (Nagle et al. 1971; Wishnie et al. 1971; Cay et al. 1973), morbidity and mortality (Garritty and Klein 1975). For instance, Stern et al. (1976) compared with other myocardial infarction patients, those who were depressed, and found that they had a statistically significant higher rate of hospital readmission, a decreased ability to remain employed, and a greater decrement in sexual functioning.

Cay et al. (1973) demonstrated that past coping style, social problems and social class were related to subsequent emotional disturbance and failure to return to work post-M.I.

A study by Byrne and Whyte (1978) revealed eight dimensions of illness behaviour which characterized a population of survivors of myocardial infarction. These were clinically identified as: somatic concern; psychosocial precipitants; affective disruption; affective inhibition; illness recognition; subjective tension; sick role acceptance; and trust in the doctor. Later, these authors (Byrne et al. 1981; Byrne 1982a) showed that several of these dimensions that were evident 10-14 days after the first infarction were predictive of outcome. For example, those patients with poor cardiological outcomes at eight months were more likely than others to have

expressed concern about somatic functioning and to have recognized the contribution made by life stressors soon after initial myocardial infarction. Those failing to return to work at eight months were more likely than others to have accepted the sick role and expressed a subjective feeling of tension following the infarction. However, in a follow-up study Byrne (1982b) addressed outcome in 73% of the cohort two years after myocardial infarction. The author concluded that illness behaviour soon after M.I. related only tenuously to cardiological and occupational outcome at two years. This was in contrast with associations evident at eight months after infarction, suggesting that the most important influences of illness behaviour on outcome occur within the first eight months of M.I.

A number of other reports (Philip et al. 1981; Lloyd and Cawley 1978, 1982, 1983; Mayou 1984; Wiklund et al. 1984; Trelawny-Ross and Russell 1986) have suggested that some premorbid and, more significantly, early psychosocial factors are predictive of long-term psychological and social adjustment. These factors include premorbid psychological and social functioning and mental state in hospital.

Conclusion

It is clear that patients and their partners experience significant distress during the acute phase of the illness and have considerable difficulties confronting them following discharge. Problems include returning to work, continuing with leisure activities, and resuming previous social commitments and responsibilities against a background of fear of possible complications which remains long after the damaged myocardium has healed.

CHAPTER 2

ACUTE PSYCHOLOGICAL INTERVENTION

Introduction

It is evident from the preceding review that both the patient and family, especially the spouse, experience considerable emotional distress during the acute phase of the patient's illness. This distress, particularly anxiety and depression, tends to peak following discharge from hospital. If steps are not taken to alleviate this symptoms tend to persist and a year later, half the survivors still have symptoms which are significantly disturbing in 25% (Cay 1982). These psychological sequelae of myocardial infarction have a deleterious effect on recovery in terms of morbidity, mortality, and resumption of a pre-infarct lifestyle.

Several major themes emerge from a number of comprehensive reviews of the literature on coronary patient reactions (Croog et al. 1968; Doehrman 1977; Razin 1982), some of which have been extrapolated by Razin (1985). For instance:-

1. There is significant emotional distress, family turmoil and occupational problems in about one quarter of patients at one year post-myocardial infarction. However, reports of distress have ranged from 20% (Hinohara 1970) to 64% (Mayou et al. 1978b) of patients. This discrepancy between studies may be attributed to differences in criteria for psychological distress, populations studied, and/or the type and timing of measurements.
2. Typical coronary patients do not experience short- or long-term emotional disturbances as a result of C.C.U.

events and procedures, such as witnessing a cardiac arrest or being connected to a cardiac monitor.

3. Occupational adjustment problems are greater among manual workers, less-educated patients, those with lasting emotional distress, and those with more serious medical problems.

4. At one year post-infarction about 60% of patients have not returned to previous levels of sexual activity, usually due to reasons such as decrease in sexual desire, depression, anxiety, and fear of relapse or sudden death (Hellerstein and Friedman 1970; Bloch et al. 1975).

5. Higher socioeconomic status and marital stability seem to be associated with a good outcome.

6. The role of the defence mechanism of denial remains unclear in facilitating or deterring recovery.

7. 'Cardiac invalidism' seems to be a common (reported in as many as 50% of patients (Wynn 1967)), and frequently refractory problem, but may be preventable by appropriate, early psychosocial and medical intervention.

Surviving a myocardial infarction is an experience that can have pervasive consequences for the physical, psychological and social well-being of the patient and his or her family. A multidisciplinary approach to patient management is nowadays well accepted and a range of therapeutic interventions are available to clinical staff. Some clinicians have placed great reliance on physical conditioning (exercise) while others have selected mainly psychological interventions, such as counselling, behaviour therapy and health education.

Exercise programmes

Exercise training certainly results in numerous physiological benefits for the coronary patient. However,

despite improved cardio-respiratory fitness, there is little controlled evidence that it prolongs life or that it reduces the risk of reinfarction (Blumenthal and Emery 1988). There is also a paucity of evidence to show that it improves psychosocial functioning. The most comprehensive study has involved 651 male patients who had suffered at least one myocardial infarction, randomly assigned to either an exercise or a control group and assessed with a wide variety of psychosocial measures at the outset and after 6 months, 1 year, and 2 years (Stern and Cleary 1982). However, the investigators failed to find any long-term advantage of exercise on any of the psychosocial variables. Roviario et al. (1984) found that 28 male cardiac patients who participated in a structured exercise programme reported more positive self-perception and better psychosocial functioning than those in a non-randomized control group. However, only 16 of the 28 patients in the treatment group and 12 of the 20 controls had suffered a myocardial infarction. Although exercise programmes generally appear attractive to patients and physicians, they are expensive and require supervision.

Perkins et al. (1986), briefly reviewing the contribution of exercise programmes, concluded that the effects of rehabilitation programmes "where physical conditioning is the major component, have been overestimated; they appear to hold little advantage over routine medical follow-up." (p.359).

Psychological intervention

Although the proven efficacy of psychological and educational intervention in other medical and surgical

conditions is well documented there is a relative paucity of such systematic information in coronary patients.

In a comprehensive review of the literature, Blanchard and Miller (1977) suggested that even though psychological intervention has usually only been used as an adjunctive treatment to physical conditioning, it would seem to have some advantage over no psychological treatment at all. This was confirmed by Mumford et al. (1982) who, in a meta-analysis of 34 controlled, experimental studies demonstrated that, in general, surgical or coronary patients who are provided information or emotional support to help them cope with the crisis have a more favourable outcome than patients who receive only ordinary care. Although most of the interventions were modest, they offered humane and considerate care, and they can be cost-effective.

Wenger (1982) has emphasized the goal of education and counselling as the provision of information concerning the myocardial infarction and its management, thereby encouraging the patient to become responsible for his or her state of health. Gottlieb (1983) suggests that "Supportive interventions can be introduced to foster psychosocial adaptation and adherence to medical regimens. By combining emotional support and patient education, they can induce more benign appraisals of the threats imposed by illness, thus mitigating attendant anxieties, and teach self-care practices." (p.160). Thus a major function of psychological support is to assist the coronary patient in coping with the traumatic event of his or her illness, reducing the likelihood of chronic anxiety and depression. It is evident that such interventions should be instigated as early as possible.

Based on his extensive review of the literature, Razin (1985) suggests a useful framework on which to base routine post-myocardial infarction intervention (p.171-173):-

1. Intervention must be early.
2. Intervention must be specific, systematic, graduated and educative.
3. Specific attention should be paid to depression.
4. Social supports must be involved and mobilized.
5. Continuity and follow-up are essential.

A number of studies have addressed psychological interventions for coronary patients, including risk factor education and modification, and supportive interventions, whether they be for individuals or groups (Adsett and Bruhn 1968; Rahe et al. 1973; Ibrahim et al. 1974; Fielding 1979; Rahe et al. 1979; Horlick et al. 1984; Roviato et al. 1984). Very occasionally they have specifically included the spouse (Dracup 1985). However, these studies exclusively describe care initiated and delivered after the patient has been discharged from hospital. By virtue of the timing of these interventions they represent not acute psychological intervention, but rather cardiac rehabilitation. They are, therefore, not the concern of this thesis.

By comparison, the systematic investigation of acute psychological intervention (i.e., in-hospital) in coronary patients has been remarkably limited. Yet, as Perkins et al. (1986) suggest, it is probable that the in-hospital phase affords an ideal opportunity to deal with crucial psychosocial issues at a time when the patient and spouse are most aware of them and most likely to be motivated to make any necessary changes. A further advantage is the possibility of intervening with all patients after a

myocardial infarction. It would seem sensible to provide the couple with an optimistic, albeit realistic, and informed outlook from the outset, recognizing the important contribution of the spouse.

Four studies (Acker 1976; Cromwell et al. 1977; Naismith et al. 1979; Young et al. 1982) that describe different interventions initiated in-hospital, although not exclusively falling within the province of this thesis, merit some attention here.

Interventions initiated in-hospital

Acker (1976) compared patients given routine coronary care and hospital rehabilitation with a special care group. The latter were provided with a special patient area, with activity and educational schemes, psychological support and a vigorous orientation towards recovery. The average number of days spent in hospital was significantly shorter in the latter group (19.3 vs 22.7 days) which convalescence time was also reduced (78.9 vs 100.9 days). The differences in rate of returning to work or re-employment were most marked amongst the younger (less than 50 years) lower social class patients.

The patterns observed in this study may have been due to the amount of attention and interest shown in the patients, rather than specific effects of the procedures themselves. Also, nowadays the differences in hospital stay is unlikely to be so apparent - the average length of stay is usually between 5-10 days.

A highly detailed evaluation of different forms of attention was provided by Cromwell et al. (1977) in a comparison of coronary care regimens. 183 patients were

studied after being assigned to one of eight psychological treatment groups in a 2x2x2 factorial design. Three factors were manipulated:-

1. Amount of information: the high information group was given detailed information about the nature and severity of the heart condition, and the C.C.U., together with advice on recovery, diet, work and risk behaviour. The low information group was given the conventional description of the C.C.U. and hospital procedures.
2. Amount of diversion: the high diversion group had television, windows near their beds, reading material and relaxed visiting hours, while these sources were restricted in the low diversion group.
3. Amount of participation: the high participation group patients were encouraged to involve themselves in the recovery process. They could switch on their electrocardiographs when they experienced symptoms, and were given systematic exercise schedules in the C.C.U. By contrast, low participation group patients were treated with complete bedrest and little movement.

Each patient was assigned as 'high' or 'low' on each of these conditions. Patients allocated to the low information, low diversion, low participation groups were not deprived, but were in the position common in most C.C.U.s at that time. All patients received the same intensive nursing.

The dependent variables of the intervention study were various indices of recovery (versus recurrence of myocardial infarction and/or death), comfort and cooperation. Unfortunately, the obvious differences in treatment format prevented a blind assessment of recovery, and subtle fluctuations in medical care may have been present. Nevertheless, although the psychological

interventions showed no appreciable impact upon the long-term indices of recovery (such as death within 12 weeks or recurrence of acute myocardial infarction within 12 weeks), a remarkable impact was shown upon the length of C.C.U. and hospital stay. This stay was longest amongst patients who received high information, low diversion and low participation (mean of 28.0 days); in contrast to those who received high information and either high levels of diversion (19.5 days) or participation (20.9 days). Those exposed to high levels on all three factors recovered at an intermediate rate.

The study suggests that information alone is not sufficient to promote change. Information is helpful, provided that it is coupled with some practical action. It also suggests that information presented during the patient's stay in hospital is assimilated.

Naismith et al. (1979) carried out a study in which 68 male coronary patients aged less than 60 years were counselled on the third day following infarction by a rehabilitation team consisting of a physician and nurse. Counselling continued for the next six months when deemed necessary, first in the hospital and then at home. Both patient and spouse were encouraged during these sessions to speak freely about their activities and difficulties. These patients were compared to 75 controls who received normal care following infarction.

At six months the intervention group were deemed more socially independent, and they returned to working life earlier. The rehabilitation was evidently most successful in a sub-sample of 'introverted neurotics'.

Young et al. (1982) compared 97 first-myocardial infarction patients (male and female) aged less than 66 years who participated in a rehabilitation programme with 100 controls. The intervention consisted of the following elements: education about risk factors, ischaemic heart disease, myocardial infarction, expected recovery and medications (provided by a nurse or a health team); education about diet (provided by a dietician); encouragement about graduated physical activity (provided by a physiotherapist); and consultation about work prospects.

Treatment effects were measured at three months and one year after discharge. When compared with the control group at three month follow-up, treated patients more frequently adhered to recommended diet, lost more weight, were more active, had lower serum cholesterol and less severe angina. However, at one year follow-up, only the difference in cholesterol persisted, thus indicating a decay in the influence of the programme over the observation period and an inability to affect outcomes.

Interventions confined to in-hospital

Only three well-controlled studies of in-patient psychological intervention have been reported (Gruen 1975; Langosch et al. 1982; Oldenburg et al. 1985).

Gruen (1975) investigated the extent to which psychotherapeutic measures initiated during hospital stay have an effect on the recovery process. A group of 70 first-myocardial infarction patients aged less than 70 years were randomly assigned either to an intervention or a control group. The intervention (individual psychotherapy) was initiated by a psychologist the day

after admission and was conducted six times per week during intensive care and subsequently five times per week. Each intervention lasted, on average, thirty minutes.

Findings indicated that the intervention group required a shorter intensive care period (6.6 vs 7.8 days) and also an overall shorter hospital period (22.5 vs 24.9 days) compared with controls. During the second week of hospital stay, fewer supraventricular arrhythmias, fewer symptoms of fatigue and less depression were observed in patients receiving therapy. In addition, these patients had a more positive social orientation and returned more quickly to a normal level of activity.

The results of this investigation suggest that well-defined psychotherapeutic measures do contribute to an improvement in the patient's ability to manage the trauma of illness.

In a study of 90 male ischaemic heart disease patients, Langosch et al. (1982) compared three groups. The first group consisted of 32 patients who participated in stress management training, the second group consisted of 28 patients taking part in relaxation training, and the third group was a control group of 30 patients. The stress management training programme consisted of eight sessions each lasting one hour conducted in hospital over a period of two weeks. Both treatments emphasized learning to recognize early cues of tension and to engage in coping techniques (such as relaxation, thought stopping and reduction of negative and production of positive self-statements) to reduce the arousal. The authors did not state who carried out the intervention.

Patients receiving therapy were less anxious about social exchanges, were less hurried and more patient, and were more convinced that they were capable of managing stress. They were performing better on some psychological and vocational parameters at six months, although the range of measures used was limited making it impossible to assess whether there was a similar improvement in physical and lifestyle functioning.

In a study of 46 first-myocardial infarction patients aged less than 70 years, Oldenburg et al. (1985) examined the effects of in-hospital counselling, relaxation and education about heart disease and coronary risk behaviour on psychological and physical health. The relaxation and educational components were administered by means of audio-cassette tapes. Two treatment groups were compared with a control group. One treatment group (the counselling group) received counselling, relaxation therapy and education, while the other treatment group (the education group) received only the relaxation and educational components. The control group received routine hospital care. A relaxation tape was given to all intervention patients within 48 hours of admission to the hospital, and three education tapes were given on subsequent days. Individual counselling was conducted over at least six, but no more than ten, 45 minute sessions. The first session took place within 48 hours of admission.

The two therapists were a psychologist and a psychiatrist. They were not involved in the administration of questionnaires or the collection of data.

Both treatment groups performed significantly better at follow-up (3, 6 and 12 months), compared with the routine

care group, on measures of psychological and lifestyle functioning.

Conclusion

The findings from the studies outlined above indicate that in-hospital counselling for coronary patients is beneficial. Although some of the interventions described were initiated in hospital, they were often continued after discharge. Others were not purely psychological interventions, but rather approaches consisting of varying components such as physical conditioning.

Other problems that emerge include the lack of information about the patients studied (such as age, sex and social class) and their characteristics (for example, many studies fail to distinguish between first and subsequent infarcts), the type of intervention, the measures used and the outcomes. Thus, replication is often difficult if not impossible.

CHAPTER 3

RATIONALE FOR PRESENT RESEARCH

Introduction

Despite the well-documented psychological distress that has been associated with myocardial infarction, there have been few reported systematic studies directed at developing, delivering and evaluating a programme of psychological intervention designed specifically for coronary patients.

Methodological criticisms

The foregoing literature suggests that whilst in-hospital counselling for coronary patients is desirable and appears beneficial, there is a need for more rigorously designed and executed studies in order to demonstrate unequivocally the efficacy of such intervention.

For instance, methodological criticisms may be levelled at some of the experimental studies reported earlier, such as small sample sizes, lack of random assignment to groups and reliance on measures that have not been validated. The interventions are often inadequately described with little importance being attached to distinguishing between concepts such as 'information-giving', 'teaching', 'education' or 'counselling': terms often used interchangeably or loosely (Wilson-Barnett 1988). In addition, none of the studies described in the preceding chapter used staff members who are involved in the routine care of patients after a myocardial infarction to initiate and continue the intervention. Moreover, there has been

no intervention study reported to date which has involved the patient's spouse, despite the known impact of the spouse on the recovery process of the coronary patient.

A decade ago Frank et al. (1979) concluded that:-

1. Early post-coronary intervention is desirable.
2. Spouses/significant others should usually be included.
3. Therapists need not be physicians.
4. Supportive-educative and behavioural interventions are likely to be the most effective.

Razin (1985) supported and extended such recommendations and specifically suggested that:-

1. Appropriate, well-timed psychological intervention in the acute phase should be routinely offered.
2. Intervention should be didactic, detailed and repetitive.
3. An open, honest approach should be taken, showing compassion, confidence and forthrightness.
4. There should be awareness of the relative phasic specificity of patient reactions.
5. Anxiety should be treated supportively and thus minimized whenever possible.

Yet, no published study to date has incorporated most of these key features in its design. Razin (1985) has noted that there is virtually no systematic study of acute-phase intervention. Referring to his suggestions that intervention should be early, systematic, educative and involve social supports, he states that "while it might be tedious to test these recommendations singly, it would be quite valuable to test a number of them in a 'package' or comprehensive design." (p.184).

The aim of this study was to attempt to incorporate such features into the design of a package of support. The author was mindful of the conclusions reached by Steptoe (1981) - "Enthusiasm for a treatment does not depend simply on its efficacy, but on a whole constellation of secondary factors, including expense, ease of administration, and professional training requirements." (p.229).

The type of psychological intervention coronary patients and their spouses are most likely to benefit from would appear to be some form of supportive-educative counselling. Coronary care nurses would be ideally placed to undertake such a function by virtue of their expertise in dealing with such patients and their families, being available on a 24 hour basis and able to give more time on a one to one basis to provide practical and relevant support and information. They can also initiate any intervention early, and follow this up throughout the patient's stay in hospital.

Novel features of present study

Novel features of the design included the following:-

1. Early initiation of the psychological intervention (i.e., within 24 hours of admission to hospital), including appropriate measurement, and early and regular follow-up (i.e., one, three and six months following discharge).
2. Inclusion of the patient's spouse.
3. Provision of the intervention by a C.C.U. registered nurse.
4. Examination of specific sources of anxiety.
5. Easy administration of the intervention.

It was envisaged that the provision of such a package of

support would be simple, easy to administer, and not involve reliance on additional staff, finances, or other resources.

CHAPTER 4

STUDY DESIGN

Aim of the study

The main aim of this research was to monitor and compare levels of anxiety, depression, satisfaction and knowledge reported by first myocardial infarction male patients and their spouses throughout the patients stay in hospital, and at one, three and six months following discharge from the hospital. An independent variable of a programme of nursing support and education was introduced to determine whether it significantly affected reactions.

A further aim was to extend and refine some earlier work by the author (Thompson et al. 1982, 1987; Thompson and Cordle 1988) examining the specific sources and patterns of anxiety in coronary patients and their spouses.

Hypotheses

The following three hypotheses were tested:-

I. Patients and spouses receiving the programme of in-hospital supportive-educative counselling will report significantly lower anxiety and depression scores than those who do not receive such intervention.

II. Patients and spouses receiving the programme of in-hospital supportive-educative counselling will report significantly higher satisfaction scores than those who do not receive such intervention.

III. Patients and spouses receiving the programme of in-hospital supportive-educative counselling will obtain significantly higher knowledge scores than those who do not receive such intervention.

Setting

The study was carried out in the modern, spacious, and open-plan designed 8-bedded C.C.U. of a large (1000 beds) teaching hospital.

Description of care

The C.C.U. has a progressive nursing and medical approach to patient care.

The nursing establishment comprised 20 qualified general nurses: 12 of whom were registered (including 4 charge nurses) and 8 enrolled. All of the nurses had an average of three (range 2 - 8) years experience of coronary care nursing and over one-third (8) had obtained appropriate post-basic qualifications.

A system of 'primary nursing' had been in operation for at least two years at the time of the study. Essentially, this method of care ensures that one nurse is primarily responsible and accountable for assessing, planning, delivering and evaluating the nursing care of either one or two patients and their families during their stay in the C.C.U. There was a shift system of internal rotation in operation. Similar nursing systems of care were operated on each of the three medical wards to which they were transferred.

One consultant physician was responsible for the routine medical management of patients in the C.C.U. Patients were examined on a daily basis by either the consultant or a senior registrar, in addition to the C.C.U. house officer and senior house officer.

Design

This randomized controlled trial had a prospective, longitudinal, repeated measures design.

A consecutive series of 60 couples were randomly assigned, in cells of 10, to one of two predetermined groups:-

1. Treatment (intervention) group. These couples received a systematic programme of supportive-educative counselling from one of two registered nurses, in addition to routine medical, nursing and paramedical care.

2. Control group. These couples received routine medical, nursing and paramedical care normally provided to myocardial infarction patients in hospital, but no other intervention.

The inclusion of an attention-placebo group was considered, but it was decided that there was likely to be ethical objections and, as Wilson-Barnett (1984) has pointed out, there may have been some difficulty in sustaining an unstructured conversation for the necessary duration (thirty minutes) for each intervention and a risk to cooperation from patients if they saw this as a waste of time.

This study design was planned in order to avoid contamination of control subjects from any influence of treatment subjects and also avoid confusion for patients in the different groups who may be receiving different care at the same time. It also minimised the effect of extraneous variables which may have been introduced during the period of data collection.

Randomization

The study design incorporated random assignment to reduce bias in the allocation of individuals to experimental groups. In accordance with the suggestion of Pocock (1983) arrangements for consecutive assignment to groups was prepared by an independent person based on the use of a table of random numbers. This allows completely unpredictable treatment assignment but does, if necessary, permit reproducibility and checking of the method.

Control (A) and treatment (B) group assignment took place in the following sequence (in cells of ten):-

Group:	A	B	A	B	B	A
n:	10	10	10	10	10	10

The design required two researchers who had separate roles during the experimental phase: one acting as data collector, the other providing the experimental intervention programme. The same researcher provided the intervention to the first five of the ten couples in each treatment group, whilst the other collected the data. The researchers then exchanged roles for the remaining five couples throughout the study to facilitate comparisons of their effect on data and their efficacy as a support agent. Both researchers were experienced coronary care registered nurses.

The approach and content of the intervention package provided by the two researchers were in close agreement as determined by an independent assessor (a cardiologist).

Nurses on the C.C.U. and wards were not told of the group to which patients were assigned.

Both groups received conventional medical care under one consultant physician on the C.C.U., and under one of three others on one of the three medical wards to which they were transferred.

During the entire phase of the study there was no other hospital or community-based form of cardiac rehabilitation taking place.

CHAPTER 5

PATIENTS AND METHODS

Subjects

Patients who met the following inclusion criteria were eligible to participate in the study:-

1. Male aged less than 66 years.
2. Living with a spouse.
3. Suffered a first myocardial infarction.
4. A coronary prognostic index (C.P.I.) of less than 10 according to the criteria of Norris et al. (1969).
5. Primarily English speaking.
6. Able and willing to participate.

Acute myocardial infarction was considered present if the patient fulfilled at least two of the following three criteria:-

1. Myocardial ischaemic pain of more than 30 minutes duration.
2. Creatine phosphokinase (C.P.K.) level elevated above twice the upper limit of normal.
3. Minnesota code (M.C.) electrocardiographic evidence for acute infarction (Rose et al. 1982).

Ethical approval was sought and granted by the local Health Authority Ethical Committee. Patients and spouses gave their consent to take part in this 'Nursing study monitoring patients' and spouses' reactions to hospital'.

Intervention

The intervention was a structured support and education package for the couple regarding the patient's illness and subsequent recovery (Appendix 1). It was provided in the form of four sessions of counselling, each of 30 minutes duration. Individual needs of the couple were catered for thus necessitating a degree of flexibility in the nature and extent of the intervention. However, the majority of the support and education the couple required was fairly general and most of the time the programme was similar for each couple.

Essentially, the treatment group received standardized education covering the following areas:-

1. The nature of the heart attack and subsequent management.
2. Primary and secondary coronary risk factors and any necessary strategies for modifying them.
3. The impact of the heart attack on sexual functioning, social, work and leisure activities.

Couple counselling was focused on the patient's and spouse's reactions to and feelings towards the heart attack. Thus, it encouraged the ventilation of both positive and negative feelings; interpreting thoughts, feelings and behaviour; offering reassurance and support; encouraging the couple to act on their environment; and helping resolve immediate problems.

The general principles of the treatment programme were:-

1. To reduce uncertainty and fear by providing information about:-

i) The patient's illness: what it is; how it is managed; the likely outcome and possible prevention of recurrence.

ii) The staff, equipment, routines and general environment in the C.C.U. and ward.

iii) The staff's expectations of the patient: rate of recovery and rehabilitation; transfer to the ward and length of stay in hospital.

2. To give the couple an optimistic, albeit realistic outlook regarding recovery, in order to ensure that they anticipate possible physical and emotional reactions to a myocardial infarction. For instance, possible angina, breathlessness, and fatigue may be experienced by the patient after arriving home, whilst the spouse might experience guilt and tearfulness. The significance of such potential reactions was discussed, with emphasis that they did not usually indicate complications or impediment to the healing process.

3. To provide a framework of continuous psychological support by forming a trusting relationship to permit listening to and answering of questions, impart facts, correct misconceptions and dispel fear-inducing myths, but to limit repetition, contradiction, and anecdotal information. Any questions which required medical input were referred to the appropriate physician.

4. To enable partners to reflect on any losses (actual or threatened) and discover positive coping mechanisms to deal with them. Negative reactions, particularly anxiety and depression, were discussed. The couple were reassured that these reactions were common and were invited to discuss any concerns with a view towards discovering alternative approaches to coping with the problem.

5. To involve the couple, through discussion, in decision-making about aspects of care. For instance, explanations about bed rest and graduated activity so that the couple understood the rationale for these and thus were likely to continue to comply with advice following discharge from hospital.

Measures

A series of measures, standardized or designed by the author, was selected for the purposes of this study.

Measurements were obtained by the data collector prior to each stage of the intervention program, with the interviewer being blind to the results obtained.

Data was collected from both groups at the time of acceptance into the trial at 24 hours and at 48 hours, 72 hours, 5 days, 1 month, 3 months and 6 months after admission to the C.C.U.

Demographic data

Demographic data included:-

1. Age (years).
2. Social class.
3. Duration of stay in hospital.

Age

The age of each patient and spouse was obtained at the time of entry to the study.

Social class

The social class of each patient was obtained using the Registrar General's classification (Office of Population Censuses and Surveys 1980). The classification is as follows:-

- | | |
|------|--|
| I | Professional occupations. |
| II | Intermediate occupations (including managerial). |
| IIIN | Skilled occupations (non-manual). |
| IIIM | Skilled occupations (manual). |

- IV Partly skilled occupations.
- V Unskilled occupations.

Duration of stay

The duration of stay (hours) in the C.C.U. and ward of each patient was documented.

Health data

Patient health data included:-

1. Systolic and diastolic blood pressure (mmHg).
2. Body mass index (weight (kg)/height (m)²).
3. Tobacco consumption.
4. An assessment of severity of myocardial infarction using a coronary prognostic index (Norris et al.1969).

Systolic and diastolic blood pressure

Indirect measurements of systolic and diastolic blood pressure were made by one of the two researchers using a Dinamap 845XT Adult/Pediatric Vital Signs Monitor (Critikon Inc., Tampa, Florida, U.S.A.), which provides a digital readout of heart rate, and mean, systolic and diastolic arterial pressure.

Body mass index

From the baseline measurements of height (m) and weight (kg), the body mass index (B.M.I.) was computed. The normal range is 20.1-25.0 for males. A B.M.I. of 25-29 indicates that the individual is overweight whilst a B.M.I. that exceeds 30 indicates obesity (Royal College of Physicians of London 1983).

Tobacco consumption

Each patient was asked whether they smoked and, if so, the number of cigarettes/cigars they smoked per day. If they

smoked a pipe then tobacco consumption was recorded as ounces per day. Spouses were asked to verify this. In addition, at follow-up, an EC50 Carbon Monoxide Monitor (Bedfont Technical Instruments, London.) was used as an unbiased, reliable and non-invasive marker (Jarvis et al. 1986). This compact, portable monitor has been designed specifically for Smokers Clinics and medical diagnostic applications to measure carbon monoxide concentrations in a subject's end-expired breath.

Coronary prognostic index

The coronary prognostic index (C.P.I.) developed by Norris et al. (1969) provides an unbiased method for the assessment of immediate prognosis in infarction and of new forms of treatment for acute myocardial infarction. The index is constructed from numerical weightings given to six easily measurable factors associated with hospital mortality from acute myocardial infarction: age; electrocardiographic assessment of the position and extent of infarction; systolic blood pressure on admission to hospital; heart size and degree of congestion of the lung fields assessed from a chest X-ray; and history of previous ischaemia. A C.P.I. of less than 6 indicates a mild, uncomplicated course, whilst a score of 6 to 9 indicates a moderately ill patient. A C.P.I. of 10 or more indicates a critically ill patient.

Personality data

Eysenck Personality Questionnaire

In order to obtain data on personality characteristics, especially emotionality, the Eysenck Personality Questionnaire (Eysenck and Eysenck 1975) was used (Appendix 2). The E.P.Q. is a development of various early personality questionnaires. It differs from the Eysenck Personality Inventory (E.P.I.), which includes measures of neuroticism or emotionality (N), extroversion-introversion (E), and a 'lie' scale to measure dissimulation, by including an additional scale, psychoticism (P) - an underlying personality trait present in varying degrees in all persons, although if it is markedly present, it predisposes to the development of psychiatric abnormalities.

The adult version of the E.P.Q. was used which comprises 90 items to which respondents place a circle around Yes or No. Instructions are printed in each copy of the E.P.Q. The questionnaires are scored by using the appropriate stencil, one for each of the four dimensions (P, E, N and L) to be measured.

Anxiety and depression

Two instruments for measuring anxiety and depression were used: a standardized instrument, the Hospital Anxiety and Depression scale (Zigmond and Snaith 1983), and a series of visual analogue scales developed by the researcher.

Hospital Anxiety and Depression scale

The Hospital Anxiety and Depression (H.A.D.) scale is a self-assessment instrument for use by adults designed to detect the mood disorders of anxiety and depression in non-psychiatric populations (Appendix 3). It provides separate measures of anxiety and depression derived from clinical experience rather than factor analysis.

The scale is brief, readily comprehensible and easily completed. Instructions to the respondent are to complete the scale as he or she feels at present. The instrument consists of two sets of seven items with 4-point response scales. The score ranges on the H.A.D. scale are Normal (0-7), Borderline (8-10), and Morbid (11-21) for each subscale. Its main advantage over many other similar self-assessment questionnaires that measure psychiatric morbidity is that it does not probe the somatic symptoms characteristic of some psychological states that could also be due to the physical disease process. The instrument has been extensively used and has a high degree of specificity and sensitivity (Goldberg 1985) and a number of reports (Snaith and Taylor 1985; Aylard et al. 1987; Bramley et al. 1988), including cardiological research (Channer et al. 1985, 1987), attest to its validity.

Visual analogue scales

In an attempt to extend and refine earlier work examining specific sources of anxiety in first-myocardial infarction male patients (Thompson et al. 1982, 1987), and their spouses (Thompson and Cordle 1988), eight visual analogue scales (V.A.S.) were designed for each partner.

V.A.S. provide a means of rapid assessment and have been used for well over sixty years (Hayes and Patterson 1921) in the assessment of subjective phenomena, and their methodological characteristics have been well described (Aitken 1969; Bond and Lader 1974; Maxwell 1978). The clinical application of V.A.S. have recently been critically reviewed by McCormack et al. (1988). These authors conclude that V.A.S. have many additional advantages, such as ease of construction and use, and versatility, over other comparable psychological measures. McCormack et al. (1988) cite claims by proponents, such as Folstein and Luria (1973) and Rampling and Williams (1977), that V.A.S. are suitable for frequent and repeated use; easily understood by subjects; very sensitive with a discriminating capacity superior to other scales; and allowing the use of numerical values suitable for statistical analysis.

Although various presentations are available, it was decided to construct them with the following characteristics:-

1. A graphic scale.
2. A length of 10 centimetres.
3. A continuous line.
4. End anchor points.
5. Horizontal direction.

It was an important consideration that one scale should measure one dimension. Each V.A.S. was reproduced on a

separate sheet of paper with occasional reversal of values to avoid position response set. The unipolar scales had anchors 'Not at all anxious' to 'Extremely anxious'. Each patient and spouse were asked to indicate 'How anxious are you about...?' by placing a cross at a point on the line of each item which corresponded with the degree of anxiety they were experiencing at the time of completion.

Patient V.A.S. (Appendix 4) concerned eight factors in the following sequence:-

1. General health.
2. Ability to work.
3. Another heart attack.
4. Relations with spouse.
5. Possible complications.
6. Sexual activity.
7. Leisure activity.
8. The future.

Spouse V.A.S. (Appendix 5) concerned eight factors in the following sequence:-

1. Leisure activity.
2. The future.
3. Sexual activity.
4. General health.
5. Relations with patient.
6. Ability of patient to work.
7. Another heart attack for patient.
8. Possible complications for patient.

Following the recommendation of Aitken (1969) subject responses were scored on the 10 centimetre line at the intersection of the cross to the nearest millimetre, producing a 100-point scale. Thus, V.A.S. were designed to yield scores of from 1 to 100.

Satisfaction

In an attempt to measure patients' and spouses' levels of satisfaction with various aspects of care they received, a series of visual analogue scales were constructed.

Visual analogue scales

Using visual analogue scales in the manner described earlier, patients and spouses were each asked to rate their level of satisfaction on a number of variables. Anchor points were 'Not at all satisfied' to 'Extremely satisfied'. The respondent was asked to indicate 'How satisfied are you with...?'.

Patient V.A.S. (Appendix 6) concerned four factors in the following sequence:-

1. General health.
2. Life in general.
3. Care received.
4. Information received.

Spouse V.A.S. (Appendix 7) concerned two factors in the following sequence:-

1. Information received.
2. Care patient received.

Knowledge

In order to evaluate the level of knowledge each patient and spouse had acquired about a myocardial infarction, a questionnaire was constructed.

Knowledge questionnaire

Knowledge was assessed by a simple 8-item questionnaire (Appendix 8) designed to elicit information about the heart attack, coronary care and convalescent care.

Patients and spouses were each asked to complete the instrument which consisted of four multiple-choice questions (each comprising four statements to which the response was true or false), two true or false questions and two open-ended questions. The maximum score achievable was 12.

Activity

In order to obtain some indication of the level of general activity each patient was performing following discharge from the hospital, a scale was constructed.

Activity scale

Patient activity was assessed by a visual analogue scale (Appendix 9). Each patient was asked to compare their present level of activity with their level prior to the heart attack. The end anchor points were 'Definitely worse' to 'Definitely better'. Scores ranged from 1 (definitely worse) to 100 (definitely better).

Physical state

Each couple were asked to keep a diary of the frequency, duration, and severity of any attacks of angina or shortness of breath (dyspnoea), following discharge from the hospital.

Based on these records each attack was graded as follows:-

- 0: nil.
- 1: on moderate/severe exertion.
- 2: on mild exertion.
- 3: at rest.

Other measures

In addition to the measures described, it was decided that the following data would be of interest regarding patient outcome:-

1. Date of return to work.
2. Morbidity (including reinfarction).
3. Mortality.
4. Readmission to hospital.

Administration of instruments

Careful consideration was given to the ease and timing of administration of the instruments used. For example, the E.P.Q. is a relatively lengthy instrument which requires a good degree of concentration and takes about 10-15 minutes to complete. Therefore it was felt that it would be most appropriate to administer this on one occasion, about 48 hours after admission. On the other hand, the battery of visual analogue scales for anxiety is easy and quick to complete and as such it was felt that this could be administered on each occasion.

A summary of the timing of each measurement is presented in Table 1.

Table 1. Summary of type and time of measures obtained from study groups.

Measure	T1	T2	T3	T4	T5	T6	T7
Hospital Anxiety & Depression scale:							
Patient and spouse	+			+	+	+	+
Anxiety visual analogue scales:							
Patient and spouse	+	+	+	+	+	+	+
Satisfaction visual analogue scales:							
Patient and spouse		+		+	+	+	+
Knowledge questionnaire:							
Patient and spouse	+			+	+	+	+
Activity scale:							
Patient					+	+	+
Eysenck Personality Questionnaire:							
Patient and spouse		+					
Blood pressure:							
Patient	+			+			+
Body mass index:							
Patient	+				+	+	+

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days; T5=1 month; T6=3 months; T7=6 months.

Procedure

All patients were admitted directly to the C.C.U. at the request of the General Practitioner or the Ambulance Service.

At about 24 hours after admission each couple, who had already been randomly allocated to one of the two groups of the study, was approached by one of the researchers acting as data collector.

The researcher provided a detailed explanation to the couple and then issued an invitation to participate in the study. Provided partners gave their consent, and the patient was pain-free and able, they were each asked to complete a battery of scales. The couple was informed that the questionnaires were being issued for research purposes and reassured that their responses would be confidential and that their care and management would in no way be adversely affected. The couples were not told that they would be given the same questionnaires at later intervals, including at post-discharge follow-up. Neither was there any mention made of the intervention programme being evaluated, and the researchers (data collector and therapist) were careful not to interact, so that couples would not be aware of any formal link between the intervention programme and the evaluation.

The researchers, both experienced registered nurses (one a female staff nurse, the other a male charge nurse, both aged less than 30 years) working on the C.C.U., wore uniforms and name badges. They introduced themselves by their Christian names and professional status, in accordance with routine practice.

Treatment group

Following data collection by the first researcher, the second researcher (blind to the data) provided the programme of support and information to the treatment group. Each couple was seen for an average of 30 minutes on four occasions: 24 hours; 48 hours; 72 hours and 5 days after admission. The same researcher provided the treatment package for the four occasions, whilst the other researcher acted as data collector. This was planned in order to ensure that there was a satisfactory degree of continuity

The first intervention (24 hours) in the C.C.U. took place at the patient's bedside. At this early stage the patient was either in bed or sat in a reclining chair, with the spouse and researcher sat near-by. The treatment was provided generally out of earshot of adjacent patients with the curtains drawn ensuring as much privacy as was practically possible. The second intervention (48 hours) in the C.C.U. generally took place with the patient sitting at the bedside, whilst on the third (72 hours) and fourth (5 days) occasions, on the ward, the patient was usually ambulant and the interviews took place in more privacy.

At each session the patient and spouse were seen together initially for the bulk of the intervention (lasting about 25 minutes), and then later separately (for about 5-10 minutes). The spouse was invited into the C.C.U. office by the researcher to provide an opportunity to discuss any pertinent personal problems or issues. When the spouse had left the C.C.U. the researcher presented the patient with the same opportunity.

Prior to each intervention the researcher ascertained the couple's level of understanding and activity. This knowledge was reinforced where necessary, and the opportunity taken to clarify issues and correct any misconceptions. Each intervention was essentially verbal in content, although both treatment and control groups routinely received a fairly detailed education booklet - 'Counter Attack the Heart Attack' (Stuart Pharmaceuticals Ltd., Cheshire.) - covering myocardial infarction, coronary care and convalescent care. Each session ended with an opportunity for the couple to discuss any particular concerns they might have.

All couples completed a battery of questionnaires mailed to them at one and three months after discharge home. Finally, they attended the C.C.U. at six months post-discharge for an interview with the researcher.

Following discharge from the hospital all couples were asked to record, in a patient diary, the date and time, severity and duration of any episodes of chest pain.

The researcher acting as therapist was not involved at any stage in the administration of questionnaires or the collection of data either in the hospital or at any of the follow-ups.

Pilot study

Although the researcher had carried out previous similar work to the present study, it was felt necessary that a pilot study should be carried out to assess the feasibility of the research design and to evaluate the measuring instruments.

The study design was pilot tested with five couples who met the entry criteria. The procedure followed the format describe above.

The subjects completed the questionnaires without any apparent problems. However, three couples felt that the E.P.Q. was quite a lengthy instrument to complete at 24 hours after admission (the time originally chosen for completion), and therefore it was decided that 48 hours might be a more appropriate completion time.

The intervention did not seem to present any problems to the staff or research subjects and no refinements were deemed necessary.

The pilot sample was not included in the main study.

Statistical analysis

Raw scores for all subjects were computed and statistical analysis was performed by one-way analysis of variance (ANOVA) using the MINITAB statistics package (Minitab Inc., Pennsylvania, U.S.A.) run on the Honeywell Multics computer system at the University of Technology, Loughborough.

Where appropriate, other statistical analyses were performed using the OMNIBUS system (Meddis 1984), a BASIC programme run on a BBC Model B computer.

Data were expressed in means and standard deviations where appropriate. Data were considered to be statistically significant at the 0.05 level.

Confidence intervals

Recently, in the medical and cardiological literature, there have been claims that undue emphasis has been placed on hypothesis testing, detracting from more informative statistical approaches, such as estimation and confidence intervals (Gardner and Altman 1986; Bulpitt 1987; Evans et al. 1988). For example, p values convey no information about the sizes of the differences between study groups. The confidence interval, however, provides a range of values that are considered to be plausible for the population.

Where appropriate, the 95% confidence interval (CI) for the difference in means was calculated in addition to p values.

CHAPTER 6

RESULTS

Introduction

Data collection commenced at the beginning of January 1986 and was completed at the end of December 1986. During that period there were 1034 admissions to the C.C.U., of which 386 had suffered an acute myocardial infarction. 213 were male patients with a first myocardial infarction, but 71 were aged 66 years or more. Of the 142 remaining, 78 were excluded on the basis of a coronary prognostic index (Norris et al. 1969) of 10 or more (37), language difficulties (32) or collapsed state (9). Thus, only 64 patients satisfied the entry criteria. However, by mid-December sixty couples had agreed to participate, and recruitment ceased.

Of all those approached, no patients or spouses refused to participate in the study.

No deaths early in the study occurred and no replacements were used. However, after discharge to home there were three patient deaths: two in the control group (one occurring within one month and the other within two months following discharge from the hospital) and one in the treatment group (occurring within one month following discharge).

Demographic and health data

Baseline demographic and health data of the patient study groups are shown in Table 2. A two-tailed test indicated that the differences between groups with respect to patient and spouse age, patient blood pressure, body mass index and peak cardiac enzyme (creatine phosphokinase) level, were not statistically significant, suggesting that they were homogenous with respect to baseline characteristics.

Table 2. Baseline demographic and health data of the study groups.

	<u>Treatment</u>		<u>Control</u>		Difference between means	95% Confidence interval	F	d.f.	p
Variable	Mean	S.D.	Mean	S.D.					
Age (years):									
Patient	52.8	7.4	55.9	7.2	3.1	-0.7 to 6.9	2.67	1,58	n.s.
Spouse	50.4	8.2	54.6	8.3	4.2	0.0 to 8.4	3.50	1,58	n.s.
Blood pressure (mmHg):									
Systolic	137.1	24.1	137.3	22.2	0.2	-11.8 to 12.2	0.00	1,58	n.s.
Diastolic	90.9	19.4	89.4	15.4	1.5	-7.5 to 10.5	0.11	1,58	n.s.
Body mass index (kg/m2):	25.7	2.4	25.8	2.8	0.1	-1.2 to 1.4	0.01	1,58	n.s.
Peak creatine phosphokinase (iu/L):									
	1500	1359	1459	1205	41	-621 to 703	0.01	1,58	n.s.

Table 3 shows the social classes of the patient groups. The groups appeared evenly matched with respect to social class; the majority of patients having skilled or partly-skilled occupations (social classes III or IV).

Table 3. Social class of the study groups.

Social class*	Treatment (n=30)	Control (n=30)
I	1 (3.3%)	1 (3.3%)
II	6 (20%)	5 (16.6%)
IIIN	6 (20%)	7 (23.3%)
IIIM	4 (13.3%)	3 (10%)
IV	10 (33.3%)	10 (33.3%)
V	3 (3.3%)	4 (13.3%)

* Registrar General's classification (Office of Population Censuses and Surveys 1980).

Baseline cardiological data, which comprises location and severity of myocardial infarction (according to the coronary prognostic index of Norris et al. 1969), is shown in Table 4. Each group had equal proportions of patients who had sustained an anteriorly or inferiorly located infarct. According to the coronary prognostic index (C.P.I.) criteria of Norris et al. (1969), three quarters of each patient group were classed as having suffered 'mild, uncomplicated' infarcts, the remainder being classed as moderately ill. It can be seen that there were no critically ill patients (i.e., those with a C.P.I. of more than 9), as these were excluded by the study entry criteria.

Table 4. Location and severity of myocardial infarction in the study groups.

Variable	Treatment (n=30)	Control (n=30)
Location:		
Anterior	12 (40%)	15 (50%)
Inferior	18 (60%)	15 (50%)
Severity*:		
<6	23 (76.7%)	22 (73.3%)
6-9	7 (23.3%)	8 (26.7%)

* Coronary prognostic index (Norris et al. 1969).

Duration of C.C.U. and ward stay of the study groups is shown in Table 5. The average length of stay in the C.C.U. was about 70 hours and that of the ward about 102 hours. Thus, the average total duration of stay in the hospital was approximately one week.

Table 5. Duration of hospital stay of the study groups.

Variable	<u>Treatment</u> (n=30)		<u>Control</u> (n=30)		Difference between means	95% Confidence interval	F	d.f.	p
	Mean	S.D.	Mean	S.D.					
C.C.U. stay (hours):	71.2	32.9	68.2	37.1	3.0	-15.1 to 21.1	0.11	1,58	n.s.
Ward stay (hours):	103.3	31.3	101.1	49.4	2.2	-19.2 to 23.6	0.04	1,58	n.s.
Total stay (hours):	174.5	49.9	169.4	58.8	5.2	-23.1 to 33.3	0.13	1,58	n.s.

Personality characteristics

Table 6 shows the mean Eysenck Personality Questionnaire (E.P.Q.) scores for both groups of patients and spouses. There were no statistically significant differences between either group with respect to the scales of psychoticism (P), extroversion-introversion (E), neuroticism (N), or the 'lie' (L) scale.

Although the spouse neuroticism and 'lie' scale scores were higher than those of the patients, these differences are, in fact, a typical reflection of the E.P.Q. norms (Eysenck and Eysenck 1975).

Table 6. Patient and spouse mean Eysenck Personality Questionnaire scores.

Variable	<u>Treatment</u> (n=30)		<u>Control</u> (n=30)		Difference between means	95% Confidence interval	F	d.f.	p
	Mean	S.D.	Mean	S.D.					
<u>Patient</u>									
Psychoticism (P):	2.6	2.5	3.3	1.8	0.7	-0.4 to 1.8	1.57	1,58	n.s.
Extroversion (E):	11.9	4.6	12.2	4.9	1.3	-1.0 to 3.6	0.05	1,58	n.s.
Neuroticism (N):	8.6	5.4	10.6	5.0	2.0	-0.7 to 4.7	2.27	1,58	n.s.
'Lie' (L):	9.3	4.4	8.9	4.4	0.4	-1.9 to 2.7	0.14	1,58	n.s.
<u>Spouse</u>									
Psychoticism (P):	1.5	1.5	2.3	2.0	0.8	-0.1 to 1.7	3.44	1,58	n.s.
Extroversion (E):	10.0	4.4	11.8	4.7	1.8	-0.6 to 4.2	2.26	1,58	n.s.
Neuroticism (N):	11.8	5.3	12.0	6.2	0.2	-2.8 to 3.2	0.01	1,58	n.s.
'Lie' (L):	11.2	4.1	12.8	3.8	1.6	-0.4 to 3.6	2.23	1,58	n.s.

Anxiety and depression

Tables 7-10 show the mean Hospital Anxiety and Depression scale scores for both groups. Tables 11-26 show the mean visual analogue scale anxiety scores for both groups.

Hospital Anxiety and Depression scale

Patient anxiety Table 7 shows the mean anxiety scores for both groups of patients on the five occasions. A one-tailed test revealed that the difference between the baseline (24 hours) scores, which reflect borderline anxiety (Zigmond and Snaith 1983), were not statistically significant. However, at 5 days there was a dramatic reduction in the mean score of the treatment group compared to the controls, which was significantly different. This trend was maintained at 1, 3 and 6 months.

Patient depression Table 8 shows the mean depression scores for both groups of patients on the five occasions. The baseline (24 hours) scores, which reflect a normal range of values, were not statistically significantly different. However, at 5 days and up to 3 months follow-up, a one-tailed test revealed that the scores were significantly lower in the treatment group. At 6 months, the differences were not significant.

Spouse anxiety Table 9 shows the mean anxiety scores for both groups of spouses on the five occasions. The baseline (24 hours) scores, which reflect borderline-morbid anxiety, were not statistically significantly different. However, on each of the following occasions, a one-tailed test revealed that the the scores were significantly lower in the treatment group.

Spouse depression Table 10 shows the mean depression scores for both groups of spouses on the five occasions. The baseline (24 hours) scores reflect a normal range of values. A one-tailed test revealed that there were no statistically significant differences between groups on any of the five occasions.

Table 7. Patient mean Hospital Anxiety and Depression scale anxiety scores.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	8.5	4.2	30	8.9	3.9	0.4	-1.7 to 2.5	0.12	1,58	n.s.
5 days:	30	4.9	2.8	30	8.7	3.9	3.8	2.0 to 5.6	18.25	1,58	<.001
1 month:	29	4.3	3.0	29	7.5	4.2	3.2	1.3 to 5.1	11.05	1,56	<.001
3 months:	29	4.1	3.1	28	6.5	3.3	2.4	0.7 to 3.1	7.66	1,55	<.01
6 months:	29	4.1	2.9	28	6.0	3.3	1.9	0.3 to 3.5	5.34	1,55	<.05

Table 6. Patient and spouse mean Eysenck Personality Questionnaire scores.

Variable	<u>Treatment</u> (n=30)		<u>Control</u> (n=30)		Difference between means	95% Confidence interval	F	d.f.	p
	Mean	S.D.	Mean	S.D.					
<u>Patient</u>									
Psychoticism (P):	2.6	2.5	3.3	1.8	0.7	-0.4 to 1.8	1.57	1,58	n.s.
Extroversion (E):	11.9	4.6	12.2	4.9	1.3	-1.0 to 3.6	0.05	1,58	n.s.
Neuroticism (N):	8.6	5.4	10.6	5.0	2.0	-0.7 to 4.7	2.27	1,58	n.s.
'Lie' (L):	9.3	4.4	8.9	4.4	0.4	-1.9 to 2.7	0.14	1,58	n.s.
<u>Spouse</u>									
Psychoticism (P):	1.5	1.5	2.3	2.0	0.8	-0.1 to 1.7	3.44	1,58	n.s.
Extroversion (E):	10.0	4.4	11.8	4.7	1.8	-0.6 to 4.2	2.26	1,58	n.s.
Neuroticism (N):	11.8	5.3	12.0	6.2	0.2	-2.8 to 3.2	0.01	1,58	n.s.
'Lie' (L):	11.2	4.1	12.8	3.8	1.6	-0.4 to 3.6	2.23	1,58	n.s.

Table 8. Patient mean Hospital Anxiety and Depression scale depression scores.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	5.3	3.3	30	5.3	3.3	0.0	-1.7 to 1.7	0.00	1,58	n.s.
5 days:	30	3.2	2.5	30	5.3	4.2	2.1	0.3 to 3.9	5.91	1,58	<.01
1 month:	29	3.3	2.1	29	5.0	4.3	1.7	-0.1 to 3.5	3.51	1,56	<.05
3 months:	29	3.1	2.3	28	4.7	3.5	1.6	0.1 to 3.1	4.38	1,55	<.05
6 months:	29	3.1	2.2	28	4.3	3.5	1.2	-0.3 to 2.7	2.39	1,55	n.s.

Table 9. Spouse mean Hospital Anxiety and Depression scale anxiety scores.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	10.9	3.9	30	10.0	4.4	0.9	-1.2 to 3.0	0.70	1,58	n.s.
5 days:	30	7.5	3.3	30	10.2	4.8	2.7	0.6 to 4.8	6.11	1,58	<.01
1 month:	29	7.0	3.9	29	9.0	5.1	2.0	-0.4 to 4.4	3.02	1,56	<.05
3 months:	29	6.3	3.6	28	8.5	4.5	2.2	0.0 to 4.4	3.97	1,55	<.05
6 months:	29	6.1	3.5	28	8.1	4.2	2.0	0.0 to 4.0	4.12	1,55	<.05

Table 10. Spouse mean Hospital Anxiety and Depression scale depression scores.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	6.0	4.2	30	5.2	2.9	0.8	-1.1 to 2.7	0.73	1,58	n.s.
5 days:	30	5.1	3.7	30	5.3	3.6	0.2	-1.7 to 2.1	0.05	1,58	n.s.
1 month:	29	4.2	3.1	29	5.2	3.6	1.0	-0.7 to 2.7	1.31	1,56	n.s.
3 months:	29	4.0	3.1	28	4.7	3.1	0.7	-0.9 to 2.3	0.68	1,55	n.s.
6 months:	29	3.7	2.9	28	4.4	2.8	0.7	-0.8 to 2.2	0.86	1,55	n.s.

Visual analogue scales

Tables 11-18 show the mean visual analogue scale anxiety scores for both groups of patients, whilst Tables 19-26 show the scores for both groups of spouses.

Respondents were asked to indicate how anxious they were about the following factors. Scores ranged from 1 (not at all anxious) to 100 (extremely anxious).

Patient anxiety

General health Table 11 shows the mean anxiety scores for both groups of patients on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. The scores declined in both groups over the seven occasions, but were only significantly lower in the treatment group at 72 hours, 5 days and 6 months.

Ability to work Table 12 shows the mean anxiety scores for both groups of patients on the seven occasions. A one-tailed test revealed that the differences between the groups at baseline (24 hours) was not statistically significant. The scores declined on each subsequent occasion in the treatment group, but were only significantly lower than the control group at 5 days, 3 and 6 months.

Another heart attack Table 13 shows the mean anxiety scores for both groups of patients on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls following discharge from hospital (at 1, 3 and 6 months).

Relations with spouse Table 14 shows the mean anxiety scores for both groups of patients on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to the control group at 3 and 6 month follow-up.

Possible complications Table 15 shows the mean anxiety scores for both groups of patients on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 5 days and 1 month.

Sexual activity Table 16 shows the mean anxiety scores for both groups of patients on the seven occasions. A one-tailed test revealed that there were no statistically significant differences between groups on any of the seven occasions.

Leisure activity Table 17 shows the mean anxiety scores for both groups of patients on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 5 days, 1, 3 and 6 months.

The future Table 18 shows the mean anxiety scores for both groups of patients on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 72 hours, 5 days and 1 month.

Table 11. Patient mean visual analogue scale anxiety scores: general health.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	51.4	30.6	30	50.3	31.7	1.1	-15.0 to 17.2	0.02	1,58	n.s.
48 hours:	30	38.3	27.1	30	47.4	29.9	9.1	-5.6 to 23.8	1.54	1,58	n.s.
72 hours:	30	35.9	27.1	30	48.1	28.7	12.2	-2.2 to 26.6	2.84	1,58	<.05
5 days:	30	29.2	24.0	30	47.9	28.8	18.7	5.0 to 32.4	7.49	1,58	<.01
1 month:	29	30.8	25.0	29	39.5	29.4	8.7	-5.6 to 23.0	1.51	1,56	n.s.
3 months:	29	30.1	23.0	28	33.5	22.7	3.4	-8.7 to 15.5	0.31	1,55	n.s.
6 months:	29	23.3	17.7	28	36.6	25.6	13.3	1.7 to 24.9	5.24	1,55	<.05

Table 12. Patient mean visual analogue scale anxiety scores: ability to work.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	47.4	31.6	30	48.4	34.4	1.0	-16.1 to 18.1	0.01	1,58	n.s.
48 hours:	30	37.3	28.3	30	44.3	34.2	7.0	-9.2 to 23.2	0.74	1,58	n.s.
72 hours:	30	36.1	30.0	30	49.2	32.5	13.1	-3.1 to 29.3	2.60	1,58	n.s.
5 days:	30	29.2	26.4	30	45.0	31.3	15.8	0.9 to 30.7	4.47	1,58	<.05
1 month:	29	27.4	24.7	29	36.8	32.2	9.4	-5.7 to 24.5	1.55	1,56	n.s.
3 months:	29	25.0	23.8	28	37.0	26.6	12.0	-1.4 to 25.4	3.24	1,55	<.05
6 months:	29	17.9	15.9	28	36.7	29.7	18.8	6.2 to 31.4	9.01	1,55	<.01

Table 13. Patient mean visual analogue scale anxiety scores: another heart attack.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	64.0	26.9	30	62.5	34.0	1.5	-14.3 to 17.3	0.03	1,58	n.s.
48 hours:	30	54.0	27.7	30	60.1	30.9	6.1	-9.0 to 21.2	0.65	1,58	n.s.
72 hours:	30	51.0	27.6	30	60.2	31.0	9.2	-5.9 to 24.3	1.46	1,58	n.s.
5 days:	30	44.4	29.4	30	55.3	27.5	10.9	-3.8 to 25.6	2.20	1,58	n.s.
1 month:	29	34.8	24.9	29	49.7	26.4	14.9	1.4 to 28.4	4.87	1,56	<.05
3 months:	29	28.5	20.7	28	42.4	28.8	13.9	0.6 to 27.2	4.36	1,55	<.05
6 months:	29	26.9	20.8	28	43.4	25.6	16.5	4.2 to 28.8	7.10	1,55	<.01

Table 14. Patient mean visual analogue scale anxiety scores: relations with spouse.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	36.1	28.3	30	34.7	30.4	1.4	-13.7 to 16.5	0.03	1,58	n.s.
48 hours:	30	31.3	26.8	30	29.7	26.6	1.6	-12.2 to 15.4	0.05	1,58	n.s.
72 hours:	30	22.1	20.6	30	27.1	26.2	5.0	-7.1 to 17.3	0.70	1,58	n.s.
5 days:	30	22.8	21.4	30	28.2	25.7	5.4	-6.8 to 17.6	0.78	1,58	n.s.
1 month:	29	17.6	21.3	29	21.4	20.9	3.8	-7.3 to 14.9	0.48	1,56	n.s.
3 months:	29	13.0	15.9	28	22.3	20.9	9.3	-0.5 to 19.1	3.59	1,55	<.05
6 months:	29	14.0	14.2	28	25.6	23.6	11.6	1.3 to 21.9	5.12	1,55	<.05

Table 15. Patient mean visual analogue scale anxiety scores: possible complications.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	45.4	25.7	30	43.8	30.6	1.6	-13.0 to 16.2	0.05	1,58	n.s.
48 hours:	30	38.2	21.9	30	43.3	24.5	5.1	-6.9 to 17.1	0.71	1,58	n.s.
72 hours:	30	37.5	23.8	30	46.3	25.4	8.8	-3.9 to 21.5	1.93	1,58	n.s.
5 days:	30	28.5	19.7	30	48.6	27.0	20.1	7.9 to 32.3	10.91	1,58	<.001
1 month:	29	26.5	20.1	29	41.1	26.4	14.6	2.3 to 26.9	5.57	1,56	<.05
3 months:	29	26.0	19.4	28	32.7	23.5	6.7	-4.7 to 18.1	1.36	1,55	n.s.
6 months:	29	24.8	19.6	28	33.5	21.3	8.7	-2.1 to 19.5	2.59	1,55	n.s.

Table 16. Patient mean visual analogue scale anxiety scores: sexual activity.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	34.0	28.8	30	33.0	30.5	1.0	-14.3 to 16.3	0.02	1,58	n.s.
48 hours:	30	30.2	26.9	30	26.9	21.7	3.3	-9.3 to 15.9	0.27	1,58	n.s.
72 hours:	30	24.7	26.4	30	24.6	20.7	0.1	-12.1 to 12.3	0.00	1,58	n.s.
5 days:	30	18.8	20.6	30	26.0	23.2	7.2	-4.1 to 18.5	1.60	1,58	n.s.
1 month:	29	18.2	25.4	29	21.0	20.2	2.8	-9.3 to 14.9	0.22	1,56	n.s.
3 months:	29	15.5	21.3	28	21.4	22.4	5.9	-5.7 to 17.5	1.02	1,55	n.s.
6 months:	29	15.3	17.5	28	24.2	23.9	8.9	-2.2 to 20.0	2.59	1,55	n.s.

Table 17. Patient mean visual analogue scale anxiety scores: leisure activity.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	38.9	28.0	30	38.0	31.2	0.9	-14.4 to 16.2	0.01	1,58	n.s.
48 hours:	30	28.7	22.1	30	40.7	32.9	12.0	-2.5 to 26.5	2.74	1,58	n.s.
72 hours:	30	25.6	20.1	30	33.9	27.3	8.3	-4.1 to 20.7	1.77	1,58	n.s.
5 days:	30	25.1	18.7	30	36.7	24.3	11.6	-0.4 to 22.8	4.25	1,58	<.05
1 month:	29	20.1	18.2	29	38.5	28.8	18.4	5.8 to 31.0	8.47	1,56	<.01
3 months:	29	17.0	17.0	28	28.2	24.8	11.2	0.0 to 22.4	4.00	1,55	<.05
6 months:	29	17.2	14.2	28	29.5	22.1	12.3	2.5 to 22.1	6.25	1,55	<.05

Table 18. Patient mean visual analogue scale anxiety scores: the future.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	59.2	30.9	30	59.4	27.5	0.2	-14.9 to 15.3	0.00	1,58	n.s.
48 hours:	30	45.1	27.8	30	54.8	26.9	9.7	-4.4 to 23.8	1.92	1,58	n.s.
72 hours:	30	37.9	24.7	30	52.2	28.2	14.3	0.6 to 28.0	4.40	1,58	<.05
5 days:	30	34.1	24.5	30	52.2	30.6	18.1	3.8 to 32.4	6.37	1,58	<.01
1 month:	29	31.0	26.0	29	50.8	32.0	19.8	4.5 to 35.1	6.73	1,56	<.01
3 months:	29	35.6	25.8	28	43.1	28.8	7.5	-7.0 to 22.0	1.06	1,55	n.s.
6 months:	29	32.3	26.6	28	39.1	26.8	6.8	-7.4 to 21.0	0.94	1,55	n.s.

Spouse anxiety

Leisure activity Table 19 shows the mean anxiety scores for both groups of spouses on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 5 days, 1, 3 and 6 months.

The future Table 20 shows the mean anxiety scores for both groups of spouses on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 5 days, 1, 3 and 6 months.

Sexual activity Table 21 shows the mean anxiety scores for both groups of spouses on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 72 hours, 5 days, 1, 3 and 6 months.

General health Table 22 shows the mean anxiety scores for both groups of spouses on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 5 days, 1, 3 and 6 months.

Relations with patient Table 23 shows the mean anxiety scores for both groups of spouses on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 72 hours, 5 days and 6 months.

Ability of patient to work Table 24 shows the mean anxiety scores for both groups of spouses on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 72 hours, 5 days, 1, 3 and 6 months.

Another heart attack for patient Table 25 shows the mean anxiety scores for both groups of spouses on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 5 days, 1, 3 and 6 months.

Possible complications for patient Table 26 shows the mean anxiety scores for both groups of spouses on the seven occasions. A one-tailed test revealed that the difference between the groups at baseline (24 hours) was not statistically significant. However, there was a significant reduction in the treatment group compared to controls at 48 and 72 hours, 5 days, 1 and 3 months, but not at 6 months.

Table 19. Spouse mean visual analogue scale anxiety scores: leisure activity.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	46.4	32.9	30	45.7	32.3	0.7	-16.1 to 17.5	0.01	1,58	n.s.
48 hours:	30	33.6	32.8	30	42.2	31.2	8.6	-7.9 to 25.1	1.07	1,58	n.s.
72 hours:	30	29.1	29.5	30	41.4	31.3	12.3	-3.4 to 28.0	2.47	1,58	n.s.
5 days:	30	25.2	26.1	30	44.7	31.0	19.5	4.7 to 34.3	6.95	1,58	<.01
1 month:	29	22.3	20.6	29	37.6	28.2	15.3	2.3 to 28.3	5.55	1,56	<.05
3 months:	29	18.8	16.6	28	34.6	31.1	15.8	2.6 to 29.0	5.78	1,55	<.01
6 months:	29	18.9	16.1	28	37.6	28.8	18.7	6.4 to 31.0	9.33	1,55	<.01

Table 20. Spouse mean visual analogue scale anxiety scores: the future.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	52.8	30.7	30	54.4	32.7	1.6	-14.8 to 18.0	0.04	1,58	n.s.
48 hours:	30	46.1	28.1	30	50.1	33.4	4.0	-11.9 to 19.9	0.25	1,58	n.s.
72 hours:	30	41.7	28.0	30	52.4	32.9	10.7	-5.1 to 26.5	1.84	1,58	n.s.
5 days:	30	36.5	23.6	30	52.9	32.8	16.4	1.7 to 31.1	4.94	1,58	<.05
1 month:	29	31.4	25.9	29	47.8	33.4	16.4	0.7 to 32.1	4.32	1,56	<.05
3 months:	29	29.3	26.1	28	47.2	33.5	17.9	2.0 to 33.8	5.06	1,55	<.05
6 months:	29	23.4	22.0	28	42.9	32.4	19.5	4.8 to 34.2	7.09	1,55	<.01

Table 21. Spouse mean visual analogue scale anxiety scores: sexual activity.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	26.8	25.2	30	26.2	25.7	0.6	-12.6 to 13.8	0.01	1,58	n.s.
48 hours:	30	21.0	24.2	30	27.5	26.9	6.5	-6.7 to 19.7	0.98	1,58	n.s.
72 hours:	30	16.5	17.5	30	26.9	27.9	10.4	-1.6 to 22.4	3.01	1,58	<.05
5 days:	30	12.9	15.2	30	29.4	26.4	16.5	4.6 to 28.4	8.77	1,58	<.01
1 month:	29	13.6	17.4	29	24.8	22.7	11.2	0.6 to 21.8	4.47	1,56	<.05
3 months:	29	9.5	7.9	28	26.6	26.2	17.1	6.9 to 27.3	11.33	1,55	<.001
6 months:	29	9.2	8.5	28	22.3	22.2	13.1	4.3 to 21.9	8.77	1,55	<.01

Table 22. Spouse mean visual analogue scale anxiety scores: general health.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	40.4	30.3	30	39.3	29.9	1.1	-14.5 to 16.7	0.02	1,58	n.s.
48 hours:	30	37.0	30.6	30	34.5	28.6	2.5	-12.8 to 17.8	0.11	1,58	n.s.
72 hours:	30	32.0	26.4	30	37.2	31.7	5.2	-9.9 to 20.3	0.48	1,58	n.s.
5 days:	30	28.0	24.9	30	41.5	32.5	13.5	-1.4 to 28.4	3.28	1,58	<.05
1 month:	29	28.1	22.2	29	39.9	30.3	11.8	-2.2 to 25.8	2.84	1,56	<.05
3 months:	29	20.4	16.4	28	37.9	30.3	17.5	4.7 to 30.3	7.38	1,55	<.01
6 months:	29	21.5	20.4	28	34.7	30.8	13.2	-0.6 to 27.0	3.63	1,55	<.05

Table 23. Spouse mean visual analogue scale anxiety scores: relations with patient.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	26.4	28.2	30	26.8	27.1	0.4	-13.9 to 14.7	0.00	1,58	n.s.
48 hours:	30	21.3	25.1	30	27.1	30.4	5.8	-8.6 to 20.2	0.65	1,58	n.s.
72 hours:	30	16.2	14.1	30	27.6	29.0	11.4	-0.4 to 23.2	3.77	1,58	<.05
5 days:	30	14.8	14.5	30	29.2	31.1	14.4	1.9 to 26.9	5.30	1,58	<.05
1 month:	29	15.9	21.6	29	22.6	25.5	6.7	-5.7 to 19.1	1.15	1,56	n.s.
3 months:	29	15.1	18.0	28	20.9	23.8	5.8	-5.4 to 17.0	1.11	1,55	n.s.
6 months:	29	12.4	17.0	28	25.7	26.9	13.3	1.4 to 25.2	5.07	1,55	<.05

Table 24. Spouse mean visual analogue scale anxiety scores: ability of patient to work.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	44.3	35.7	30	42.4	32.8	1.9	-15.8 to 19.6	0.05	1,58	n.s.
48 hours:	30	36.6	31.1	30	43.3	31.9	6.7	-9.5 to 22.2	0.69	1,58	n.s.
72 hours:	30	34.7	27.3	30	48.9	29.0	14.2	-0.3 to 28.7	3.83	1,58	<.05
5 days:	30	32.5	28.2	30	49.6	30.7	17.1	1.9 to 32.3	5.06	1,58	<.05
1 month:	29	29.0	21.1	29	51.7	29.8	22.7	9.1 to 36.3	11.14	1,56	<.001
3 months:	29	27.3	17.8	28	52.7	33.8	25.4	11.2 to 39.6	12.76	1,55	<.001
6 months:	29	24.8	20.1	28	41.1	30.2	16.3	2.8 to 29.8	5.79	1,55	<.01

Table 25. Spouse mean visual analogue scale anxiety scores: another heart attack for patient.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	81.5	23.2	30	79.8	24.6	1.7	-10.7 to 14.1	0.08	1,58	n.s.
48 hours:	30	69.9	28.3	30	77.3	25.3	7.4	-6.4 to 21.2	1.16	1,58	n.s.
72 hours:	30	66.5	24.0	30	75.8	25.0	9.3	-3.3 to 21.9	2.13	1,58	n.s.
5 days:	30	58.5	24.8	30	76.3	25.1	17.8	4.9 to 37.0	7.59	1,58	<.01
1 month:	29	55.0	25.9	29	70.0	27.3	15.0	1.0 to 29.0	4.57	1,56	<.05
3 months:	29	46.8	26.5	28	61.7	30.5	14.9	-0.2 to 30.0	3.90	1,55	<.05
6 months:	29	43.3	25.2	28	62.9	31.2	19.6	4.6 to 34.6	6.81	1,55	<.01

Table 26. Spouse mean visual analogue scale anxiety scores: possible complications for patient.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	78.4	18.0	30	74.5	19.0	3.9	-5.6 to 13.4	0.67	1,58	n.s.
48 hours:	30	62.2	24.3	30	73.1	19.1	10.9	-0.4 to 22.2	3.77	1,58	<.05
72 hours:	30	62.4	24.3	30	73.1	19.7	10.7	-0.7 to 22.1	3.53	1,58	<.05
5 days:	30	51.6	24.7	30	69.3	27.1	17.7	4.3 to 31.1	7.02	1,58	<.01
1 month:	29	49.4	21.7	29	61.1	30.0	11.7	-2.1 to 25.5	2.89	1,56	<.05
3 months:	29	43.2	24.6	28	59.3	31.8	16.1	1.1 to 31.1	4.62	1,55	<.05
6 months:	29	45.6	25.8	28	56.4	31.2	10.8	-4.4 to 26.0	2.04	1,55	n.s.

Satisfaction

Tables 27-30 show the mean satisfaction scores for both groups of patients, whilst Tables 31-32 show the scores for both groups of spouses.

Respondents were asked to indicate how satisfied they were about the following factors. Scores ranged from 1 (not at all satisfied) to 100 (extremely satisfied).

Patient satisfaction

General health Table 27 shows the mean satisfaction scores for both groups of patients on the five occasions. A one-tailed test revealed that the difference between the groups at baseline (48 hours) was not statistically significant. However, the treatment group scores remained significantly higher compared to controls at 5 days, 1 month and 6 months.

Life in general Table 28 shows the mean satisfaction scores for both groups of patients on the five occasions. A one-tailed test revealed that the difference between the groups on all occasions was not statistically significant.

Care received Table 29 shows the mean satisfaction scores for both groups of patients on the five occasions. A one-tailed test revealed that the difference between the groups at baseline (48 hours) was not statistically significant. However, the treatment group scores remained significantly higher than the control group scores at 5 days, 1, 3 and 6 months.

Information received Table 30 shows the mean satisfaction scores for both groups of patients on the five occasions. A one-tailed test revealed that the difference between groups at baseline (48 hours) was statistically significant. Whereas the control group scores gradually fell over the four other occasions, the treatment group scores remained significantly higher.

Table 27. Patient mean visual analogue scale satisfaction scores: general health.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
48 hours:	30	66.1	25.6	30	62.5	28.3	3.6	-10.3 to 17.5	0.27	1,58	n.s.
5 days:	30	71.1	22.9	30	56.3	28.9	14.8	1.3 to 28.3	4.82	1,58	<.05
1 month:	29	70.5	21.7	29	58.2	29.0	12.3	-1.2 to 25.8	3.34	1,56	<.05
3 months:	29	68.2	23.6	28	62.2	25.6	6.0	-7.0 to 19.0	0.85	1,55	n.s.
6 months:	29	72.3	21.4	28	59.7	27.8	12.6	-0.5 to 25.7	3.70	1,55	<.05

Table 28. Patient mean visual analogue scale satisfaction scores: life in general.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
48 hours:	30	72.2	22.8	30	74.7	23.4	2.5	-9.4 to 14.4	0.17	1,58	n.s.
5 days:	30	71.7	24.3	30	66.5	22.6	5.2	-6.9 to 17.3	0.74	1,58	n.s.
1 month:	29	74.2	21.4	29	68.3	26.2	5.9	-6.6 to 18.4	0.88	1,56	n.s.
3 months:	29	73.1	20.1	28	70.9	21.2	2.2	-8.7 to 13.1	0.17	1,55	n.s.
6 months:	29	75.5	20.3	28	70.1	22.9	5.4	-6.1 to 16.9	0.91	1,55	n.s.

Table 29. Patient mean visual analogue scale satisfaction score: care received.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
48 hours:	30	94.4	5.5	30	94.0	4.0	0.4	-2.1 to 2.9	0.07	1,58	n.s.
5 days:	30	94.3	5.8	30	89.3	11.4	5.0	0.3 to 9.7	4.51	1,58	<.05
1 month:	29	94.6	6.1	29	91.2	7.3	3.4	-0.1 to 6.9	3.75	1,56	<.05
3 months:	29	95.1	5.2	28	89.6	11.2	5.5	0.9 to 10.1	5.87	1,55	<.01
6 months:	29	95.0	5.6	28	88.7	10.9	6.3	1.7 to 10.9	7.64	1,55	<.01

Table 30. Patient mean visual analogue scale satisfaction scores: information received.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
48 hours:	30	94.9	5.8	30	90.1	7.9	4.8	1.2 to 8.4	7.10	1,58	<.01
5 days:	30	94.7	4.7	30	87.4	10.7	7.3	3.0 to 11.6	11.41	1,58	<.001
1 month:	29	95.1	5.1	29	84.0	16.4	11.1	4.7 to 17.5	12.17	1,56	<.001
3 months:	29	94.8	6.4	28	79.8	22.0	15.0	6.5 to 23.5	12.45	1,55	<.001
6 months:	29	95.1	4.7	28	79.9	16.8	15.2	8.7 to 21.7	22.24	1,55	<.001

Spouse satisfaction

Information received Table 31 shows the mean satisfaction scores for both groups of spouses on the five occasions. A one-tailed test revealed that the difference between groups at baseline (48 hours) was highly statistically significant. The treatment group scores remained significantly higher than the control group on the four other occasions.

Care patient received Table 32 shows the mean satisfaction scores for both groups of spouses on the five occasions. A one-tailed test revealed that the difference between groups at baseline (48 hours) was statistically significant. The treatment group scores remained significantly higher than the control group on the four other occasions, markedly so at 5 days, 3 and 6 months.

Table 31. Spouse mean visual analogue scale satisfaction scores: information received.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
48 hours:	30	95.9	3.8	30	85.3	15.6	10.6	4.7 to 16.5	13.19	1,58	<.001
5 days:	30	96.6	2.6	30	83.8	14.9	12.8	7.3 to 18.3	21.32	1,58	<.001
1 month:	29	96.4	2.4	29	81.8	19.0	14.6	7.5 to 21.7	16.90	1,56	<.001
3 months:	29	95.9	2.3	28	82.2	19.3	13.7	6.5 to 20.9	14.30	1,55	<.001
6 months:	29	95.7	2.3	28	81.0	19.7	14.7	7.3 to 22.1	16.00	1,55	<.001

Table 32. Spouse mean visual analogue scale satisfaction scores: care patient received.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
48 hours:	30	96.7	1.9	30	92.9	7.1	3.8	1.1 to 6.5	8.05	1,58	<.01
5 days:	30	97.0	2.1	30	92.5	6.0	4.5	2.2 to 6.8	15.05	1,58	<.001
1 month:	29	96.5	1.8	29	91.5	8.8	5.0	1.7 to 8.3	8.70	1,56	<.01
3 months:	29	96.4	1.8	28	91.3	7.2	5.1	2.4 to 7.8	13.75	1,55	<.001
6 months:	29	96.7	2.1	28	91.8	5.9	4.9	2.6 to 7.2	17.75	1,55	<.001

Knowledge

Tables 33 and 34 show the mean knowledge scale scores for both groups of patients and spouses respectively.

Patient knowledge

Table 33 shows the mean knowledge scores for both groups of patients on the five occasions. A one-tailed test revealed that the difference between groups at baseline (24 hours) was not statistically significant. However, at follow-up the treatment group scores were significantly higher than the control group scores at each occasion: 5 days, 1, 3 and 6 months.

Spouse knowledge

Table 34 shows the mean knowledge scores for both groups of spouses on the five occasions. A one-tailed test revealed that the difference between groups at baseline (24 hours) was not statistically significant. However, at follow-up the treatment group scores were significantly higher than the control group scores at each occasion: 5 days, 1, 3 and 6 months.

Table 33. Patient mean knowledge questionnaire scores.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	6.8	1.6	30	7.3	1.6	0.5	-0.3 to 1.3	1.72	1,58	n.s.
5 days:	30	8.6	1.8	30	7.5	1.4	1.1	0.3 to 1.9	7.29	1,58	<.01
1 month:	29	9.0	1.4	29	7.8	1.6	1.2	0.4 to 2.0	9.05	1,56	<.01
3 months:	29	8.8	1.3	28	7.8	1.5	1.0	0.3 to 1.7	6.99	1,55	<.01
6 months:	29	9.0	1.2	28	7.4	1.5	1.6	0.9 to 2.3	18.70	1,55	<.001

Table 34. Spouse mean knowledge questionnaire scores.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	7.0	1.6	30	6.8	1.9	0.2	-0.7 to 1.1	0.28	1,58	n.s.
5 days:	30	8.8	1.6	30	7.0	1.7	1.8	0.9 to 2.7	16.30	1,58	<.001
1 month:	29	9.4	1.3	29	7.8	1.4	1.6	0.9 to 2.3	21.00	1,56	<.001
3 months:	29	9.4	1.2	28	7.8	1.5	1.6	0.9 to 2.3	18.47	1,55	<.001
6 months:	29	9.0	1.5	28	7.1	1.5	1.9	1.1 to 2.7	22.25	1,55	<.001

Activity

Table 35 shows the mean activity scores for both groups of patients on the three occasions. A one-tailed test revealed that the difference between groups at each occasion was not statistically significant.

Table 35. Patient mean activity scale scores.

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
1 month:	29	19.2	12.9	29	28.7	26.0	9.5	-1.2 to 20.2	2.74	1,56	n.s.
3 months:	29	27.6	18.6	28	32.0	26.7	4.4	-7.8 to 16.6	0.55	1,55	n.s.
6 months:	29	35.9	20.2	28	39.5	31.9	3.6	-10.2 to 17.4	0.27	1,55	n.s.

Health data

Blood pressure

Table 36 shows the mean systolic and diastolic blood pressures (mmHg) for both groups of patients on the three occasions. A one-tailed test revealed that the difference between groups at baseline (24 hours) was not statistically significant. However, at 6 months the mean systolic and diastolic pressures were statistically significantly lower in the treatment group.

Body mass index

Table 37 shows the mean body mass indexes (kg/m²) for both groups of patients on the four occasions. A one-tailed test revealed that the difference between groups was not statistically significant at baseline (24 hours) or at 1, 3 and 6 months.

Table 36. Patient mean systolic and diastolic blood pressures (mmHg).

Time	n	<u>Treatment</u>		n	<u>Control</u>		Difference between means	95% Confidence interval	F	d.f.	. p
		Mean	S.D.		Mean	S.D.					
<u>Systolic</u>											
24 hours:	30	137.1	24.1	30	137.3	22.2	0.2	-11.8 to 12.2	0.00	1,58	n.s.
5 days:	30	113.3	11.6	30	117.8	18.9	4.5	-3.6 to 12.6	1.23	1,58	n.s.
6 months:	29	128.3	14.2	28	138.8	18.1	10.5	1.9 to 19.1	5.95	1,55	<.01
<u>Diastolic</u>											
24 hours:	30	90.8	19.3	30	89.3	15.4	1.5	-7.5 to 10.5	0.11	1,58	n.s.
5 days:	30	72.9	9.8	30	72.7	8.2	0.2	-4.5 to 4.9	0.01	1,58	n.s.
6 months:	29	80.2	9.9	28	87.0	11.2	6.8	1.2 to 12.4	5.86	1,55	<.01

Table 37. Patient mean body mass indexes (kg/m²).

Time	<u>Treatment</u>			<u>Control</u>			Difference between means	95% Confidence interval	F	d.f.	p
	n	Mean	S.D.	n	Mean	S.D.					
24 hours:	30	25.7	2.4	30	25.8	2.8	0.1	-1.3 to 1.5	0.01	1,58	n.s.
1 month:	29	25.7	2.7	29	25.5	2.6	0.1	-1.3 to 1.5	0.04	1,56	n.s.
3 months:	29	25.7	2.6	28	25.0	2.3	0.7	-0.6 to 2.0	1.22	1,55	n.s.
6 months:	29	25.5	2.5	28	25.5	2.3	0.0	-1.3 to 1.3	0.00	1,55	n.s.

Tobacco consumption

Smoking behaviour of the patient study groups is depicted in Table 38. Prior to admission to the hospital half of each group smoked. Although at 1 month follow-up only one in each group claimed to be still smoking, this figure increased at each follow-up period, roughly twice as much in the control group. However, a comparison of the results using a chi-square test revealed that there were no statistically significant differences between the two groups.

Table 38. Smoking characteristics of the study groups.

Variable	Treatment	Control	χ^2	d.f.	p
No. of patients smoking:-					
Prior to admission	15	17	0.26	1	n.s.
At 1 month	1	1	0.00	1	n.s.
At 3 months	2	4	0.25	1	n.s.
At 6 months	5	8	1.02	1	n.s.

Employment status

Employment characteristics of the study groups are shown in Table 39. Prior to admission to the hospital three patients (one unemployed and two retired) in the treatment group and four (one unemployed and three retired) in the control group were not in employment. At the completion of the study, 8 patients in the treatment group and 5 in the control group had not returned to work. A comparison of the results using a chi-square test revealed that there were no statistically significant differences between the two groups.

Table 39. Employment characteristics of the study groups.

Variable	Treatment	Control	χ^2	d.f.	p
No. of patients working:-					
Prior to admission	27	26	0.15	1	n.s.
At 3 months	13	13	0.14	1	n.s.
At 6 months	17	16	0.13	1	n.s.
Early retirement	1	3	0.13	1	n.s.

Physical state

Angina

Table 40 shows the number of patients in each study group reporting angina at follow-up. Between discharge from the hospital and one month follow-up, it can be seen that, compared to the treatment group, twice as many patients in the control group were experiencing angina on moderate to severe exertion. Angina on mild exertion and at rest were relatively infrequent and similar in both groups. Using ranking techniques as described by Meddis (1980, 1984), a one-tailed test revealed that this difference reached statistical significance.

At three and six months follow-up the difference between groups on grades of angina was not statistically significant.

It can be seen from Table 40 that between one-third and one-half of all the patients in each group were still experiencing some degree of angina at six months following discharge from the hospital.

Table 40. Patients with angina* in the study groups.

Variable	Treatment	Control	
At 1 month:-			
Nil	20	13	
Grade 1	6	13	
Grade 2	2	1	z=1.63, p=.05
Grade 3	1	2	
Total:	29	29	
At 3 months:-			
Nil	17	14	
Grade 1	10	11	
Grade 2	2	3	z=0.70, p>.10
Grade 3	-	-	
Total:	29	28	
At 6 months:-			
Nil	16	17	
Grade 1	13	7	
Grade 2	-	4	z=0.06, p>.10
Grade 3	-	-	
Total:	29	28	

* Grades of angina: 1 = on moderate/severe exertion
2 = on mild exertion
3 = at rest

Dyspnoea

Table 41 shows the number of patients in each study group reporting dyspnoea at follow-up. Roughly one-half of all patients in each group were experiencing some degree of dyspnoea, predominantly on moderate to severe exertion, between discharge from the hospital and six months follow-up.

Although the number of patients in each group reporting dyspnoea were similar at one month, they became higher in the treatment group at three and six months. However, a one-tailed test revealed that these differences were not statistically significant.

Table 41. Patients with dyspnoea* in the study groups.

Variables	Treatment	Control	
At 1 month:-			
Nil	17	16	
Grade 1	9	10	
Grade 2	3	2	z=0.25, p>.10
Grade 3	-	1	
Total:	29	29	
At 3 months:-			
Nil	12	15	
Grade 1	15	11	
Grade 2	2	1	z=-0.79, p>.10
Grade 3	-	1	
Total:	29	28	
At 6 months:-			
Nil	14	16	
Grade 1	12	8	
Grade 2	2	3	z=-0.43, p>.10
Grade 3	1	1	
Total:	29	28	

* Grades of dyspnoea: 1 = on moderate/severe exertion
2 = on mild exertion
3 = at rest

Morbidity

Table 42 depicts data on patient in-hospital morbidity, reinfarction and readmission rates for both study groups.

The major in-hospital cardiovascular morbidity was cardiac arrest occurring in two patients whilst in the C.C.U. The other major event was the occurrence of complete heart block in one of the treatment group whilst in the C.C.U. This patient required the insertion of a temporary pacing wire, which was in situ for less than 48 hours.

Only one patient had a reinfarction which occurred three weeks after discharge and was diagnosed following readmission to a medical ward, when the patient had complained of vague chest discomfort.

Altogether, seven patients required readmission to hospital. Apart from the patient described above, the reasons for readmission included investigations and/or management of heart failure (n=3), pulmonary embolism (n=1), deep vein thrombosis (n=1), and non-cardiac problems (n=2).

Statistical analysis was thought to be inappropriate here because of the similarities between groups and the small numbers involved.

Table 42. Patient morbidity in the study groups.

Variable	Treatment	Control
In-hospital morbidity:-		
Cardiac arrest	1	1
Complete heart block	1	-
Reinfarction:-		
Between discharge and 1 month	1	-
Between 1 month and 6 months	-	-
Readmission:-		
Between discharge and 1 month	2	2
Between 1 month and 3 months	1	1
Between 3 months and 6 months	1	-

CHAPTER 7

DISCUSSION

Introduction

The results from this study provide evidence to support the overall contention that a programme of in-hospital nursing support can confer additional benefits over and above the usual management regime for coronary patients and spouses. The findings from this study support all three of the original hypotheses. The study demonstrates that a simple programme of in-hospital counselling, provided by a coronary care registered nurse, statistically significantly reduces anxiety and depression, and increases satisfaction and knowledge in male coronary patients and their spouses.

This study has provided a systematic assessment of educative-supportive counselling in a well-defined group. An important consideration in the design was the selection of a homogenous sample with respect to sex, cardiological status and location of care.

Quality of study design

In order to check the level of quality of this research design, the author compared it with the Methodology Quality Rating system devised by Padgett et al. (1988), based upon the work of Sackett and Haynes (1976). According to this system, rating points (up to a maximum of 16) are awarded to a study depending on how well it addresses basic issues of internal and external validity. Padgett and her colleagues used this rating system in a meta-analysis of the effects of educational and psychosocial interventions on management of diabetes mellitus. They found that the rated quality of research design in 93 studies ranged from 2 to 14 points, with an average score of 7.5 points.

Using the Methodology Quality Rating system, this study met the following requirements:-

1. Design of study/assignment (internal validity)

The study obtained the maximum score of 5 points in this section, as it satisfied the following criteria:-

- a) Experimental design with random assignment (3 points).
- b) Treatment and control groups are specified as equivalent on three or more variables (1 point).
- c) Attrition rate less than 15% (1 point).

2. Selection and specification of study sample (external validity)

The study obtained 5 out of a possible 6 points in this section, as it satisfied the following criteria:-

- a) Systematic sample from specified population (1 point).
- b) Clearly replicable diagnostic criteria (1 point).
- c) Dropouts described (1 point).
- d) Three or more sample characteristics described (1 point).
- e) Inclusion/exclusion criteria specified (1 point).

It was not a random sample of all subjects from a specified population.

3. Other methodological features

The study obtained the maximum of 5 points in this section, as it satisfied the following criteria:-

- a) Potential confounding variables are specified and measured (any number) (1 point).
- b) Blinding specified and used (1 point).
- c) Ratings of outcomes (75-100%) (3 points).

Thus, using this method of quality rating, the present study achieves a score of 15 out of a possible total of 16. This score compares very favourably with the average score of 7.5 and the highest score of 14 awarded by Padgett et al. to the 93 studies they reviewed.

Although a double-blind trial of counselling would be the ideal research design, its achievement is fraught with practical difficulties. It was an important consideration of this study that the therapist was blind to any data obtained by the other researcher.

Discussion of specific findings

Anxiety and depression

Mean anxiety scores for the patients and spouses were high at 24 hours and generally decreased over the study period. However, although the scores were similar at baseline, they were generally statistically significantly lower in the treatment group at each stage of follow-up. Mean depression scores for the patients and spouses were generally low in both groups, although the patient treatment group reported less depression than the controls up to three months after leaving hospital.

Anxiety and depression are notoriously difficult to measure. Study findings are dependent upon the type and timing of the measurement tools used. Use of the Hospital Anxiety and Depression (H.A.D.) scale seemed to prove highly satisfactory: respondents appeared to find the instrument easy and quick to complete. Unlike most other anxiety or depression scales, the H.A.D. scale has no items relating to somatic symptoms which may be due to physical illness even in the absence of clinical anxiety or depression. Many previous studies of anxiety and depression in medical patients have used rating measures emphasizing somatic symptoms such as insomnia and weight loss which are common in physical illness even without mood disturbance, and are likely to overestimate the prevalence of anxiety and depression (Schwab et al. 1967). The H.A.D. scale, designed to assess anxiety and depression in physically ill patients and validated in such groups, would be expected to yield more conservative and also more accurate estimates.

The H.A.D. scale mean scores for patient anxiety and depression and spouse anxiety had dramatically decreased from baseline to 5 days in the treatment group, whereas the scores in the control group remained the same or even slightly increased. From 5 days to 6 months there was a gradual decline of scores in both groups at each follow-up phase, which were generally significantly lower in the treatment group. Spouse depression scores decreased more in the treatment group but the difference was not statistically significant.

The use of visual analogue scales also proved to be highly satisfactory. Again, respondents seemed to have no difficulty in completing these instruments. McCormack et al. (1988) provide evidence that visual analogue scales are not only well suited to experimental designs employing repeated measures and within-subject comparisons, but also successfully discriminate in between-subject studies.

The relative magnitudes of the mean scores of each visual analogue scale show that patients and spouses in both study groups were initially particularly anxious about the possibility of another heart attack for the patients, and, to a lesser extent, their general health and the future in general. In addition, spouses reported being particularly anxious about the possibility of complications for the patient. These findings are in general agreement with earlier work by the researcher (Thompson et al. 1982, 1987; Thompson and Cordle 1988). However, respondents may have been anxious about other specific factors which were not covered by these scales.

Prior to discharge from the hospital, patients in the treatment group were statistically significantly less

anxious about their general health, ability to resume work and leisure activities, the possible occurrence of complications, and the future in general, than controls. Following discharge home, patients in the treatment group were less anxious about suffering another heart attack, relations with their spouse and resuming leisure activities. Spouses in the treatment group were statistically significantly less anxious than controls on all of the variables measured, and virtually all of these differences were sustained at each follow-up period. Thus, these findings seem to suggest that the programme of support is particularly beneficial for the spouse. A possible explanation is the disparity between the level of counselling provided for the spouses in the two study groups. In other words, the provision of in-hospital routine support for spouses, in contrast to that for their partners, is typically scant. Whereas, the spouses in the treatment group received fairly detailed support, similar to their partners.

Interestingly, the H.A.D. scale and many of the visual analogue scale mean scores for spouse anxiety were higher on each occasion than those for patient anxiety. For instance, spouses were more anxious concerning the possibility of another heart attack and/or complications for the patient, relations and sexual activity with the patient, and leisure activity. These findings indicate that either spouses are more anxious than patients, or that women are more anxious than men. Vetter et al. (1977) found that women admitted to a C.C.U. were more anxious than men, and Cay (1982) reported that wives were more anxious than their husbands, at least during the acute phase of his illness. The reasons for this are unclear. However, the diagnosis, suddenness and perception of a heart attack pose a devastating threat to

physical, personal and psychological well being, creating a crisis for the spouse as well as the patient (Skelton and Dominian 1973; Mayou et al. 1978a). Early after patients are discharged from the hospital, many spouses perceive their husbands as vulnerable and are often uncertain about what they should do to care for them. This may explain why spouse anxiety is high. An alternative explanation is that although counselling was provided to the couple, each partner provided mutual support to the other. The patient may be less anxious because of the support and education received not only from the nurse, but also from his well informed and prepared spouse. However, it is worth noting that all coronary patients, including those in the present study, were routinely prescribed beta-adrenergic receptor blocking agents; in addition to the effect of these drugs on the cardiovascular system, the effect on autonomic arousal may have masked the true level of patient anxiety (Peet 1988).

Satisfaction

The need to assess consumer satisfaction is assuming increasing prominence in health care evaluation. Patients' and spouses' satisfaction with various aspects of the care they receive is not only a desirable goal in its own right, but is an important determinant of compliance and adherence to advice (Ley 1988).

Patient satisfaction with the levels of health and life in general was relatively high, stable, and similar in both groups, and mean satisfaction scores concerning the levels of care and information received were extremely high. This might be explained by low expectations and general satisfaction with virtually any level of care, or because

the subjects were aware that they were included in a study. However, despite the brevity and simplicity of the treatment package, it enhanced couple satisfaction, as the scores in the treatment group were consistently and statistically significantly higher, with considerably less scatter as reflected by the small standard deviations.

The directions of change of the satisfaction scores over the seven occasions in both groups are interesting. There was a general decrease in the patients and spouses of the control group, regarding satisfaction with the care and information received, whereas in the treatment group, the scores were either maintained or increased, even at 6 months after leaving hospital. Perhaps the counselling made the couples more confident and less anxious, and thus more satisfied. Interestingly, there appears to be close agreement between the patients and spouses concerning satisfaction with information and care received. Thus, it appears that couples have a lasting impression of how satisfied they were with the care and information provided to them.

Knowledge

Patients and spouses knowledge scores increased during the patients' stay in the hospital and were retained, and indeed higher, after discharge home. Although both control and treatment groups acquired information about their condition and management, the treatment group, especially the spouses, was the more knowledgeable.

The knowledge questionnaire was a simple instrument which measured only a limited number of subject areas. It is possible that after completion of the first questionnaire respondents became aware of certain deficits in knowledge

and those in the treatment group had the opportunity to target discussion around these areas at subsequent counselling sessions.

Subjects were not told at the time of entry into the study that they would be asked to complete the knowledge questionnaire on future occasions. Of course, there was no control of patients or spouses actively seeking information after discharge. Even if this accounted for the one and three months findings, it is unlikely to account for those at six months, when the couple completed the instruments in the C.C.U. in the presence of the researchers.

Activity

The activity scores of both groups of patients increased at each follow-up stage. The treatment group consistently reported lower levels of general physical activity than the control group. However, the difference was not statistically significant, and over the three intervals the gap in mean scores between groups narrowed. The rating scale used was a rather crude instrument and it might have been useful to examine physical, leisure and sexual activity, rather than making a global assessment.

It is debatable whether the measurement of activity levels was an appropriate yardstick for assessing recovery because the intervention programme emphasized the importance of adequate rest and the gradual resumption of activities. Thus, early return to pre-infarction levels of activity might not necessarily be indicative of successful outcome.

Physical measures

Smoking

Half of patients in each study group smoked prior to admission to the hospital. Cessation of smoking initially appeared dramatic in that only one patient in either group claimed to be smoking at one month. However, this figure doubled at three and six months, roughly twice as much in the control group. Thus, two-thirds of smokers in the treatment group stopped compared to just over half in the control group. Accuracy of patient reports were difficult to assess, and reliance was placed on spouse reporting to ensure some reliability. Although data on smoking was obtained by self-report, reliability was enhanced considerably at the 6 month follow-up by the use of expired air carbon monoxide sampling.

It would have been interesting to have obtained data on the smoking characteristics of spouses. Couples in the treatment group received counselling about cessation of smoking and possibly spouses would have been motivated to give up, as well as being able to provide encouragement to their partners.

Blood pressure

One would expect a fall in blood pressure over the duration of hospital stay due to bed-rest and generally reduced activity. Following discharge, a rise to near pre-admission levels would also be normally expected. However, the significant reduction in both systolic and diastolic blood pressure in the treatment group at 6 months is a surprising finding. Indirect systolic and diastolic blood pressure measurements were recorded by the same nurse using an electronic monitor with digital readout, thereby reducing the possibility of observer

error. Thus, it seems reasonable to suggest that the programme exerts an important influence on the cardiovascular system. A possible explanation for this effect could be that patients were given general advice about the importance of 'slowing down' and taking rest periods after meals.

Body mass index

It was, perhaps, not surprising that body mass indexes were similar with respect to both groups. The mean group scores remained relatively stable. They were consistently within the upper limits of the normal range and therefore necessitated little intervention in terms of weight reduction.

Return to work

At 3 months half of the patients in each study group had returned to work. By 6 months nearly 60% of each group were back at work. Rates of return to work vary. For example, Mayberry et al. (1983) and Trelawny-Ross and Russell (1986) found that at six months about half of the male coronary patients who had been employed full-time before being admitted to hospital were back at work. Other researchers such as Naismith et al. (1979) and Maeland and Havik (1987) have found much higher percentages of their samples (88% and 73% respectively) returning to work at 6 months.

Factors such as angina and breathlessness may account for the findings, although, at 6 months, the remaining patients in both groups stated that they were actively seeking full employment, even though this was proving difficult because of the bleak employment climate.

Morbidity

The number of patients reporting angina was statistically significantly lower in the treatment group at one month follow-up, although by 3 and 6 months the differences were not significant, with between one-third and one-half of all patients reporting angina. Similar numbers of patients were reporting dyspnoea. However, these rates are less than those of other studies, such as Winefield and Martin (1981) who found that 65% of their sample were reporting such symptoms.

Reinfarction and mortality

The programme did not affect death or reinfarction rates. However, the mortality (5%) and reinfarction (1.6%) rates were extremely low in this study, possibly because the patients selected were classed as mildly or moderately ill. Because of these low figures it was unlikely that a statistically significant difference would be revealed.

The attrition rate in this study was exceptionally low (5%), and wholly explained by deaths.

General discussion

This study is one of very few which provides a detailed and systematic evaluation of a programme of support for coronary patients and spouses. Moreover, it is the only study to date which has specifically evaluated the programme during the patients' stay in hospital.

Although various acute-phase studies of coronary patients report generally positive outcomes, there are serious methodological and/or reporting problems (Razin 1985). For instance, most studies lack controls or are purely anecdotal. Others inadequately describe their methods, assessments, and analyses. Many have used only one or two outcome criteria such as return to work, mortality, or level of anxiety or depression. Although all of these are undoubtedly relevant, a combination of various criteria is really needed to gain a more accurate and complete picture.

The findings of this study are in agreement with those reviewed by Mumford et al. (1982), providing strong evidence attesting to the efficacy of psychological intervention for individuals faced with stressful, or even physically traumatic, events. In their meta-analytical review, Mumford et al. classified the interventions according to whether they offered mainly educational and informational preparation, or whether they used psychotherapeutic approaches designed primarily to give emotional support. When averaging the effect sizes they concluded that the therapeutic approaches appeared more effective, but interventions combining both approaches were superior to either one used singly.

In this study, the treatment package was comprehensive, and thus the differential impact of education and emotional support remains unclear. As Mumford et al. (1982) point out in their review, the efficacy of providing both educational and emotional support may simply reflect increased chances of meeting the needs of more couples when two different types of intervention are offered.

The findings of this controlled trial compare favourably with those of previous in-hospital studies (Gruen 1975; Langosch et al. 1982; Oldenburg et al. 1985). This study lends further support to the conclusions of Perkins et al. (1986), that there is now accumulating evidence to demonstrate that in-hospital psychological and educational interventions with first myocardial infarction patients in the days immediately following the infarction influences favourably psychological outcome. Indeed, it is possible that, as Oldenburg et al. (1985) suggested in their discussion, the effects of the intervention might have been underestimated as there were a number of factors that mitigated against significant findings. Other than the major selection criteria of patients having to be younger than 66 years of age, living with a partner, and a documented first uncomplicated myocardial infarction, patients were included irrespective of their likely suitability for psychological and/or educational intervention. On balance, the study population can be considered as fairly representative of those patients admitted to a coronary care unit with an uncomplicated heart attack.

A novel feature of this study was the inclusion of the spouse at this early stage of management and the effect of the intervention on the spouse's reported anxiety,

level. The important role of the spouse in the patient's adjustment during convalescence and her influence on the rate and extent of the patient's recovery is well recognised (Mayou et al. 1978a, b & c). Mayou and his colleagues concluded that more practical help and advice should be provided for wives of coronary patients during the hospital phase. Stern and Pascale (1979) specifically suggested that an in-hospital education or psychological therapy group for couples might prove beneficial. Despite such recommendations, no systematic study of the effects of such interventions on anxiety, depression, satisfaction and knowledge, have been reported until now. Spouses have been virtually ignored in acute-phase intervention studies, despite the fact that successful patient recovery in large part hinges on their education and involvement.

This study demonstrates that the impact of the myocardial infarction and the programme of support was greatest on the spouse. In fact, the inclusion of the spouse in such programmes seems vital in view of the higher levels of reported anxiety.

The effects of the intervention programme on patient anxiety and depression, and partner depression are quite dramatic considering they occurred over a period of roughly four days from the start. Indeed, they occurred after only three half hour sessions of counselling, as the follow-up measurements were obtained prior to the fourth session of counselling taking place at 5 days. Although spouse depression decreased over the four days in the intervention group, and increased in the control group, the differences were not statistically significant.

Implications for practice

Conclusions about the relative efficacy of treatment is typically based on statistical evaluation of outcomes. However, in clinical trials, where alternative treatments are compared, the primary interest is in clinical outcome. It is of value to show that there is some clear benefit of a more practical nature favouring one treatment over another.

If the findings in the present study are shown to be robust on replication, they are likely to have important implications for the ways in which in-hospital recovery programmes should be devised for coronary care units.

As Wilson-Barnett (1984) has pointed out, "progress in the research field is sadly not reflected in levels of clinical implementation of these interventions by nurses" (p.70). Nichols (1984) has eloquently described some of the objections and criticisms offered by nurses as to why they cannot provide this sort of support on a routine basis, such as 'Nurses are too busy' and 'We just do not have the time or staff'. Nichols (1985) labels these "the problems of psychological neglect" (p.231).

Against this background, a preliminary summary of the research findings was presented to all the staff of the C.C.U. where the study was carried out. This presentation was well received and the programme of couple counselling certainly appears to have been incorporated into routine clinical practice.

The package of care described in this study is simple and easy to implement, and takes little time - about two hours over a one week period for each couple. It also requires

little investment in training personnel and none in additional staff, finances or other resources, but means that nursing time can be spent more effectively and efficiently for patient and spouse welfare.

Implementing this type of intervention is likely to increase nurses' job satisfaction because they are actually doing something that has been scientifically shown to be beneficial. The necessary patient and spouse involvement with increased responsibility might further enhance professional worth. Developing such a role on a routine basis is likely to clarify the nurse's own position in an environment that has become technically and medically orientated.

It is suggested that appropriate, well-timed, psychological intervention in the acute phase is therapeutically beneficial, efficient and economic. It is useful on humanitarian as well as medical grounds, giving patients a share in the responsibility for their own care, rather than complete dependence on health professionals. Therefore, it should be routinely offered to first coronary patients and their partners.

Limitations of research

An obvious limitation of this study is that the findings are only directly applicable to male patients aged less than 66 years who have suffered a first uncomplicated heart attack.

Once discharged from the hospital, the patient and spouse are likely to receive or seek additional information and support from other sources, including friends, literature and the media. Obviously, this would prove exceedingly difficult to control for, or indeed measure, and one has to assume that both the control and treatment groups would have undertaken such activity on an equal basis.

The one, three and six months follow-ups were selected on a fairly arbitrary basis. However, because mean anxiety and depression scores decreased quite significantly for both the treatment and control groups from the hospital stay to the one month follow-up with only slight further decline at the three and six month periods, it appears that major psychosocial adjustments are generally dealt with by the patient during the first month post-infarction. Certainly, following an uncomplicated first heart attack, the patient should be able to resume involvement in work, social and domestic activity within three months of leaving the hospital. In any case, there are drawbacks in collecting detailed data at frequent intervals, such as reduced compliance.

Clearly, the individual who wishes to implement such a programme of counselling must have the necessary knowledge and skills, and a genuine desire to initiate the programme in an attempt to gain credibility in order to positively influence the couple, otherwise the efficacy of the

programme will be in doubt. The quality of the relationship with the couple is likely to be an important factor in successful counselling. This has to involve trust, respect, understanding and interest. Coronary care nurses, by virtue of such involvement on a frequent basis, are ideally suited to undertake such a role.

Recommendations for further research

It is suggested that the study be replicated in other coronary care units and medical wards. Follow-up at least beyond six months and preferably up to one year would provide information on whether the effects are sustained over a long term.

An interesting study would be to provide the spouse alone with the counselling programme to examine whether this has any significant impact on the patient as well as the spouse.

Another design feature that might be incorporated would be to extend the treatment to the couple during the first few months of convalescence, to see if continued support on a routine basis might reduce reported angina, dyspnoea, and emotional distress, and therefore facilitate an earlier and/or improved return to previous life.

It would be interesting to replicate the study with female coronary patients and their male partners, and examine whether the degree of emotional distress is different.

It would also be useful to identify and evaluate the principal active ingredients of the package. Elimination of those components that make no contribution might ensure that a more compact and efficacious intervention is achieved.

Research has not yet made clear the particular aspects of psychological intervention that are responsible for the improved physical or psychosocial functioning.

Summary

This study was designed to assess the efficacy of an in-hospital programme of supportive-educative counselling for male first time coronary patients and their spouses. It has shown that such a programme, provided by a coronary care registered nurse, can favourably affect psychological well-being in both partners during the hospital stay and following discharge home.

The package of support described appears therapeutic and economical. It seems reasonable to suggest that at least all male first coronary patients and their spouses should be offered a treatment package that comprises supportive-educative counselling.

APPENDICES

Appendix 1. Intervention guidelines.

Prior to each intervention, ascertain the couple's level of understanding and whether they have any problems they wish to discuss. Reinforce information, clarify issues and correct misconceptions.

1. 24 hours (C.C.U.)

- a) Reason for admission
 - patient understanding of problem(s)
 - information about heart attack
 - symptoms to be reported
- b) Purpose of C.C.U.
 - rationale for observation and management
 - likely outcome
 - length of stay
 - staff
 - equipment
 - general environment
- c) Daily routines
 - plan and pattern of day
 - ward rounds
 - visiting hours
- d) Observations
 - cardiac monitoring
 - blood pressure
 - temperature
 - respirations
- e) Medications and intravenous infusions
 - insertion of intravenous cannulae
 - narcotic analgesic agents
 - antiemetic agents
 - antiarrhythmic agents
 - nitrate therapy, including GTN
- f) Oxygen
 - nasal cannulae for administration
 - no smoking
- g) Activity
 - leg exercises
 - breathing exercises
 - bed rest - commode and urinal, washbowl
 - graduated mobility - toilet and shower
- h) Investigations
 - chest X-ray

- ECG
- blood samples
- i) Diet
 - small, frequent diet
 - high fibre
 - avoid food high in saturated fat or salt
- j) Personal problems
 - job and finance worries
 - concern about family
- k) Emotional reactions
 - fear, apprehension and anxiety
- l) Possible referral to other health/social agencies
 - social worker
 - dietician
 - clinical psychologist
- m) Brief summary
- n) Opportunity for questions

2. 48 hours (C.C.U.)

- a) Basic structure and function of the heart
 - coronary blood supply
- b) Development of ischaemic heart disease
 - atherosclerosis
 - plaque formation
- c) Acute myocardial infarction
 - risk factors
 - warning signs and symptoms
 - healing process
 - personal response
- d) Activity planning
 - graduated mobility
- e) Preparation for transfer to ward
 - sign of progress
 - new environment and routines
 - different nursing and medical staff
 - change in staff:patient ratio
 - discontinue cardiac monitoring
- f) Possible mood changes
 - anxiety and depression
 - feelings of guilt and loneliness in spouse
 - avoidance of over-protectiveness by spouse
- g) Brief summary
- h) Opportunity for questions

3. 72 hours (Ward)

- a) Family, occupational, social and financial concerns
 - sickness benefit
 - old age pension
 - PSV/HGV licence holders to inform DVLC
- b) Pertinent lifestyle and possible modifications
 - dietary recommendations
 - weight reduction
 - smoking cessation
 - regular health examination
 - adequate rest periods and 'slowing down'
 - avoidance of engagement in multiple activities
- c) Medications
 - level of understanding
 - need for compliance
- d) Activity planning
 - work
 - leisure
 - sexual
- e) Brief summary
- f) Opportunity for questions

4. 5 days (Ward)

- a) Possible adjustments to be made regarding homecoming
- b) Activity planning (reinforcement)
- c) Pertinent lifestyle modifications (reinforcement)
- d) Medications (reinforcement)
- e) Anticipate potential problems
 - angina
 - shortness of breath
 - lethargy/fatigue
 - sleeplessness
 - poor concentration
 - mood changes
 - somatic problems in spouse
 - strain on marital relations
- f) Summoning appropriate help
 - who, when, and how
- g) C.C.U. telephone number for contact
- h) Out-patient clinic appointments
- i) Possible referral to other expert agencies
 - General Practitioner
 - District Nurse
- j) Brief summary
- k) Opportunity for questions

E.P.Q. (Adult)

Occupation

Age Sex

INSTRUCTIONS Please answer each question by putting a circle around the "YES" or the "NO" following the question. There are no right or wrong answers, and no trick questions. Work quickly and do not think too long about the exact meaning of the questions.

PLEASE REMEMBER TO ANSWER EACH QUESTION

- | | | | |
|---|--|-----|----|
| 1 | Do you have many different hobbies?..... | YES | NO |
| 2 | Do you stop to think things over before doing anything?..... | YES | NO |
| 3 | Does your mood often go up and down?..... | YES | NO |
| 4 | Have you ever taken the praise for something you knew someone else had really done? | YES | NO |
| 5 | Are you a talkative person?..... | YES | NO |
| 6 | Would being in debt worry you?..... | YES | NO |
| 7 | Do you ever feel "just miserable" for no reason?..... | YES | NO |
| 8 | Were you ever greedy by helping yourself to more than your share of anything?.. | YES | NO |
| 9 | Do you lock up your house carefully at night?..... | YES | NO |
| 0 | Are you rather lively?..... | YES | NO |
| 1 | Would it upset you a lot to see a child or an animal suffer?..... | YES | NO |
| 2 | Do you often worry about things you should not have done or said?..... | YES | NO |
| 3 | If you say you will do something, do you always keep your promise no matter how inconvenient it might be?..... | YES | NO |
| 4 | Can you usually let yourself go and enjoy yourself at a lively party?..... | YES | NO |
| 5 | Are you an irritable person?..... | YES | NO |
| 6 | Have you ever blamed someone for doing something you knew was really your fault? | YES | NO |
| 7 | Do you enjoy meeting new people?..... | YES | NO |
| 8 | Do you believe insurance schemes are a good idea?..... | YES | NO |
| 9 | Are your feelings easily hurt?..... | YES | NO |
| 0 | Are <i>all</i> your habits good and desirable ones?..... | YES | NO |

Do you tend to keep in the background on social occasions?.....	YES	NO
Would you take drugs which may have strange or dangerous effects?.....	YES	NO
Do you often feel "fed-up"?.....	YES	NO
Have you ever taken anything (even a pin or button) that belonged to some- one else?.....	YES	NO
Do you like going out a lot?.....	YES	NO
Do you enjoy hurting people you love?.....	YES	NO
Are you often troubled about feelings of guilt?.....	YES	NO
Do you sometimes talk about things you know nothing about?.....	YES	NO
Do you prefer reading to meeting people?.....	YES	NO
Do you have enemies who want to harm you?.....	YES	NO
Would you call yourself a nervous person?.....	YES	NO
Do you have many friends?.....	YES	NO
Do you enjoy practical jokes that can sometimes really hurt people?.....	YES	NO
Are you a worrier?.....	YES	NO
As a child did you do as you were told immediately and without grumbling?.....	YES	NO
Would you call yourself happy-go-lucky?.....	YES	NO
Do good manners and cleanliness matter much to you?.....	YES	NO
Do you worry about awful things that might happen?.....	YES	NO
Have you ever broken or lost something belonging to someone else?.....	YES	NO
Do you usually take the initiative in making new friends?.....	YES	NO
Would you call yourself tense or "highly-strung"?.....	YES	NO
Are you mostly quiet when you are with other people?.....	YES	NO
Do you think marriage is old-fashioned and should be done away with?.....	YES	NO
Do you sometimes boast a little?.....	YES	NO
Can you easily get some life into a rather dull party?.....	YES	NO
Do people who drive carefully annoy you?.....	YES	NO
Do you worry about your health?.....	YES	NO
Have you ever said anything bad or nasty about anyone?.....	YES	NO
Do you like telling jokes and funny stories to your friends?.....	YES	NO
Do most things taste the same to you?.....	YES	NO
As a child were you ever cheeky to your parents?.....	YES	NO
Do you like mixing with people?.....	YES	NO
Does it worry you if you know there are mistakes in your work?.....	YES	NO
Do you suffer from sleeplessness?.....	YES	NO

Do you always wash before a meal?.....	YES	NO
Do you nearly always have a "ready answer" when people talk to you?.....	YES	NO
Do you like to arrive at appointments in plenty of time?.....	YES	NO
Have you often felt listless and tired for no reason?.....	YES	NO
Have you ever cheated at a game?.....	YES	NO
Do you like doing things in which you have to act quickly?.....	YES	NO
Is (or was) your mother a good woman?.....	YES	NO
Do you often feel life is very dull?.....	YES	NO
Have you ever taken advantage of someone?.....	YES	NO
Do you often take on more activities than you have time for?.....	YES	NO
Are there several people who keep trying to avoid you?.....	YES	NO
Do you worry a lot about your looks?.....	YES	NO
Do you think people spend too much time safeguarding their future with savings and insurances?.....	YES	NO
Have you ever wished that you were dead?.....	YES	NO
Would you dodge paying taxes if you were sure you could never be found out?....	YES	NO
Can you get a party going?.....	YES	NO
Do you try not to be rude to people?.....	YES	NO
Do you worry too long after an embarrassing experience?.....	YES	NO
Have you ever insisted on having your own way?.....	YES	NO
When you catch a train do you often arrive at the last minute?.....	YES	NO
Do you suffer from "nerves"?.....	YES	NO
Do your friendships break up easily without it being your fault?.....	YES	NO
Do you often feel lonely?.....	YES	NO
Do you always practice what you preach?.....	YES	NO
Do you sometimes like teasing animals?.....	YES	NO
Are you easily hurt when people find fault with you or the work you do?.....	YES	NO
Have you ever been late for an appointment or work?.....	YES	NO
Do you like plenty of bustle and excitement around you?.....	YES	NO
Would you like other people to be afraid of you?.....	YES	NO
Are you sometimes bubbling over with energy and sometimes very sluggish?.....	YES	NO
Do you sometimes put off until tomorrow what you ought to do today?.....	YES	NO
Do other people think of you as being very lively?.....	YES	NO
Do people tell you a lot of lies?.....	YES	NO
Are you touchy about some things?.....	YES	NO
Are you always willing to admit it when you have made a mistake?.....	YES	NO
Would you feel very sorry for an animal caught in a trap?.....	YES	NO

PLEASE CHECK TO SEE THAT YOU HAVE ANSWERED ALL THE QUESTIONS

HAD Scale

me:

Date:

Doctors are aware that emotions play an important part in most illnesses. If your doctor knows about these feelings he will be able to help you more.
This questionnaire is designed to help your doctor to know how you feel. Read each item and place a firm tick in the box opposite the reply which comes closest to how you have been feeling in the past week.
Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought-out response.

Tick only one box in each section

I feel tense or 'wound up':

Most of the time
A lot of the time
Time to time, Occasionally
Not at all

I feel as if I am slowed down:

Nearly all the time
Very often
Sometimes
Not at all

I still enjoy the things I used to enjoy:

Definitely as much
Not quite so much
Only a little
Hardly at all

I get a sort of frightened feeling like 'butterflies' in the stomach:

Not at all
Occasionally
Quite often
Very often

I get a sort of frightened feeling as if something awful is about to happen:

Very definitely and quite badly
Yes, but not too badly
A little, but it doesn't worry me
Not at all

I have lost interest in my appearance:

Definitely
I don't take so much care as I should.....
I may not take quite as much care
I take just as much care as ever

I can laugh and see the funny side of things:

As much as I always could
Not quite so much now
Definitely not so much now
Not at all

I feel restless as if I have to be on the move:

Very much indeed
Quite a lot
Not very much
Not at all

Worrying thoughts go through my mind:

A great deal of the time
A lot of the time
From time to time but not too often ..
Only occasionally

I look forward with enjoyment to things:

As much as ever I did
Rather less than I used to
Definitely less than I used to
Hardly at all

I feel cheerful:

Not at all
Not often
Sometimes
Most of the time

I get sudden feelings of panic:

Very often indeed
Quite often
Not very often
Not at all

I can sit at ease and feel relaxed:

Definitely
Usually
Not often
Not at all

I can enjoy a good book or radio or TV programme:

Often
Sometimes
Not often
Very seldom

Do not write below this line

Appendix 4. Visual analogue scales: patient anxiety.

Please read each item and place a cross along each line to indicate how anxious you feel about the following:

- ## 1. General health

Not at all

Extremely

- ## 2. Ability to work

Extremely

Not at all

- ### 3. Another heart attack

Extremely

Not at all

- #### 4. Relations with spouse

Extremely

Not at all

- ## 5. Possible complications

Not at all

Extremely

- ## 6. Sexual activity

Extremely

Not at all

- ## 7. Leisure activity

Not at all

Extremely

- ## 8. The future

Not at all

Extremely

Appendix 5. Visual analogue scales: spouse anxiety.

Please read each item and place a cross along each line to indicate how anxious you feel about the effects of your husband's heart attack on the following:

1. Your leisure activities

Extremely

Not at all

2. Your future

Not at all

Extremely

3. Your sexual activities

Not at all

Extremely

4. Your general health

Extremely

Not at all

5. Your relationship

Not at all

Extremely

6. Your husband's ability to work

Not at all

Extremely

7. Your husband having another heart attack

Extremely

Not at all

8. Possible complications for your husband

Extremely

Not at all

Appendix 6. Visual analogue scales: patient satisfaction.

Please read each item and place a cross along each line to indicate how satisfied you feel about the following:

1. General health

Not at all

Extremely

2. Life in general

Extremely

Not at all

3. Care received

Not at all

Extremely

4. Information received

Extremely

Not at all

Appendix 7. Visual analogue scales: spouse satisfaction.

Please read each item and place a cross along each line to indicate how satisfied you feel about the following:

1. Information received

Extremely

Not at all

2. Care my husband received

Not at all

Extremely

Appendix 8. Knowledge questionnaire.

Please read carefully and try to answer each question. For questions 1-4 please tick true or false for each statement - there may be more than one true answer !

	TRUE	FALSE
1. A heart attack is:		
a) When the heart stops beating	☐	☐
b) When an area of heart muscle is damaged by a clot in one of the coronary arteries	☐	☐
c) When the heart becomes infected	☐	☐
2. Another name for a heart attack is:		
a) Coronary thrombosis	☐	☐
b) Angina	☐	☐
c) Myocardial infarction	☐	☐
3. The pain associated with a heart attack is generally due to:		
a) Inflammation of the heart muscle	☐	☐
b) Too little oxygen to the heart muscle	☐	☐
c) Irritability of the heart muscle	☐	☐
4. The cardiac monitor:		
a) Gives information about the heart's electrical activity	☐	☐
b) Helps the heart to beat better	☐	☐
c) Warns staff of any changes in the heart's rhythm	☐	☐

TRUE FALSE

5. After a heart attack most people will never return to their previous level of fitness [] []
6. Most people should be fit to return to part-time or light full-time work 6-10 weeks after leaving hospital [] []
7. List the 3 major 'risk factors' thought to increase the likelihood of a heart attack.
- 1)
- 2)
- 3)
8. How long does it take the damaged heart muscle to heal ?

Appendix 9. Activity scale.

Please place a cross along the line to indicate your present level of general activity compared to the level before your heart attack.

Definitely
worse

Definitely
better

Appendix 10. Patient and spouse ages.

	CONTROL		TREATMENT	
	PATIENT	SPOUSE	PATIENT	SPOUSE
Subject				
1	56	62	48	48
2	51	49	52	50
3	52	52	52	49
4	62	61	64	63
5	65	65	54	55
6	54	51	51	51
7	65	56	58	59
8	59	56	51	46
9	58	59	57	57
10	63	63	42	38
11	59	64	40	34
12	58	53	30	30
13	54	54	56	51
14	40	39	53	52
15	53	52	61	41
16	65	65	56	54
17	46	41	56	56
18	55	52	47	47
19	60	56	48	40
20	52	50	47	50
21	65	64	58	61
22	53	51	65	63
23	61	63	59	59
24	61	66	55	53
25	35	39	47	44
26	48	44	53	53
27	60	63	61	58
28	52	43	49	48
29	55	46	56	51
30	60	59	59	58

Appendix 11. Social class of patients*.

	CONTROL	TREATMENT
Subject		
1	V	IIIM
2	IIIM	IIIM
3	IIIN	IV
4	IV	V
5	IIIN	IIIN
6	V	IIIM
7	IV	V
8	V	IV
9	IV	IIIN
10	IV	IV
11	IIIN	IV
12	IV	V
13	IV	IV
14	IIIN	IV
15	IIIN	I
16	IIIM	II
17	IIIM	IV
18	II	IIIN
19	I	II
20	II	IIIM
21	II	IV
22	IV	IV
23	IV	IIIN
24	V	IIIN
25	II	II
26	IV	II
27	IIIN	II
28	II	IIIN
29	IIIN	IV
30	IV	II

* Registrar General's classification (Office of Population Censuses and Surveys 1980).

Appendix 12. Cardiological data of patients.

	CONTROL			TREATMENT		
	C.P.I.	C.P.K.	M.I.	C.P.I.	C.P.K.	M.I.
Subject						
1	6.4	3015	Inferior	5.7	1715	Inferior
2	3.6	200	Anterior	4.4	1974	Anterior
3	7.5	3652	Inferior	7.7	259	Inferior
4	6.1	4887	Anterior	5.3	1006	Inferior
5	5.3	424	Inferior	7.5	350	Inferior
6	4.4	461	Anterior	2.1	1250	Inferior
7	6.1	1019	Anterior	3.5	4600	Inferior
8	4.4	1916	Anterior	3.5	341	Inferior
9	3.5	242	Inferior	8.5	4389	Inferior
10	5.1	486	Anterior	4.7	169	Inferior
11	4.4	1599	Inferior	3.6	3394	Anterior
12	4.9	2043	Inferior	4.3	894	Anterior
13	4.5	409	Inferior	5.8	450	Anterior
14	2.7	188	Inferior	4.4	930	Anterior
15	5.8	859	Anterior	6.1	322	Anterior
16	4.2	1486	Inferior	4.4	485	Anterior
17	3.6	1987	Anterior	2.4	1365	Anterior
18	3.4	162	Anterior	4.7	2050	Inferior
19	4.3	580	Inferior	3.6	300	Anterior
20	6.1	3507	Anterior	7.9	2523	Inferior
21	3.2	334	Inferior	5.3	1992	Inferior
22	4.6	2466	Anterior	3.2	1376	Inferior
23	4.3	1986	Inferior	4.5	2600	Inferior
24	6.1	1914	Anterior	3.5	1570	Inferior
25	4.6	452	Anterior	3.7	372	Inferior
26	5.6	2084	Anterior	6.4	368	Anterior
27	8.3	2499	Inferior	4.3	960	Inferior
28	6.4	892	Anterior	3.5	913	Inferior
29	4.4	635	Anterior	6.4	912	Anterior
30	4.3	1388	Inferior	4.4	5160	Anterior

C.P.I.: Coronary prognostic index (Norris et al. 1969)

C.P.K.: Creatine phosphokinase (Normal range 25-200 i.u./L)

M.I.: Location of myocardial infarction

Appendix 13. Duration of patient stay (in hours) in hospital.

	CONTROL			TREATMENT		
	C.C.U.	WARD	TOTAL	C.C.U.	WARD	TOTAL
Subject						
1	74	72	146	107	64	171
2	35	77	112	84	97	181
3	126	78	204	46	117	163
4	74	71	145	76	27	103
5	47	96	143	71	117	188
6	60	75	135	71	92	163
7	141	72	213	96	120	216
8	58	69	127	44	89	133
9	42	69	111	146	146	292
10	75	120	195	42	68	110
11	43	72	115	50	94	144
12	85	139	224	75	47	122
13	53	42	95	53	68	121
14	28	72	100	54	68	122
15	43	284	327	58	115	173
16	89	70	159	51	140	191
17	53	90	143	78	98	176
18	61	95	156	43	138	181
19	69	71	140	32	119	151
20	102	144	246	144	123	267
21	212	91	303	69	137	206
22	72	121	193	53	93	146
23	42	95	137	51	91	142
24	54	97	151	75	118	193
25	43	92	135	161	141	302
26	42	168	210	72	96	168
27	58	217	275	39	96	135
28	61	67	128	50	171	221
29	56	116	172	43	94	137
30	49	92	141	103	115	218

Appendix 14a. Patient Hospital Anxiety and Depression (HAD) scale scores.

CONTROL GROUP

	ANXIETY					DEPRESSION				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	7	7	6	4	7	2	2	1	1	3
2	12	13	15	10	15	8	7	8	9	10
3	17	10	9	8	11	4	3	1	1	2
4	6	4	1	1	1	2	1	1	1	1
5	8	6	7	6	6	8	5	2	4	4
6	9	8	5	7	6	4	5	3	4	3
7	10	9	6	4	6	5	5	5	5	5
8	11	7	12	7	8	7	4	10	6	6
9	6	4	2	2	4	4	0	0	0	0
10	6	16	14	12	10	7	17	15	11	11
11	2	2	1	1	2	1	1	1	1	1
12	11	15	14	13	15	5	5	5	8	8
13	1	1	1	1	1	1	1	1	1	1
14	8	17	16	10	10	3	14	10	5	4
15	7	7	7	6	5	5	6	4	4	2
16	8	6	5	5	5	7	4	4	5	5
17	10	8	8	5	6	1	1	1	1	1
18	9	10	6	8	6	8	9	9	9	8
19	5	4	3	2	1	1	1	1	1	1
20	15	10	9	11	11	13	7	7	6	5
21	2	9	7	7	3	2	4	4	5	2
22	8	7	6	7	5	5	5	5	6	4
23	16	12	13	-	-	5	5	13	-	-
24	5	6	6	6	5	4	3	3	3	4
25	10	9	7	7	5	5	4	4	4	2
26	13	10	-	-	-	14	12	-	-	-
27	12	12	8	11	8	6	6	4	9	8
28	11	13	4	6	4	7	8	2	4	2
29	9	7	9	8	6	4	2	6	4	3
30	12	12	10	7	7	11	13	15	14	14

T1=24 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 14b.

TREATMENT GROUP

	ANXIETY					DEPRESSION				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	7	2	0	0	1	6	4	3	3	3
2	6	2	2	4	1	7	3	3	1	2
3	3	2	2	1	0	1	1	1	1	0
4	19	14	12	10	10	8	10	8	8	8
5	9	4	5	7	7	6	7	5	2	3
6	12	10	11	12	11	10	6	7	7	7
7	3	5	3	5	5	7	8	5	5	5
8	4	3	4	4	3	3	2	3	3	3
9	3	1	0	0	0	3	1	0	0	0
10	5	5	3	3	4	2	1	1	0	1
11	4	3	2	0	1	9	5	5	1	0
12	16	6	4	4	3	14	9	6	5	5
13	12	3	3	5	4	10	3	7	8	7
14	9	7	4	5	5	4	2	4	4	4
15	7	4	8	9	8	8	1	5	6	3
16	13	5	6	8	6	2	2	2	4	3
17	7	7	4	2	2	4	4	2	4	4
18	10	9	7	7	9	5	3	5	3	2
19	4	3	2	4	2	2	2	2	3	2
20	10	2	3	3	2	6	1	1	2	4
21	5	3	2	3	2	5	3	4	3	3
22	13	6	6	3	4	11	3	2	1	2
23	8	5	1	1	4	6	2	3	4	5
24	10	7	8	6	6	6	3	3	4	1
25	6	4	2	1	1	1	1	2	2	2
26	10	3	3	3	4	6	1	2	1	2
27	7	3	4	0	5	3	1	0	1	1
28	8	8	7	3	3	1	1	2	0	1
29	17	6	-	-	-	2	4	-	-	-
30	8	6	7	7	7	2	1	4	4	7

T1=24 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 15a. Spouse Hospital Anxiety and Depression (HAD) scale scores.

CONTROL GROUP

	ANXIETY					DEPRESSION				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	6	6	4	3	4	1	1	1	1	1
2	8	8	7	6	5	2	2	2	2	2
3	8	7	5	7	5	4	3	3	3	3
4	10	8	4	4	5	10	1	3	1	5
5	4	4	1	4	2	1	3	1	3	1
6	13	14	9	8	10	10	7	8	6	6
7	10	10	7	14	13	4	8	5	9	8
8	8	7	13	9	7	5	6	8	5	6
9	5	7	7	7	10	2	3	2	2	3
10	12	14	14	13	14	5	5	7	4	4
11	3	4	2	2	7	2	3	1	1	1
12	15	14	15	15	13	9	10	10	10	9
13	4	4	4	3	3	7	2	2	2	2
14	18	21	18	17	17	2	2	8	7	8
15	13	12	11	12	11	9	10	6	8	9
16	7	9	9	9	8	7	7	7	8	8
17	6	7	8	10	6	1	1	6	4	1
18	11	16	13	11	6	8	8	8	8	6
19	8	8	4	4	2	4	4	2	2	1
20	17	19	16	13	10	8	16	11	12	7
21	6	2	6	2	1	6	2	3	2	1
22	8	8	5	5	8	4	4	4	4	5
23	13	13	17	-	-	8	11	14	-	-
24	16	16	13	13	12	9	8	10	8	7
25	18	17	18	13	11	7	7	4	3	2
26	12	13	-	-	-	6	6	-	-	-
27	13	11	9	10	7	4	3	3	3	3
28	12	11	9	11	9	4	7	2	4	3
29	12	11	13	12	16	6	8	9	8	8
30	4	4	1	1	6	2	2	1	1	4

T1=24 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 15b.

TREATMENT GROUP

	ANXIETY					DEPRESSION				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	12	11	12	11	10	7	8	7	8	7
2	7	7	4	4	4	5	3	3	1	1
3	11	7	1	0	0	4	4	0	0	0
4	11	10	13	10	9	1	11	8	5	6
5	9	7	7	7	8	5	5	0	4	5
6	9	8	13	12	11	4	8	4	3	2
7	17	10	9	9	9	6	9	7	7	7
8	9	8	8	6	4	6	7	7	7	7
9	18	14	14	13	13	16	13	13	12	11
10	7	6	2	2	4	2	2	2	1	2
11	8	5	5	5	2	4	4	4	3	2
12	13	7	7	5	5	7	5	3	3	2
13	6	4	7	5	5	7	4	4	7	4
14	15	8	7	7	7	8	4	6	6	3
15	10	6	7	8	7	8	5	4	6	5
16	9	7	6	7	5	2	1	2	1	1
17	19	11	4	3	4	13	5	7	5	5
18	13	11	11	10	9	8	6	6	2	1
19	15	12	12	8	10	15	12	8	6	7
20	15	5	4	6	5	8	2	1	2	2
21	19	17	13	13	13	16	13	8	9	8
22	7	4	3	3	3	3	2	1	1	1
23	11	7	6	7	3	8	8	3	7	8
24	7	6	7	7	6	4	3	3	1	3
25	9	5	5	0	0	2	2	2	0	0
26	7	2	2	2	4	2	1	1	2	1
27	10	4	0	1	2	2	1	0	0	0
28	8	8	7	7	7	3	3	4	3	2
29	11	4	-	-	-	1	0	-	-	-
30	5	5	6	6	7	4	3	4	4	5

T1=24 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 16a. Patient visual analogue scale anxiety scores: general health.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	99	74	17	8	15	14	40	86	80	61	81	40	6	6
2	73	30	67	65	50	48	72	95	96	5	14	5	8	14
3	54	64	25	80	11	15	30	46	18	85	16	14	42	6
4	58	45	46	47	10	8	8	51	37	39	38	65	64	41
5	73	65	50	50	38	21	25	86	30	50	46	60	60	1
6	48	18	45	28	18	62	58	58	53	52	32	66	42	62
7	45	54	50	36	50	49	66	8	24	38	35	32	32	41
8	48	50	46	45	75	72	73	64	25	57	42	50	31	21
9	5	7	10	15	6	5	5	6	4	5	5	6	3	4
10	25	30	70	32	48	52	48	37	10	15	5	3	10	4
11	4	8	8	10	6	8	20	15	8	6	5	6	4	4
12	96	96	97	97	72	70	98	95	90	80	84	42	36	20
13	6	6	12	12	12	12	28	76	28	29	30	40	48	36
14	45	44	90	90	84	46	29	92	92	94	90	92	90	36
15	43	51	48	50	34	45	16	85	52	80	21	80	60	61
16	36	48	48	47	21	32	42	56	30	12	6	11	40	18
17	5	7	15	10	38	22	12	6	12	4	5	3	8	6
18	75	52	26	35	26	16	6	72	70	74	60	48	46	44
19	34	28	30	24	14	10	12	22	21	24	20	44	56	40
20	85	81	52	64	51	34	38	26	25	24	21	18	26	20
21	5	4	6	5	6	7	8	61	45	28	26	31	40	38
22	76	69	76	84	91	52	76	78	51	36	40	18	18	6
23	95	96	96	96	99	-	-	72	68	42	24	12	8	12
24	3	4	5	5	5	6	6	22	8	8	10	10	3	5
25	91	82	86	74	86	70	52	18	12	4	5	4	3	2
26	90	96	95	58	-	-	-	88	62	46	41	41	40	36
27	72	88	65	73	30	62	36	28	27	12	10	10	10	20
28	11	22	43	70	20	12	12	38	21	28	28	10	8	12
29	61	42	49	54	63	38	52	23	20	6	4	-	-	-
30	48	62	70	72	68	50	58	21	30	34	31	31	32	31

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 16b. Patient visual analogue scale anxiety scores: ability to work.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	1	4	12	5	10	4	10	72	72	72	65	53	10	12
2	45	27	34	35	54	25	50	5	10	5	5	2	6	15
3	52	62	56	47	24	65	28	88	85	84	78	60	70	8
4	53	32	57	38	11	10	68	8	9	5	4	50	48	46
5	86	85	74	72	87	60	79	85	23	55	55	60	76	31
6	12	8	8	16	12	55	68	82	75	94	67	74	31	30
7	50	25	63	38	18	47	39	2	2	6	6	7	4	2
8	81	53	55	52	80	75	79	75	60	70	64	47	60	16
9	80	94	94	90	24	12	6	54	44	50	15	10	10	10
10	69	42	60	47	53	51	81	53	50	10	5	4	12	3
11	18	15	18	20	8	16	18	14	10	8	11	4	4	5
12	96	96	96	95	23	6	96	6	8	8	10	8	6	4
13	4	9	10	10	10	7	10	19	15	12	9	21	36	20
14	96	92	95	94	95	62	10	15	15	14	18	16	14	18
15	8	8	18	9	8	51	28	80	68	72	71	81	80	66
16	24	17	18	25	13	30	26	8	2	6	4	9	2	6
17	16	6	25	15	33	20	14	10	4	3	3	3	2	2
18	23	15	7	6	54	22	6	52	42	30	31	30	20	21
19	20	52	26	22	13	8	10	34	18	10	9	32	28	36
20	30	17	67	53	12	76	28	34	24	18	18	18	21	9
21	6	5	12	9	7	6	10	64	52	52	31	26	25	24
22	48	53	28	51	53	70	58	75	52	32	35	8	10	10
23	93	95	97	97	99	-	-	76	50	48	12	12	21	11
24	3	4	3	3	5	8	5	89	84	61	50	21	9	10
25	13	15	31	28	9	18	9	22	18	4	4	4	6	7
26	93	95	86	71	-	-	-	92	81	76	68	52	51	40
27	80	72	72	72	78	76	82	12	10	10	8	6	8	6
28	92	71	76	82	12	30	10	66	48	61	41	9	4	6
29	66	68	82	52	68	42	32	51	12	28	6	-	-	-
30	94	91	95	95	94	84	68	78	76	80	72	68	50	44

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 16c. Patient visual analogue scale anxiety scores: another heart attack.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	99	98	89	76	75	5	42	87	94	68	82	30	9	12
2	87	53	73	31	62	75	74	4	7	4	5	2	6	5
3	95	85	81	74	30	26	32	78	77	69	77	58	21	17
4	91	72	52	34	18	8	7	38	37	44	49	50	37	48
5	65	45	35	50	43	51	44	99	66	60	78	75	62	60
6	70	50	50	45	40	52	61	99	96	97	89	89	84	85
7	42	75	72	68	48	48	36	75	60	60	70	70	31	21
8	95	72	96	75	86	85	76	58	16	43	42	38	31	38
9	16	4	10	21	16	6	8	56	24	70	18	10	10	8
10	26	37	54	26	53	54	54	52	52	60	12	5	12	18
11	33	18	25	38	18	8	16	14	15	8	12	5	3	5
12	94	95	95	92	91	72	92	92	86	85	85	60	41	24
13	54	18	22	23	54	18	54	70	24	18	28	52	51	21
14	50	71	95	95	60	73	56	95	92	95	85	46	6	11
15	91	90	95	91	62	78	52	89	76	90	98	80	50	71
16	10	36	54	60	27	18	60	69	66	32	8	10	41	41
17	95	90	85	55	57	21	32	18	12	10	10	4	10	8
18	80	78	52	76	33	18	8	80	68	80	22	16	21	34
19	61	72	18	21	12	12	9	78	52	51	51	51	56	52
20	82	60	65	64	38	50	50	68	32	16	14	19	16	11
21	4	5	11	14	7	5	15	52	61	60	38	15	48	46
22	8	70	76	80	90	86	61	58	71	24	40	18	8	7
23	95	96	98	98	90	-	-	92	88	74	62	41	28	24
24	2	5	4	5	6	12	5	85	70	42	48	26	6	12
25	95	90	91	65	66	68	38	61	38	12	8	11	10	18
26	8	2	4	12	-	-	-	98	92	84	77	43	50	21
27	80	84	74	71	76	76	76	31	52	60	21	24	20	18
28	64	74	60	48	36	39	16	48	21	26	48	21	20	9
29	94	71	81	61	68	41	58	24	26	44	21	-	-	-
30	90	86	88	89	78	82	82	52	48	44	41	40	40	36

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 16d. Patient visual analogue scale anxiety scores: relations with spouse.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	1	2	5	2	7	5	6	9	18	13	20	3	14	8
2	54	53	21	30	10	10	18	4	10	5	6	5	5	3
3	4	18	7	16	11	24	26	85	85	80	82	82	8	8
4	14	5	23	5	3	3	6	43	22	40	40	35	10	36
5	38	8	10	8	12	17	18	64	52	53	78	60	51	54
6	88	55	68	62	15	50	82	17	4	5	14	4	4	10
7	35	54	55	54	50	51	42	14	4	4	3	4	3	5
8	52	28	24	31	52	26	51	60	42	27	28	50	36	21
9	85	96	90	80	15	15	49	20	20	16	12	8	10	8
10	18	30	25	12	55	52	26	71	70	23	30	5	5	4
11	3	5	5	5	5	7	21	18	6	6	8	4	4	5
12	50	8	4	7	21	9	26	90	78	54	50	42	44	40
13	4	5	5	5	7	7	7	71	70	51	40	51	66	50
14	47	55	53	60	21	88	84	45	50	12	6	4	4	6
15	15	14	6	9	10	8	10	72	52	33	34	4	6	4
16	42	67	68	61	17	50	24	12	8	8	8	10	8	10
17	5	8	10	15	56	22	11	6	4	3	8	6	2	6
18	22	18	4	6	22	16	6	42	40	40	41	16	15	21
19	39	46	18	26	23	11	9	6	6	4	4	4	6	4
20	33	12	15	24	8	6	6	22	19	16	20	10	12	12
21	6	7	10	10	7	8	6	21	21	14	9	4	6	30
22	78	56	42	76	88	18	48	70	68	31	22	9	9	8
23	7	8	9	6	4	-	-	21	10	10	8	6	4	6
24	3	10	12	10	12	10	8	14	10	8	6	8	4	5
25	6	3	2	2	2	6	4	22	22	6	5	3	8	9
26	86	82	84	62	-	-	-	54	56	61	51	46	20	6
27	11	10	7	8	8	9	8	4	10	6	5	7	2	4
28	88	60	60	68	11	38	22	81	70	20	31	8	8	10
29	85	46	47	54	48	50	72	12	8	9	8	-	-	-
30	21	22	25	31	22	9	20	12	4	4	6	12	4	12

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 16e. Patient visual analogue scale anxiety scores: possible complications.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	99	83	26	82	70	20	45	44	69	25	24	14	15	15
2	38	35	51	56	61	68	80	13	17	13	15	16	15	24
3	55	65	78	56	10	20	16	75	25	76	80	72	70	6
4	5	23	51	12	10	5	7	53	4	48	48	52	54	51
5	68	55	30	27	15	24	29	84	57	64	65	62	50	68
6	17	20	32	34	15	31	43	34	51	72	37	38	51	68
7	60	51	62	48	52	12	24	30	20	31	28	20	52	48
8	86	40	14	25	66	56	48	62	56	44	42	39	48	32
9	4	5	7	9	9	14	7	63	18	55	10	13	6	10
10	20	40	53	58	47	50	48	47	40	32	22	5	21	28
11	21	36	17	18	14	15	24	12	6	5	10	14	5	8
12	92	97	97	95	93	79	92	6	9	8	8	6	7	5
13	14	17	19	20	20	15	50	26	16	16	18	28	40	21
14	16	37	42	90	48	15	20	4	4	4	2	2	4	2
15	45	43	70	40	48	22	39	90	84	84	30	60	42	48
16	28	30	70	36	30	41	28	35	30	25	6	7	40	51
17	10	5	20	25	42	46	26	15	9	12	9	12	14	10
18	66	52	52	66	26	32	12	52	48	72	24	12	10	12
19	26	52	32	28	41	9	22	51	38	42	44	51	42	42
20	72	76	72	83	61	26	48	21	26	15	18	16	16	18
21	4	9	15	15	11	15	9	65	48	60	22	22	20	41
22	76	40	37	78	86	72	32	71	43	22	50	10	6	6
23	95	98	95	97	98	-	-	68	61	42	42	26	24	36
24	16	18	22	20	20	18	20	41	38	24	21	21	4	4
25	27	60	87	53	27	85	28	31	24	10	12	12	10	12
26	90	23	44	41	-	-	-	88	80	48	44	46	32	10
27	42	43	60	76	68	70	71	16	28	28	10	12	11	12
28	37	26	30	34	15	16	16	50	51	61	42	21	5	12
29	23	42	72	54	56	23	21	30	36	21	10	-	-	-
30	65	67	33	82	32	16	34	86	70	66	61	60	41	20

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 16f. Patient visual analogue scale anxiety scores: sexual activity.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	1	3	11	2	4	5	7	48	51	79	25	5	16	9
2	21	27	40	28	24	18	12	4	6	4	15	6	7	10
3	49	63	10	58	16	15	14	83	75	87	20	92	8	8
4	5	23	30	11	10	9	10	5	8	4	4	4	4	5
5	35	17	20	30	14	14	23	77	52	52	55	52	51	54
6	10	12	10	15	15	10	10	20	27	22	20	9	13	22
7	90	52	51	48	46	64	26	3	2	20	2	7	7	4
8	52	25	15	20	52	18	18	76	67	52	60	46	46	30
9	61	66	80	95	8	26	81	17	12	14	11	11	11	10
10	6	24	18	11	42	50	52	17	29	10	3	12	3	10
11	25	5	7	8	6	6	24	12	8	5	7	5	4	4
12	76	50	16	10	11	4	8	15	10	9	5	3	5	2
13	8	10	8	9	8	6	10	71	65	14	12	48	62	30
14	53	53	57	57	28	89	86	95	88	85	6	4	24	20
15	12	14	5	10	10	10	12	20	16	10	8	3	4	5
16	18	20	54	70	52	60	55	41	21	9	9	10	9	8
17	90	50	30	35	56	10	10	8	5	3	8	5	2	2
18	55	21	9	13	23	14	8	48	36	18	20	13	14	19
19	47	48	52	40	11	10	10	12	12	6	8	3	8	2
20	45	50	26	38	6	8	8	21	17	16	17	10	8	12
21	5	4	10	12	6	6	6	32	30	12	4	4	6	8
22	4	4	12	30	82	16	54	26	22	8	12	8	4	4
23	5	3	8	6	4	-	-	16	10	10	10	6	5	14
24	5	3	5	5	5	12	6	8	8	10	7	4	3	11
25	6	5	3	2	1	4	3	16	18	15	16	4	2	9
26	15	12	6	7	-	-	-	51	50	52	50	50	18	41
27	10	12	31	7	15	8	9	5	4	5	4	4	3	3
28	91	66	51	48	6	52	41	62	61	21	56	18	10	8
29	84	52	53	46	38	49	63	21	4	12	6	-	-	-
30	7	12	9	8	11	6	12	90	91	76	84	92	94	80

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 16g. Patient visual analogue scale anxiety scores: leisure activity.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	1	2	30	6	20	3	9	27	16	10	16	4	8	5
2	45	41	34	40	50	60	52	17	10	6	16	6	11	10
3	52	58	28	70	40	24	32	83	84	81	24	15	8	8
4	24	18	21	8	7	6	9	48	32	40	42	47	58	46
5	40	64	30	22	70	26	24	69	46	44	52	66	65	47
6	15	12	8	20	20	14	35	44	22	24	46	48	41	44
7	32	8	15	53	27	52	38	26	28	26	47	18	32	18
8	26	24	15	28	46	50	51	82	66	29	51	25	33	34
9	18	84	70	26	10	10	10	10	15	52	11	10	10	8
10	17	22	81	73	48	31	73	4	5	4	5	5	8	4
11	8	10	8	10	8	12	26	94	6	5	6	2	6	6
12	72	96	50	22	90	98	24	6	5	6	6	3	4	3
13	12	12	15	15	12	12	27	22	16	12	12	18	18	21
14	21	32	50	42	56	9	12	51	52	50	52	46	8	10
15	10	12	3	45	12	12	12	12	10	7	6	6	10	10
16	74	75	35	34	47	63	72	18	18	14	10	10	5	10
17	5	6	8	22	43	6	6	11	6	5	5	9	14	12
18	90	85	82	84	58	50	10	52	50	41	41	40	30	24
19	32	68	26	25	24	15	11	15	12	9	8	5	66	21
20	82	85	24	28	16	15	22	38	30	17	26	20	21	16
21	10	9	12	12	7	8	11	29	31	21	6	10	14	12
22	86	56	54	54	80	38	66	70	56	51	31	7	6	6
23	95	96	96	97	98	-	-	41	42	42	44	28	9	41
24	16	15	15	15	15	14	16	12	12	12	10	10	4	9
25	5	4	2	2	1	1	10	15	20	12	18	8	6	10
26	88	92	90	62	-	-	-	78	62	48	48	44	46	42
27	47	75	62	64	82	70	68	12	10	6	4	4	2	2
28	86	15	18	32	6	12	18	28	28	21	50	18	6	7
29	23	21	18	41	46	23	18	86	6	18	9	-	-	-
30	8	25	16	48	78	56	64	68	66	56	52	52	4	14

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 16h. Patient visual analogue scale anxiety scores: the future.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	61	70	58	6	50	5	35	70	71	40	24	5	6	5
2	73	44	66	56	63	50	72	20	18	5	20	15	23	5
3	35	83	17	76	23	22	30	84	86	82	74	8	18	10
4	24	55	31	8	5	5	8	46	47	45	45	58	49	42
5	70	56	49	40	57	30	33	94	44	48	68	70	57	71
6	68	10	20	15	10	15	18	98	80	62	43	79	92	88
7	38	49	28	48	32	55	32	47	28	42	39	28	56	51
8	74	46	47	38	68	65	73	85	78	35	63	49	57	22
9	95	93	93	97	90	90	82	47	10	52	6	10	9	8
10	57	62	74	81	88	78	76	23	35	33	21	8	20	8
11	20	22	22	21	8	8	18	11	6	4	4	4	3	5
12	90	94	96	98	98	98	94	95	90	90	91	50	58	56
13	9	10	15	15	13	14	26	50	36	48	48	60	48	41
14	44	22	64	93	88	71	30	96	90	91	84	88	90	86
15	62	55	48	42	43	21	13	95	90	56	46	40	38	38
16	40	44	26	25	12	56	20	89	15	10	6	8	46	58
17	97	95	92	95	86	92	88	5	4	11	10	4	16	10
18	78	54	49	32	53	26	8	86	52	48	42	11	21	61
19	47	66	18	23	28	12	8	31	40	14	24	51	48	61
20	81	86	56	74	51	74	50	30	26	20	26	19	20	15
21	5	6	7	15	7	16	8	48	34	45	22	41	60	22
22	74	45	54	78	92	70	32	88	56	18	31	8	10	4
23	96	96	96	96	98	-	-	88	52	19	6	28	29	46
24	4	10	14	10	8	15	10	52	44	16	21	9	5	8
25	84	70	52	63	61	36	41	28	15	10	8	10	12	12
26	88	86	94	61	-	-	-	96	68	45	42	43	60	61
27	70	68	64	64	71	48	44	27	21	22	12	12	4	10
28	69	47	48	54	26	26	24	59	42	51	31	11	12	8
29	50	49	76	53	58	54	59	11	4	10	6	-	-	-
30	80	52	92	88	86	54	64	76	70	64	60	71	66	24

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 17a. Spouse visual analogue scale anxiety scores:
leisure activity.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	93	54	57	72	43	6	9	9	10	16	24	7	12	12
2	70	47	33	62	78	26	72	63	35	50	47	15	21	12
3	74	75	79	76	54	30	15	10	12	16	22	3	7	10
4	18	12	5	8	24	15	54	98	98	76	50	51	60	41
5	8	5	7	5	4	4	4	72	27	13	10	10	10	10
6	6	28	32	30	20	62	82	95	83	57	54	73	33	21
7	75	68	50	70	80	90	88	16	5	12	34	38	40	34
8	65	65	65	75	58	52	50	70	68	58	61	50	47	41
9	95	93	91	90	3	5	25	15	4	5	4	2	2	3
10	72	60	71	57	78	82	82	20	15	4	4	9	9	5
11	50	50	52	53	8	6	32	12	10	11	12	12	10	12
12	25	30	25	25	22	61	28	16	14	16	12	6	5	2
13	24	20	12	20	16	12	8	80	30	31	26	32	30	21
14	7	5	5	5	6	5	6	88	90	90	86	64	51	50
15	42	58	57	59	15	33	28	46	12	11	10	4	10	10
16	63	35	60	45	50	46	28	50	21	20	4	4	3	4
17	80	88	87	90	62	96	56	53	21	15	15	18	12	12
18	52	20	26	46	66	52	22	95	90	90	91	56	52	61
19	64	68	66	58	26	12	6	6	4	3	3	10	22	42
20	50	46	42	32	56	16	31	61	50	31	10	21	9	8
21	5	6	7	8	6	4	4	98	94	91	80	41	8	10
22	88	92	88	90	92	84	88	12	6	4	8	6	8	2
23	88	92	93	90	80	-	-	61	48	18	6	21	26	41
24	4	3	3	3	6	10	9	32	16	11	6	6	10	11
25	14	12	10	14	26	8	22	18	8	12	18	9	2	2
26	84	85	80	91	-	-	-	34	21	6	12	18	18	21
27	15	12	10	8	20	88	86	20	11	4	3	2	9	10
28	35	30	20	31	32	38	37	98	92	80	32	41	12	18
29	3	4	5	22	54	22	60	41	5	6	4	-	-	-
30	2	2	5	7	5	3	22	4	8	16	9	18	6	21

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 17b. Spouse visual analogue scale anxiety scores:
the future.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	66	27	70	62	11	5	7	9	32	12	28	36	15	10
2	75	44	47	62	26	60	71	54	58	58	49	18	22	11
3	73	50	30	30	48	38	26	17	14	20	15	2	5	8
4	52	50	48	18	14	19	8	42	45	46	48	70	71	24
5	5	5	5	5	3	5	4	33	28	32	11	12	18	16
6	75	65	76	56	72	81	81	68	62	80	65	10	31	11
7	98	94	99	73	84	94	88	13	12	8	10	12	21	26
8	44	30	25	30	77	28	48	88	86	71	70	45	41	31
9	5	3	40	60	4	4	16	52	46	48	48	45	49	43
10	44	42	44	47	76	84	90	84	80	68	58	15	5	7
11	5	5	6	6	15	21	46	69	66	36	31	48	18	14
12	50	48	50	55	43	68	94	9	2	1	1	1	2	1
13	5	6	5	5	7	5	8	76	69	68	48	54	50	36
14	3	5	5	7	6	7	6	15	12	5	4	18	12	10
15	54	51	10	20	42	86	48	35	12	12	12	5	36	8
16	44	64	82	35	42	49	22	96	31	24	22	5	11	66
17	75	85	84	85	78	64	48	98	98	92	58	92	94	28
18	68	21	48	84	57	46	14	92	90	90	90	88	80	84
19	39	28	38	45	24	12	7	81	52	32	41	61	84	84
20	94	86	94	93	88	79	54	84	41	38	34	12	12	10
21	3	4	4	6	3	4	4	97	95	92	72	64	22	18
22	76	90	92	92	95	83	92	62	45	36	38	21	22	18
23	90	85	95	92	84	-	-	81	76	80	46	40	50	46
24	93	93	96	98	98	94	10	61	70	64	61	21	11	12
25	85	84	85	86	72	68	54	12	8	10	12	20	3	1
26	71	65	60	80	-	-	-	42	32	22	48	40	41	20
27	90	95	95	98	96	96	93	31	39	21	12	3	4	3
28	48	76	64	62	51	64	43	46	42	31	44	44	16	12
29	97	96	62	87	63	51	78	28	21	28	6	-	-	-
30	5	7	13	9	6	6	41	8	20	26	14	10	5	12

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 17c. Spouse visual analogue scale anxiety scores:
sexual activity.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	2	3	5	3	2	5	5	10	10	12	20	22	13	9
2	29	26	28	27	39	21	42	62	49	47	47	37	18	15
3	15	56	96	82	32	30	18	8	8	21	15	2	6	10
4	10	10	8	8	11	4	6	20	6	5	3	9	10	8
5	6	6	8	8	4	4	3	17	6	15	8	5	8	12
6	46	50	15	12	16	48	18	65	78	76	70	80	30	22
7	72	92	50	80	63	90	84	12	33	12	6	15	13	13
8	42	43	45	28	47	21	13	50	45	48	33	45	21	22
9	95	98	96	92	5	5	6	12	6	6	5	4	4	4
10	14	31	11	10	18	26	16	17	16	9	5	12	6	5
11	10	9	8	10	7	7	28	25	12	9	12	10	8	8
12	5	5	4	5	4	4	8	4	3	2	1	3	2	3
13	18	23	20	23	10	6	6	40	16	21	20	18	20	21
14	3	5	6	7	7	9	9	5	4	4	3	3	4	3
15	54	12	8	51	7	44	18	72	15	18	24	4	10	4
16	4	6	8	26	28	70	26	33	8	6	6	4	4	5
17	50	43	50	45	13	48	28	10	4	14	9	3	4	3
18	77	42	65	53	71	18	10	92	76	22	10	21	32	41
19	41	42	42	48	20	8	8	5	4	3	3	3	6	5
20	53	51	58	49	49	48	32	30	4	5	4	6	5	4
21	6	6	7	7	5	5	6	4	3	3	2	2	3	3
22	53	54	52	52	52	53	50	18	12	4	6	5	4	4
23	13	17	8	16	12	-	-	84	84	43	8	6	12	3
24	3	3	4	6	9	12	12	8	8	10	6	9	8	10
25	12	8	10	22	16	8	19	10	6	12	10	10	2	2
26	5	4	5	15	-	-	-	6	5	4	4	3	2	4
27	12	7	6	6	84	94	94	38	41	10	8	3	4	4
28	23	64	66	71	48	33	28	28	48	41	31	42	11	10
29	3	3	6	10	32	18	23	8	8	4	4	-	-	-
30	9	6	12	9	8	6	8	10	11	8	5	8	6	10

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 17d. Spouse visual analogue scale anxiety scores:
general health.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	8	5	10	13	21	16	21	13	41	30	26	32	30	25
2	32	42	35	46	31	25	41	14	53	57	42	18	9	14
3	52	52	52	62	51	20	10	56	59	40	56	3	10	4
4	22	12	4	15	15	5	5	67	56	31	6	77	53	61
5	7	5	5	5	4	2	1	12	12	12	18	5	19	10
6	48	62	30	66	18	76	88	76	77	60	50	65	52	50
7	30	15	67	37	67	48	82	34	30	23	15	18	18	24
8	54	41	15	23	33	84	22	50	46	37	30	47	48	50
9	5	4	4	9	5	7	9	15	15	50	15	50	48	48
10	18	26	18	22	57	42	56	80	75	50	3	43	15	8
11	5	5	6	7	6	15	15	54	62	24	36	40	10	12
12	55	63	55	54	49	66	32	9	4	2	4	4	4	2
13	3	3	3	3	4	3	2	22	20	20	21	28	16	13
14	5	6	5	4	53	89	6	4	4	4	3	4	4	4
15	56	12	16	48	12	48	17	16	8	12	12	12	8	12
16	65	35	10	80	82	42	20	56	15	6	12	3	10	8
17	48	55	52	12	56	48	52	98	96	82	82	4	3	2
18	60	28	76	80	68	22	13	91	90	90	91	54	24	16
19	56	61	69	55	21	6	5	4	4	3	10	50	56	81
20	91	68	90	91	86	89	73	40	12	10	8	12	21	6
21	5	5	5	5	4	4	6	96	90	90	70	60	15	38
22	95	90	90	91	89	78	78	20	10	6	8	6	8	6
23	78	86	91	86	90	-	-	21	16	12	46	22	26	40
24	96	95	96	96	90	90	92	76	49	32	30	42	18	21
25	45	46	56	50	48	31	56	18	5	10	8	12	2	1
26	64	52	60	91	-	-	-	58	50	51	49	31	31	28
27	10	10	8	4	4	12	6	4	3	4	3	3	2	2
28	56	34	30	31	28	37	58	61	78	61	60	54	20	18
29	4	8	51	54	58	51	84	42	21	41	5	-	-	-
30	6	8	8	6	6	4	21	5	8	10	21	16	12	21

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 17e. Spouse visual analogue scale anxiety scores:
relations with patient.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	3	4	6	5	2	5	5	12	15	16	17	10	13	10
2	17	10	20	32	15	10	36	6	10	30	20	12	11	8
3	4	4	4	4	4	3	4	83	88	40	46	3	7	7
4	9	8	6	8	5	4	6	88	94	20	6	20	8	18
5	5	6	7	6	5	5	4	43	22	24	16	8	17	16
6	19	38	35	73	35	80	90	4	9	24	10	7	13	10
7	28	85	57	13	12	36	82	33	10	10	8	11	9	15
8	45	32	28	21	27	18	18	51	46	5	8	45	51	8
9	5	5	5	15	5	6	6	5	4	10	10	5	4	5
10	15	10	7	11	9	8	16	5	5	5	4	10	6	10
11	10	9	8	10	5	6	12	48	26	27	31	12	9	10
12	5	5	4	4	4	6	5	8	10	12	10	11	10	9
13	6	6	5	5	6	5	5	68	18	46	24	60	60	62
14	7	7	8	6	12	12	11	5	5	5	5	4	6	6
15	49	10	40	50	12	46	48	4	2	2	1	3	21	2
16	5	7	10	26	24	24	12	12	4	5	4	3	4	7
17	10	8	16	11	16	8	9	6	19	18	26	5	4	4
18	51	16	24	11	26	15	14	94	72	51	50	92	80	80
19	45	41	36	45	26	6	8	3	5	2	4	3	19	3
20	76	66	92	88	86	44	70	16	6	6	5	6	8	8
21	5	6	6	6	6	5	6	3	4	3	6	4	6	4
22	76	86	89	90	91	82	76	8	5	4	5	3	4	3
23	75	84	86	90	78	-	-	42	42	18	9	14	12	14
24	3	4	4	5	8	10	8	60	48	42	41	61	16	12
25	10	7	7	13	26	12	24	8	5	8	10	2	3	1
26	65	70	68	97	-	-	-	20	10	6	8	7	18	6
27	12	10	7	5	6	6	8	4	2	3	3	2	2	2
28	86	88	70	64	32	58	46	34	28	26	48	30	12	8
29	50	68	62	52	66	60	61	11	12	6	4	-	-	-
30	9	12	12	11	6	6	31	9	12	12	6	9	4	11

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 17f. Spouse visual analogue scale anxiety scores:
ability of patient to work.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	4	28	64	36	44	8	21	43	44	42	28	50	43	42
2	34	58	43	63	56	76	60	19	48	26	35	11	16	10
3	34	34	35	34	61	60	28	7	8	45	34	1	6	22
4	53	30	22	12	16	5	18	85	7	10	5	30	76	76
5	6	15	16	15	40	45	6	42	32	30	8	7	20	9
6	72	64	61	39	58	78	94	17	82	33	22	68	34	21
7	3	16	54	70	52	90	92	67	29	28	20	30	36	60
8	45	40	33	30	48	38	17	96	96	57	68	40	48	6
9	5	6	50	96	98	10	12	5	5	5	5	5	5	4
10	22	12	11	12	15	11	22	33	48	50	50	35	34	32
11	35	32	34	36	14	26	50	82	22	23	30	18	15	12
12	50	53	52	55	55	72	22	96	80	80	81	61	42	12
13	5	6	10	15	11	6	6	96	26	32	12	5	18	15
14	96	96	96	94	95	90	38	98	96	95	93	35	51	52
15	52	10	20	22	15	76	28	92	88	84	80	76	31	12
16	5	20	35	25	28	41	42	98	52	28	6	12	10	21
17	20	26	50	15	32	96	46	5	4	4	30	40	10	2
18	50	23	32	58	58	78	18	8	51	73	90	46	42	62
19	20	46	48	48	30	7	5	20	14	15	10	10	41	42
20	94	93	91	91	93	81	58	42	6	7	9	21	24	26
21	4	5	9	12	9	8	9	8	6	5	20	21	31	41
22	16	15	20	14	22	22	20	12	6	4	8	5	5	5
23	92	88	96	84	75	-	-	21	17	15	14	31	36	42
24	96	96	95	96	96	96	93	94	86	73	62	60	48	34
25	66	80	65	58	72	64	56	4	4	6	9	8	3	2
26	10	8	12	28	-	-	-	46	61	74	61	36	24	12
27	90	96	96	98	96	94	93	3	3	4	3	2	2	2
28	51	62	52	61	40	68	36	32	32	41	51	47	14	20
29	47	50	71	73	72	33	65	28	18	20	6	-	-	-
30	95	92	94	97	98	98	96	31	26	31	24	31	28	24

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 17g. Spouse visual analogue scale anxiety scores:
another heart attack for patient.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	96	84	86	86	73	33	48	92	80	84	60	78	80	64
2	88	76	82	75	81	75	78	75	76	72	66	30	21	14
3	96	88	80	95	50	28	20	96	95	53	85	66	52	42
4	75	75	73	50	52	30	31	87	90	70	62	88	80	81
5	95	92	84	92	90	92	95	73	77	92	70	85	80	76
6	96	86	74	76	28	66	91	95	90	90	88	80	76	70
7	97	97	96	94	41	88	89	95	72	52	29	45	45	61
8	58	47	31	28	88	71	54	98	95	96	92	72	61	41
9	96	96	96	96	97	90	98	52	50	51	50	48	49	49
10	84	52	82	56	88	92	94	98	96	90	87	45	46	50
11	25	23	26	26	28	41	56	96	94	73	52	47	31	16
12	95	97	97	98	98	99	98	9	10	12	10	3	2	3
13	12	18	20	35	16	6	15	86	84	80	23	10	11	10
14	94	94	95	95	95	88	86	96	95	95	93	90	76	48
15	81	89	88	90	78	81	56	95	78	80	62	49	33	34
16	95	95	93	86	95	50	36	98	86	61	45	10	10	13
17	91	94	90	93	78	93	86	96	98	95	82	92	90	90
18	88	75	45	67	53	18	12	44	48	72	91	73	53	52
19	63	49	58	52	24	9	11	98	97	87	84	78	90	84
20	94	95	95	96	88	61	74	99	5	9	11	8	6	12
21	88	89	90	93	90	40	22	95	91	91	91	85	80	82
22	88	91	90	89	92	80	88	84	70	62	64	61	48	49
23	93	91	96	91	78	-	-	42	6	21	42	44	32	34
24	98	97	98	97	96	97	88	96	85	80	61	70	39	28
25	77	82	80	74	72	51	64	91	70	60	34	61	12	10
26	78	76	68	96	-	-	-	52	50	52	42	46	36	40
27	96	96	96	96	96	96	91	91	76	61	60	44	40	31
28	82	93	81	91	80	76	86	78	70	68	56	52	52	46
29	68	76	74	68	74	71	82	98	23	51	30	-	-	-
30	6	5	9	8	10	6	11	40	39	36	34	36	26	26

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 17h. Spouse visual analogue scale anxiety scores:
possible complications for patient.

	CONTROL							TREATMENT						
	T1	T2	T3	T4	T5	T6	T7	T1	T2	T3	T4	T5	T6	T7
Subject														
1	68	58	78	80	37	7	40	58	32	36	36	50	52	46
2	85	78	77	57	76	71	73	46	64	42	17	14	12	15
3	58	53	48	64	37	10	10	95	94	80	80	68	50	22
4	78	80	81	15	14	8	28	95	50	55	52	48	68	80
5	96	60	58	10	56	50	85	64	65	89	72	80	70	72
6	95	67	38	41	88	70	88	77	32	56	65	80	64	60
7	88	95	96	70	46	85	76	79	22	25	10	33	32	66
8	57	58	60	56	80	80	55	98	95	94	68	40	31	46
9	95	95	50	5	5	7	15	93	55	52	48	47	47	48
10	83	53	53	54	91	88	89	98	98	96	96	50	33	42
11	50	48	45	50	24	47	50	83	54	21	21	41	19	10
12	95	97	97	98	98	98	96	89	86	90	85	68	62	60
13	45	40	40	45	33	20	16	90	60	78	53	80	80	84
14	93	93	93	88	92	70	10	95	94	94	90	50	50	62
15	40	50	90	92	90	92	62	66	67	62	46	60	50	52
16	52	60	80	82	84	80	48	98	14	15	15	5	11	12
17	85	83	92	95	30	72	58	98	92	96	58	96	90	90
18	70	74	75	93	50	72	10	92	86	78	76	60	52	48
19	40	42	54	56	21	10	6	54	52	48	45	62	86	92
20	96	95	95	92	90	78	73	60	48	48	46	12	21	8
21	86	87	90	92	8	8	20	97	93	92	90	71	76	70
22	78	88	89	89	89	91	88	78	69	60	50	60	51	32
23	80	92	96	88	98	-	-	80	72	84	41	44	31	32
24	96	97	98	98	97	97	96	91	85	76	61	36	16	21
25	55	50	50	76	60	58	54	97	54	71	66	48	2	2
26	80	78	72	98	-	-	-	54	51	46	43	41	40	56
27	96	95	96	98	84	96	93	60	48	51	21	24	12	18
28	61	90	76	84	66	74	88	69	72	66	58	36	24	48
29	50	55	56	48	61	56	62	52	21	32	10	-	-	-
30	85	82	70	65	67	66	90	47	40	38	28	29	20	28

T1=24 hours; T2=48 hours; T3=72 hours; T4=5 days;
T5=1 month; T6=3 months; T7=6 months.

Appendix 18a. Patient visual analogue scale satisfaction scores: general health.

	CONTROL					TREATMENT				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	80	92	95	95	92	83	86	86	88	76
2	71	68	43	42	22	98	96	90	76	86
3	96	88	86	86	74	65	66	84	82	91
4	70	86	86	95	84	38	35	50	42	42
5	98	82	78	76	76	32	44	43	28	24
6	86	34	81	42	32	35	34	37	28	24
7	52	50	48	39	46	30	43	48	54	60
8	46	66	24	46	59	57	65	50	32	66
9	96	94	96	96	94	96	94	92	94	92
10	58	46	24	35	48	80	85	86	86	85
11	92	92	91	92	92	94	93	95	98	98
12	5	8	8	24	6	6	49	40	42	58
13	10	10	15	20	18	94	92	86	86	94
14	22	6	23	30	40	94	60	61	92	78
15	51	62	41	38	24	52	28	32	33	61
16	48	50	65	50	26	72	91	90	52	68
17	95	85	80	86	80	91	96	97	82	92
18	80	86	81	82	88	92	62	58	52	50
19	76	68	86	82	84	72	52	38	51	42
20	35	29	46	36	34	78	86	92	88	89
21	92	81	94	92	92	45	76	42	42	82
22	86	48	60	68	58	44	98	72	82	98
23	6	5	6	-	-	80	78	93	76	78
24	93	94	95	96	96	95	96	97	98	96
25	40	22	38	70	71	65	91	84	88	90
26	76	62	-	-	-	48	60	72	61	62
27	66	52	46	61	61	68	71	75	86	62
28	65	60	68	80	86	21	31	81	96	92
29	48	26	52	46	61	81	98	-	-	-
30	36	38	32	36	28	78	78	74	62	62

T1=48 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 18b. Patient visual analogue scale satisfaction scores: life in general.

	CONTROL					TREATMENT				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	93	95	97	98	90	21	13	50	60	41
2	66	66	83	40	54	96	97	98	86	78
3	99	66	93	60	50	78	80	90	84	86
4	56	96	90	95	85	56	55	55	62	51
5	98	76	90	72	68	35	35	58	70	80
6	93	87	85	70	40	43	33	26	31	71
7	50	51	52	35	59	78	48	76	70	72
8	94	65	42	51	78	80	70	58	78	74
9	95	80	97	97	95	95	94	93	94	91
10	56	54	26	44	34	90	98	97	84	96
11	93	95	86	90	88	88	96	96	98	98
12	94	67	68	72	78	51	52	59	63	78
13	85	92	92	87	91	10	30	31	22	36
14	60	59	32	73	66	86	82	86	84	26
15	55	65	48	81	82	52	94	76	40	58
16	75	68	78	48	80	86	88	90	58	56
17	96	85	87	91	96	75	56	84	88	94
18	91	77	82	82	96	86	46	60	61	56
19	89	76	83	90	94	84	86	88	82	88
20	61	41	78	70	36	70	78	88	84	91
21	95	95	95	94	94	84	82	38	44	68
22	74	64	52	74	56	45	49	72	76	98
23	7	7	5	-	-	90	98	92	82	80
24	94	89	96	97	97	93	92	98	98	98
25	51	32	50	72	82	82	90	68	79	92
26	94	84	-	-	-	91	92	96	92	84
27	84	51	61	46	33	86	86	94	94	94
28	28	32	72	71	72	90	68	82	96	98
29	66	51	36	64	42	82	96	-	-	-
30	49	30	24	20	26	64	68	52	61	58

T1=48 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 18c. Patient visual analogue scale satisfaction scores: care received.

	CONTROL					TREATMENT				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	98	100	99	99	100	98	90	98	98	97
2	98	76	99	96	95	90	94	80	86	92
3	96	97	96	96	86	95	95	92	93	95
4	97	94	97	96	96	88	96	93	94	92
5	99	96	92	91	96	96	84	88	88	78
6	95	95	87	90	82	99	95	98	99	98
7	96	95	87	52	46	97	90	91	91	92
8	94	94	90	90	94	80	78	76	76	78
9	95	95	96	97	94	95	94	97	96	92
10	99	96	96	97	86	97	97	97	99	100
11	96	97	97	96	95	93	94	95	98	98
12	97	97	92	95	78	95	94	98	96	95
13	94	92	89	88	88	100	98	96	98	97
14	95	93	93	90	94	96	97	96	96	97
15	92	95	95	95	92	94	96	97	98	98
16	93	91	92	92	92	97	98	99	98	98
17	96	72	78	90	94	98	100	98	99	99
18	97	85	78	86	88	92	82	84	92	90
19	88	92	89	92	96	88	80	86	88	88
20	85	45	80	78	80	95	97	98	97	98
21	92	93	95	95	93	82	96	98	92	98
22	90	85	90	72	80	100	98	98	98	98
23	96	90	96	-	-	97	98	98	98	99
24	92	96	97	98	98	98	98	99	100	99
25	96	97	98	98	98	98	98	99	98	99
26	89	71	-	-	-	98	99	99	98	98
27	96	88	92	92	96	98	100	98	98	100
28	98	97	96	96	92	98	97	99	99	96
29	84	75	68	62	72	81	98	-	-	-
30	88	90	90	90	82	98	97	98	98	96

T1=48 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 18d. Patient visual analogue scale satisfaction scores: information received.

	CONTROL					TREATMENT				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	99	100	97	99	98	97	94	97	97	97
2	98	97	99	96	96	92	95	98	97	96
3	98	94	75	38	34	96	93	96	96	96
4	97	98	96	97	96	93	95	90	92	93
5	96	94	94	89	92	94	92	90	89	90
6	95	92	85	86	85	99	97	95	97	98
7	96	67	36	35	57	87	86	95	94	94
8	92	95	95	92	52	72	80	74	66	76
9	96	97	96	98	96	96	96	98	96	96
10	86	96	96	98	78	99	98	99	99	98
11	97	95	97	96	94	95	97	97	98	98
12	94	93	93	82	78	95	95	98	95	96
13	90	90	82	88	74	98	97	96	98	96
14	78	65	60	41	76	98	98	96	98	94
15	95	91	98	97	95	96	98	98	97	97
16	82	84	85	86	86	98	98	99	98	97
17	86	68	86	86	64	98	98	98	100	100
18	96	76	76	84	80	94	86	92	93	90
19	70	80	78	84	85	86	88	88	84	86
20	74	65	81	80	82	99	98	98	96	97
21	95	96	93	95	94	84	86	96	96	98
22	86	86	72	21	60	99	96	96	97	96
23	97	98	98	-	-	98	99	98	97	96
24	88	86	92	86	88	98	97	97	99	97
25	98	98	97	98	96	97	96	96	96	97
26	91	78	-	-	-	96	96	98	98	99
27	87	78	57	64	48	96	96	98	98	95
28	78	85	88	85	80	99	98	99	98	96
29	87	86	46	51	80	98	99	-	-	-
30	82	95	88	82	92	98	96	90	92	97

T1=48 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 19a. Spouse visual analogue scale satisfaction scores: information received.

	CONTROL					TREATMENT				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	50	49	28	35	30	94	97	95	97	97
2	97	97	87	96	97	95	90	95	91	92
3	98	98	97	95	96	90	94	99	98	97
4	95	95	96	97	96	100	99	99	98	98
5	96	90	92	97	91	94	99	99	98	98
6	87	73	72	72	70	80	88	90	91	89
7	72	75	67	78	76	94	96	93	95	95
8	92	50	40	54	45	98	99	98	94	93
9	95	96	96	96	95	96	98	98	96	96
10	91	92	91	85	84	99	98	97	98	98
11	94	93	94	95	95	96	97	97	96	97
12	96	95	96	96	96	94	96	92	94	95
13	95	95	97	95	94	98	99	97	98	94
14	92	91	92	92	90	95	96	96	95	94
15	95	91	96	96	95	100	98	99	99	98
16	96	88	90	90	95	98	99	98	98	98
17	52	50	56	46	45	98	98	97	99	98
18	94	94	68	66	68	91	92	93	92	92
19	91	88	84	93	94	96	96	96	92	94
20	72	70	82	80	68	98	98	98	96	97
21	93	90	94	97	94	99	98	98	96	97
22	78	81	46	32	42	98	97	97	97	98
23	91	94	96	-	-	98	98	96	97	98
24	89	96	91	93	96	98	94	92	94	95
25	96	84	93	92	92	96	98	98	98	96
26	60	64	-	-	-	96	97	96	95	96
27	94	93	94	94	92	98	96	98	98	97
28	68	74	72	80	82	98	98	96	96	95
29	45	72	68	68	62	97	97	-	-	-
30	95	95	96	93	88	98	97	98	96	94

T1=48 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 19b. Spouse visual analogue scale satisfaction scores: care patient received.

	CONTROL					TREATMENT				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	95	96	98	98	97	96	98	98	98	100
2	96	97	95	95	96	94	91	94	92	93
3	99	100	98	97	97	92	95	98	97	96
4	95	94	95	96	96	99	98	98	99	98
5	96	91	96	98	92	94	98	98	97	98
6	97	91	92	80	90	94	90	90	92	89
7	70	90	88	90	88	93	97	93	95	94
8	95	85	52	88	81	99	100	97	95	98
9	95	96	95	95	96	97	97	97	96	96
10	89	94	94	90	91	98	97	97	98	98
11	94	94	96	96	94	95	96	95	96	98
12	97	96	96	96	96	99	99	98	98	98
13	98	98	99	98	97	96	98	98	98	98
14	94	94	95	94	94	96	98	96	98	96
15	97	95	96	96	96	98	98	96	98	98
16	96	98	95	92	96	98	99	98	97	97
17	85	85	82	80	80	98	98	96	99	100
18	94	95	85	89	94	95	96	96	96	98
19	92	90	89	90	90	98	96	96	94	96
20	68	68	81	66	72	95	96	96	96	97
21	96	95	94	95	96	98	96	98	96	97
22	92	92	90	89	90	98	98	96	98	99
23	96	94	96	-	-	98	98	97	97	97
24	98	96	96	97	96	98	98	96	96	95
25	96	92	92	94	94	96	97	97	98	98
26	94	95	-	-	-	97	96	96	95	94
27	95	96	94	95	92	98	98	98	96	98
28	96	91	91	86	90	98	98	97	96	94
29	93	84	90	82	90	98	99	-	-	-
30	88	94	95	94	90	98	97	98	96	96

T1=48 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 20. Patient knowledge questionnaire scores.

	CONTROL					TREATMENT				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	7	8	9	9	9	9	11	10	8	10
2	9	8	7	8	8	4	7	11	11	10
3	9	8	9	7	7	9	8	10	8	10
4	9	8	8	9	9	4	7	9	8	9
5	9	8	6	8	5	6	9	10	10	11
6	6	7	5	5	5	9	11	10	9	7
7	7	7	10	8	10	6	10	8	10	9
8	9	9	9	8	8	6	9	9	8	7
9	7	7	8	10	9	8	8	8	10	8
10	6	6	7	9	7	8	11	10	9	10
11	8	7	8	8	7	6	10	9	10	10
12	5	4	6	8	7	7	9	9	10	10
13	8	7	8	7	6	6	9	9	10	8
14	9	7	8	8	8	8	9	10	9	10
15	5	8	6	8	5	5	11	10	8	10
16	6	6	5	6	5	9	10	11	10	8
17	6	9	8	6	7	6	7	7	7	7
18	7	7	7	6	7	7	6	7	7	7
19	6	8	11	10	10	6	10	11	11	11
20	7	7	7	6	7	9	10	8	8	8
21	10	7	9	11	10	7	8	8	10	10
22	6	11	8	7	7	8	9	8	9	9
23	5	6	5	-	-	7	11	10	9	9
24	10	8	8	7	7	5	7	7	6	8
25	7	8	8	7	7	7	7	7	8	7
26	5	6	-	-	-	7	8	8	8	8
27	6	6	6	6	6	5	6	6	7	9
28	9	9	10	10	9	8	10	11	10	10
29	8	9	10	9	7	4	5	-	-	-
30	9	10	10	9	8	8	6	10	8	10

T1=24 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 21. Spouse knowledge questionnaire scores.

	CONTROL					TREATMENT				
	T1	T2	T3	T4	T5	T1	T2	T3	T4	T5
Subject										
1	7	5	8	9	9	7	10	11	11	10
2	7	7	9	8	6	9	11	11	11	11
3	8	9	10	9	10	5	6	9	9	9
4	8	8	8	8	8	5	9	9	9	8
5	5	4	5	5	5	6	10	10	9	8
6	9	8	9	9	8	6	11	10	8	9
7	8	9	8	9	8	7	8	8	8	8
8	5	6	8	8	7	6	9	10	10	11
9	5	5	8	9	8	9	8	9	10	7
10	5	7	7	8	8	6	10	11	10	10
11	6	8	8	9	7	8	9	10	11	9
12	5	6	6	7	7	6	9	9	9	10
13	8	7	7	6	6	7	7	10	10	10
14	6	7	7	8	5	8	9	10	10	10
15	3	9	6	6	5	9	9	11	8	9
16	7	6	7	7	5	6	9	9	10	10
17	6	5	8	7	7	7	7	9	7	7
18	7	5	7	6	6	8	9	8	10	10
19	9	9	8	9	8	6	12	11	11	11
20	8	8	8	10	9	9	10	7	9	8
21	9	10	10	10	9	6	7	8	7	6
22	5	8	9	8	7	8	10	11	11	12
23	5	5	5	-	-	3		9	8	7
24	8	8	6	5	5	6	8	9	10	9
25	8	6	7	6	6	8	11	11	10	10
26	3	4	-	-	-	6	7	6	8	6
27	5	6	7	6	6	9	8	8	8	8
28	9	7	10	10	8	8	8	10	9	9
29	9	10	10	9	9	6	6	-	-	-
30	10	9	10	8	8	10	10	10	11	9

T1=24 hours; T2=5 days; T3=1 month; T4=3 months;
T5=6 months.

Appendix 22. Patient activity scale scores.

	CONTROL			TREATMENT		
	T1	T2	T3	T1	T2	T3
Subject						
1	50	78	28	20	25	28
2	30	28	58	20	25	28
3	26	64	75	25	50	52
4	24	28	14	11	5	27
5	23	22	30	3	4	3
6	26	6	3	3	31	4
7	38	36	4	4	11	30
8	11	25	11	4	28	50
9	50	51	54	8	50	50
10	2	4	3	25	25	50
11	25	26	11	4	27	30
12	6	20	78	25	34	76
13	3	25	26	11	4	4
14	25	26	25	30	75	78
15	51	50	52	25	8	5
16	80	26	94	25	40	48
17	25	97	98	50	26	28
18	31	41	96	25	50	54
19	75	88	90	31	5	10
20	11	21	25	25	10	20
21	74	75	76	3	4	25
22	3	25	26	25	26	27
23	1	-	-	24	50	52
24	50	28	26	26	11	51
25	82	25	47	26	51	52
26	-	-	-	26	20	50
27	3	2	3	45	40	30
28	11	25	30	50	48	48
29	4	6	20	-	-	-
30	2	3	3	11	16	30

T1=1 month; T2=3 months; T3=6 months.

Appendix 23. Patient body mass indexes (BMI=kg/m²).

	CONTROL				TREATMENT			
	T1	T2	T3	T4	T1	T2	T3	T4
Subject								
1	23.27	23.27	23.45	22.61	22.73	26.44	24.20	23.53
2	28.65	27.95	27.95	26.05	28.50	27.24	27.55	27.55
3	24.11	24.11	25.19	24.33	24.61	24.90	24.74	24.74
4	25.96	25.61	25.61	25.68	21.32	23.47	23.47	23.47
5	25.83	24.57	24.05	25.06	25.83	21.74	21.41	21.05
6	27.71	24.66	25.50	26.31	23.32	24.61	26.22	24.45
7	26.33	28.52	27.82	27.91	24.02	26.40	25.15	23.83
8	22.44	22.43	21.91	25.54	27.68	26.82	26.82	26.82
9	28.50	25.19	21.91	23.91	22.97	21.07	22.37	22.37
10	22.15	21.73	22.26	22.78	27.82	27.81	27.41	27.41
11	24.41	24.08	24.02	23.76	28.03	26.27	25.13	24.68
12	24.86	25.19	26.27	25.43	22.09	22.09	22.61	22.61
13	26.00	25.99	25.99	25.99	22.61	22.61	22.61	22.61
14	29.12	29.16	26.12	29.31	22.96	23.47	24.96	26.17
15	27.45	26.06	28.87	28.87	25.63	24.66	24.66	25.62
16	30.38	28.50	28.50	28.81	26.61	27.59	26.79	26.72
17	23.76	25.38	24.60	24.34	27.40	27.37	27.37	27.37
18	21.55	22.43	22.95	23.59	29.37	33.55	33.55	31.46
19	27.35	27.63	25.40	24.59	22.47	21.47	22.46	21.47
20	30.20	29.76	25.03	25.71	24.81	25.51	24.81	24.27
21	24.21	26.01	23.32	23.50	27.29	25.34	26.37	26.37
22	31.05	29.86	29.64	30.78	27.52	25.85	25.85	25.85
23	29.44	29.90	-	-	26.00	24.87	25.51	25.51
24	26.45	27.17	27.31	29.15	29.12	28.16	28.47	28.47
25	27.14	23.61	23.36	23.69	27.52	29.21	29.54	28.48
26	24.12	-	-	-	26.37	26.36	26.92	26.92
27	25.85	25.54	25.54	25.98	28.84	28.12	28.54	28.84
28	20.32	19.41	20.57	21.24	27.37	27.90	28.00	27.35
29	21.93	22.77	24.06	24.85	27.07	-	-	-
30	23.45	23.66	23.92	24.46	24.11	23.10	23.10	23.10

T1=24 hours; T2=1 month; T3=3 months; T4=6 months.

Appendix 24. Patient systolic and diastolic blood pressures.

	CONTROL						TREATMENT					
	Systolic			Diastolic			Systolic			Diastolic		
	T1	T2	T3	T1	T2	T3	T1	T2	T3	T1	T2	T3
Subject												
1	111	120	106	80	80	76	102	117	120	52	80	86
2	130	121	145	90	82	86	135	120	143	88	80	88
3	149	130	116	100	70	71	85	105	135	60	60	83
4	120	120	116	70	70	76	120	120	133	70	78	60
5	115	120	137	80	68	84	120	140	96	80	10	77
6	140	120	117	90	80	89	150	110	147	87	70	95
7	150	135	180	85	85	100	140	95	150	80	55	78
8	130	109	150	70	70	91	140	100	130	83	70	70
9	150	135	141	100	77	79	80	110	142	60	70	85
10	125	120	149	85	80	100	170	140	111	120	80	80
11	120	110	130	80	82	90	143	105	135	99	70	95
12	120	95	118	78	62	75	147	120	124	102	70	76
13	119	110	160	80	75	90	120	110	115	85	72	80
14	140	170	130	90	80	85	155	110	115	122	70	80
15	120	98	140	70	60	78	170	113	115	100	70	80
16	200	105	158	120	50	120	168	100	130	110	60	60
17	130	100	137	80	60	71	140	110	130	88	80	99
18	161	110	149	110	70	95	110	110	116	80	70	76
19	165	140	150	80	80	95	110	100	110	72	70	70
20	140	130	157	95	80	97	150	100	115	100	80	80
21	150	82	130	80	58	78	150	110	117	110	70	80
22	164	100	160	115	75	105	160	140	146	98	82	79
23	146	105	-	106	75	-	171	125	142	109	80	72
24	170	120	120	120	80	80	140	110	120	83	70	70
25	120	100	130	90	70	79	130	115	130	80	65	95
26	140	150	-	110	80	-	140	110	135	96	75	70
27	90	150	160	60	65	90	138	110	158	92	65	93
28	110	100	110	77	80	80	170	125	135	140	65	90
29	155	110	142	95	70	81	130	110	-	90	70	-
30	140	120	150	95	75	95	130	110	127	90	80	79

T1=24 hours; T2=5 days; T3=6 months.

Appendix 25a. Patient and spouse Eysenck Personality Questionnaire (EPQ) scores.

CONTROL GROUP

	PATIENT								SPOUSE							
	T1				T2				T1				T2			
	P	E	N	L	P	E	N	L	P	E	N	L	P	E	N	L
Subject																
1	3	18	9	6	4	21	8	3	0	6	14	6	1	10	15	4
2	1	18	15	5	4	19	15	3	0	16	13	16	0	13	12	18
3	3	15	10	7	3	15	17	11	0	9	10	12	4	10	10	10
4	1	15	3	10	1	15	4	12	1	16	1	16	2	19	4	13
5	4	7	7	15	1	6	8	15	0	13	4	15	1	11	3	17
6	3	8	2	13	1	11	4	13	2	11	7	14	2	15	9	5
7	3	10	12	14	2	12	11	17	3	13	5	15	3	10	11	13
8	2	15	17	10	1	12	16	6	3	12	12	17	3	15	9	17
9	7	15	7	12	5	18	6	10	0	9	21	15	1	12	20	10
10	1	8	11	11	2	3	15	12	2	2	17	16	2	2	22	10
11	2	14	1	5	1	13	3	7	3	12	9	11	2	11	16	5
12	6	13	19	13	6	13	17	15	4	14	19	14	5	13	17	15
13	3	12	1	7	5	10	1	6	3	16	7	14	2	21	8	18
14	2	10	17	4	4	14	23	3	6	16	14	11	10	10	21	9
15	4	5	13	7	3	7	9	11	5	16	16	14	5	18	16	6
16	2	17	11	7	6	16	12	11	2	10	13	9	1	4	13	9
17	7	14	12	8	7	15	9	8	1	13	8	15	1	12	9	14
18	2	12	11	4	4	12	12	3	2	6	22	6	2	6	21	7
19	1	18	3	17	1	16	5	15	0	19	6	16	0	18	7	18
20	4	17	11	10	1	9	11	10	3	1	12	13	3	1	11	12
21	3	11	10	4	3	12	11	4	0	4	3	18	0	4	4	17
22	2	19	12	12	4	14	13	10	1	8	9	15	2	10	6	14
23	4	10	15	12	-	-	-	-	8	18	16	14	-	-	-	-
24	8	9	10	2	5	9	10	3	4	17	19	15	3	17	19	15
25	2	6	9	7	2	5	11	4	2	12	20	5	0	15	14	11
26	4	12	7	19	-	-	-	-	4	10	14	12	-	-	-	-
27	3	19	16	12	3	18	14	12	3	11	11	16	3	9	10	17
28	4	3	17	8	3	5	14	6	1	11	21	5	0	11	17	8
29	5	10	13	5	5	15	18	2	3	16	17	13	4	15	13	11
30	4	6	17	1	7	7	5	6	3	16	0	5	6	5	13	4

T1=72 hours; T2=6 months.

Appendix 25b.

TREATMENT GROUP

	PATIENT								SPOUSE							
	T1				T2				T1				T2			
	P	E	N	L	P	E	N	L	P	E	N	L	P	E	N	L
Subject																
1	0	17	5	16	0	17	8	11	3	2	12	15	4	3	8	13
2	2	14	7	19	1	15	6	20	1	5	12	11	1	9	11	11
3	5	14	4	4	5	16	4	3	1	15	8	5	0	10	12	7
4	2	10	20	11	6	8	17	16	5	5	19	16	3	4	20	8
5	4	15	16	5	1	19	14	3	0	10	19	10	0	9	19	9
6	0	1	18	2	1	2	23	4	2	12	18	8	2	11	18	8
7	5	13	10	6	2	9	11	5	3	2	18	8	3	2	19	2
8	3	13	1	10	4	17	4	7	0	9	10	13	0	8	12	2
9	1	11	2	17	2	8	1	18	1	5	22	18	1	1	22	18
10	5	9	7	2	0	4	5	7	4	14	7	4	1	12	11	7
11	2	18	8	13	1	17	1	17	3	6	9	9	2	7	5	9
12	1	11	9	6	0	13	8	9	2	4	17	13	0	5	15	9
13	1	12	16	16	2	13	15	15	0	11	14	9	0	14	10	6
14	6	9	19	8	3	11	16	8	2	16	19	7	0	17	14	7
15	1	13	12	12	0	9	14	9	4	14	4	16	0	15	9	15
16	5	10	14	10	3	12	11	7	3	17	11	11	3	18	9	6
17	12	15	12	11	10	12	5	12	4	13	3	19	4	10	4	16
18	1	9	4	12	1	14	4	14	1	13	17	8	1	15	17	9
19	2	4	10	8	0	2	9	9	1	6	8	11	1	4	6	12
20	3	17	4	4	3	19	4	4	0	9	15	13	1	8	10	14
21	1	19	2	6	4	15	5	3	0	7	16	13	2	9	20	12
22	2	5	11	10	2	2	16	10	0	7	7	13	2	7	6	8
23	1	2	5	13	1	2	14	13	0	10	14	7	3	11	17	7
24	3	15	6	10	4	14	3	9	0	9	10	14	1	11	10	12
25	5	14	4	4	5	16	4	3	1	15	8	5	0	10	12	7
26	1	18	3	9	1	13	11	6	1	19	6	13	2	16	4	15
27	1	11	7	10	1	10	7	10	0	13	7	18	0	15	10	16
28	1	15	10	7	1	13	9	4	0	11	10	7	0	16	10	7
29	2	14	2	13	-	-	-	-	1	10	12	15	-	-	-	-
30	1	10	9	6	4	12	14	11	1	11	3	8	0	12	3	8

T1=72 hours; T2=6 months.

Appendix 26. Patient records of angina following discharge home.

	TREATMENT			CONTROL		
	T1	T2	T3	T1	T2	T3
Subject						
1	-	-	-	-	-	-
2	-	-	-	+++	++	++
3	-	-	-	-	-	+
4	-	-	-	-	-	-
5	+	+	+	+	+	++
6	++	++	+	+	+	+
7	-	-	-	-	+	+
8	+	+	-	+	+	+
9	-	-	-	-	-	-
10	-	-	-	+	+	+
11	-	-	-	-	-	-
12	+	-	-	+++	++	++
13	+++	++	+	+	+	-
14	+	+	+	+	+	+
15	+	+	-	+	-	-
16	-	-	-	-	-	-
17	-	-	+	-	-	-
18	-	-	-	+	+	-
19	-	+	+	+	-	-
20	-	+	+	-	-	-
21	++	+	+	+	+	+
22	-	-	-	+	-	-
23	-	+	+	+	-	-
24	-	-	+	-	-	-
25	+	-	+	++	++	++
26	-	-	-	-	-	-
27	-	+	+	-	+	-
28	-	-	-	-	-	-
29	-	-	-	+	-	-
30	-	+	+	-	+	-

T1=1 month; T2=3 months; T3=6 months.

Grade of angina: - (0: nil)
 + (1: on moderate/severe exertion)
 ++ (2: on mild exertion)
 +++ (3: at rest)

Appendix 27. Patient records of dyspnoea following discharge home.

	TREATMENT			CONTROL		
	T1	T2	T3	T1	T2	T3
Subject						
1	++	+	+	+	-	-
2	-	+	+	++	++	+++
3	-	-	-	-	+	+
4	-	-	+	-	+	+
5	+	+	+	+	+	+
6	-	+	++	-	+	+
7	+	+	+	+	+	++
8	+	+	-	+	+	+
9	-	-	+	-	-	-
10	-	+	-	+	+	+
11	-	-	-	-	-	-
12	-	-	-	+++	+++	++
13	-	-	-	+	-	-
14	+	-	-	+	+	-
15	++	++	++	+	-	-
16	+	+	+	+	+	-
17	+	-	-	-	-	-
18	-	-	-	-	-	-
19	+	+	+	-	-	-
20	-	+	-	-	-	-
21	++	++	+++	-	-	+
22	+	+	-	-	-	-
23	-	+	+	-	-	-
24	+	+	+	-	-	-
25	-	+	-	-	-	-
26	-	-	-	-	-	-
27	-	+	+	+	+	+
28	-	-	+	++	+	++
29	-	-	-	-	-	-
30	-	-	-	-	-	-

T1=1 month; T2=3 months; T3=6 months.

Grade of dyspnoea: - (0: nil)
+ (1: on moderate/severe exertion)
++ (2: on mild exertion)
+++ (3: at rest)

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