Scand J Rehab Med 16: 47–56, 1984

EMOTIONAL REACTION, HEALTH PREOCCUPATION AND SEXUAL ACTIVITY TWO MONTHS AFTER A MYOCARDIAL INFARCTION

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ABSTRACT. Emotional reaction, health preoccupation and sexual adjustment two months after a first myocardial infarction (MI) were studied in relation to social, psychological and somatic factors prior to, during and after the MI in 201 consecutive male patients. Psychological and social data were covered by means of questionnaires and a brief interview and somatic data by a standardized medical examination. New concepts were introduced after factor analysis. The degree of preoccupation varied very much and was considered as a reaction to the diagnosis of MI. Seventy-nine per cent of the patients complained about fatigue and 65 % felt anxious and depressed. Fatigue and nervousness were regarded by the patients as more disabling than cardiac symptoms. Emotional distress was related to a previous history of emotional complaints and to psychological factors and self-reported coronary symptoms but was unrelated to severity of the infarction, medically rated cardiac symptoms, demographic and social data. Sexual maladjustment, mainly due to fear, was frequent and associated with both emotional and somatic variables. Emotional disturbance after MI is considerable and further measures ought to be taken in order to prevent future disability.

Key words: Myocardial infarction, anxiety, depressive symptoms, fatigue, angina pectoris, sexuality, rehabilitation, self-assessment, factor analysis

The influence of emotional factors after myocardial infarction (MI) has been increasingly recognized. The destructive effect of emotional distress and other psychosocial factors on longterm recovery after MI has been emphasized (8, 28). The emotional reaction of the cardiac patient in the CCU (19) and during recovery (43) has been studied. A high incidence of anxiety and depression has been reported (8, 27, 36). Attitudes (30), health perception (14) and sick role (35) in relation to outcome and adjustment after an acute MI have been discussed. Reduction of physical and leisure time activity (30, 37) as well as sexual activity has been described (2, 21).

Much work has been concentrated on separate aspects of the functional capacity of the patients after MI. The lack of a comprehensive synthesis of somatic, social and psychological factors in relation to adjustment and longterm prognosis has, however, been particularly pointed out (16).

The purpose of this study is to describe emotional reaction, health preoccupation and sexual adjustment two months after a first MI in relation to medical, social and psychological factors prior to, during and after the MI.

PATIENTS AND METHODS

The patients consisted of 201 consecutive Swedish-speaking men with a median age of 54 years ranging from 32 to 60 years, who had been treated at Sahlgren's Hospital in Göteborg for a first MI. Unemployed patients and patients on sick leave for more than 180 days prior to the acute episode were excluded (Fig. 1).

The criteria of MI were a typical history of chest pain, a typical pattern of serum enzyme changes and typical ECG-changes of infarction. A diagnosis of a definite acute MI was made when two out of the three criteria were fulfilled (11).

A reference group was formed by a randomized sample of 175 men involved in a population study (41). Only participants who were employed, healthy and Swedish-speaking were included. Thus the same criteria were applied as regards both the MI and reference group. The median age of the healthy subjects was 46 years with a range from 40 to 50 years.

After discharge from the hospital all patients were referred to a special Post-Myocardial Infarction Clinic (PMIC) which provided a systematic and close follow-up of MI patients (12). At the time of investigation there was only one major hospital for ambulatory post hospital follow-up and patient management in Göteborg. Three months after the MI a standardized medical examination and interview was performed by a physician.

During convalescence, 5 to 8 weeks after the MI, the patients were seen individually by a psychologist and a series of questionnaires were administered. The answers of the questionnaires were intended to represent the patient's subjective opinion. Some variables were rated both according to the patient's perception and to the judgement

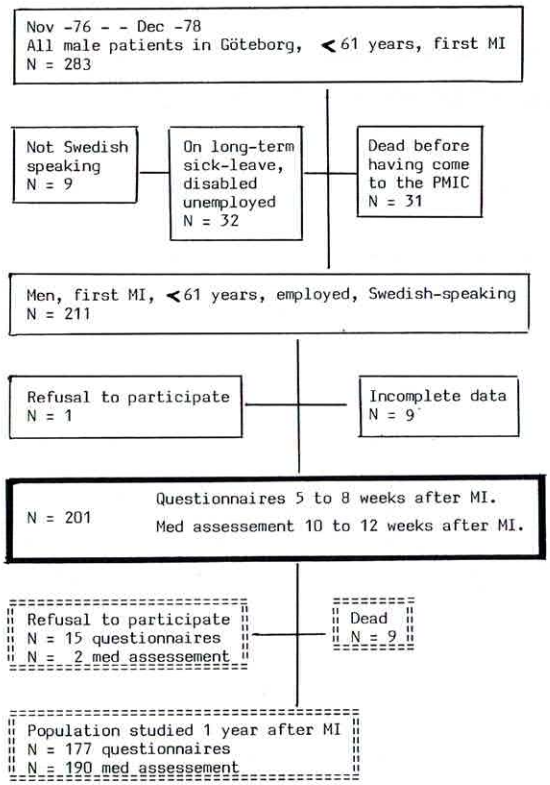

Fig. 1

of the physician. Social data were collected in an interview at the same time. Data on sickness absence were obtained from the Register of Public Health Insurance.

One year after the infarction the same questionnaires were mailed to the patients after a personal telephone introduction. In case of return failure two reminders were made. The medical examination and interview were repeated.

The principal areas covered by the questionnaires and the medical assessment were:

Data before onset of MI

Age, marital status, educational and occupational status (Table II), economic situation, work stability (= number of years in present employment and number of jobs during the last five years) and sickness absence. A history of hypertension, diabetes and chronic lung disease. Symptoms of chest pain, calf pain and breathlessness. Previous emotional stability.

Physical activity at work and during leisure time was assessed by four-graded scales. Work activities ranged from sedentary office work (sits more than half the working day, grade 1), to physically demanding work (construction-, forest-, or agricultural work, grade 4). Leisure time activity was rated from passive (watching television or reading, grade 1) to regular physical activity (active in competitive sports, grade 4) (18). Chest pain was defined according to Rose & Blackburn (31). The clinical importance of the pain was graded in two categories, definite or suspected angina pectoris. The evaluation of smoking habits has been described previously (42).

Table I. *Definition of new concepts*

Concept	Variable
Previous morbidity	Hypertension Diabetes Chronic lung disease
Morbidity 3 months/ 1 year after MI	Hypertension Diabetes Heart failure treated with digitalis/diuretics
Previous symptoms	Medical rating of chest pain Calf pain Breathlessness
Symptoms 3 months/ 1 year after MI	Medical rating of chest pain Breathlessness
Severity of the infarction	Hypertension before the MI Breathlessness at the onset of the acute episode Enzyme values Relative heart size Arrhythmias Left ventricular failure
Emotional instability	Depressed Restless Nervous Irritable Agonized Unenterprising Difficulty to relax Indecision Impaired concentration
Health preoccupation	"How often do you think about your MI?" "How often do you talk about your MI?" "How do you experience your MI?" "How do you react when your symptoms appear?" "Does anything worry you about the future?" (cardiac state) "Does anything worry you about the future?" (length of life)
Subjective limiting coronary symptoms	Chest pain Fatigue Breathlessness Palpitation
Subjective limiting emotional symptoms	Nervousness Fear Sleeplessness
Socio-economic level	Educational level Occupation Economic level

Data from acute phase

Severity of the infarction (Table I). Duration of hospital stay.

Table II. *Demographic data (MI patients N = 201)*

Age	%	Marital Status	%	Education	%	Occupation	%	Socioeconomic level (new classification)	%
–40	4	Married	79	Comprehensive school	65	Blue collar	32	Manual workers	78
41–50	23	Single	6			Transport/ communication	18	White collar workers	14
51–60	72	Divorced	13	Vocational school	16	Miscellaneous manual trades	8	Professionals	8
		Widowed	2	Continuation school	14	Commercial	6		
				Higher education	5	White collar	22		
						Professionals	14		

Data from convalescence and one year follow-up

Somatic morbidity, symptoms and smoking as before the MI. Readmission rate. Work situation. Eysenck Personality Inventory (13).

Questionnaire data: Question with three- or five-graded alternatives covered how the patient reacted towards and experienced the MI, emotional and psychosomatic symptoms, subjective limiting emotional and coronary symptoms, avoidance behaviour, leisure time activity, sexual activity, attitude towards life, the future, the work situation and causal explanation of MI (40). Applicable parts of the questionnaires were used in the assessment of the reference group.

Statistical methods

Standard statistical methods were used to calculate mean values, medians, standard deviations and product-moment correlation coefficients (22). $p \leq 0.05$ was considered significant, two-sided test. The responses of the questionnaires were organized according to ordinal scales. Fisher's non-parametric permutation test was used to compare the patient and reference group (3). The correlation between symptoms and age within the MI and reference group was studied. The results of the two groups were pooled by the technique of Mantel (25). Thereby it was checked if age had to be controlled. The influence of age was then eliminated by the same technique. In order to reduce the amount of psychological variables and to isolate and strengthen information from the separate answers of the questionnaire into psychological concepts factor analysis was used. The factor analysis provided a simplified description of relationships between variables and facilitated the interpretation and comprehension of information in the data. The principal component analysis was used. Since the behavioural variables were considered to be related to each other the factors were rotated in a promax oblique manner. Oblique rotation implies that the extracted factors are correlated (9).

Methodological considerations

New concepts were created to describe *morbidity* and *symptoms* before, during and after the MI (Table I). The number of recorded illnesses and symptoms were simply added for each individual.

Factors shown to have prognostic significance were used to evaluate the *severity of the infarction* according to a method by Vedin (Table I) (39). New concepts, *emotional instability, health preoccupation* and *subjective limiting coronary and emotional symptoms* were created by factor analysis (Table I). Factors covering a substantial proportion of the variance were considered. Variables above the arbitrary weight 0.50 in the same factor both during convalescence and one year after the MI were used. The same variable was only employed in one of the concepts.

The variable "having seen a physician for emotional complaints" had the highest intercorrelation with other variables concerning prevalence of previous emotional problems and was used as a measure of *previous emotional complaints*. A new model developed by the Statistical Central Bureau in Sweden combining occupation, educational level and economy was used to describe socioeconomic level (44).

RESULTS

Demoghraphic data

Demographic data are presented in Table II. The median sick benefit of the patients was 151 SEK per day (1 US$ = 4.75 SEK, Dec. 1977) compared to 165 SEK among working men in corresponding age groups in Göteborg at the same period of time.

Work stability

During the five years preceding the MI 18% of the subjects had been in two or more jobs. Forty-six per cent had been on their present jobs for more than 15 years. Work stability was lower among single ($p \leq 0.05$) and younger patients ($p \leq 0.001$).

Physical activity in present job and leisure time the year before the MI

Sixty-one per cent had light jobs (grades 1 and 2) and 10% had physically heavy jobs (grade 4). One

third were inactive during their leisure time (grade 1) and 52% were engaged in light physical activity (grade 2). Fifteen per cent took part in regular physical activity during their leisure time (grades 3 and 4).

Smoking habits

Seventy-six per cent were smokers and an additional 15% exsmokers. Fifty-three per cent of the smokers smoked more than 15 g of tobacco per day. After the MI 23% smoked. The younger patient was more likely to be a heavy smoker than the older before the MI ($p \leq 0.001$).

Sickness absence immediately preceding the MI

At the onset of MI 15% were sick-listed. The median number of sick benefit days was 13. Four per cent had been sick-listed for more than 30 days.

Morbidity before the MI

Nineteen per cent had been treated for hypertension, 6% for diabetes and 4% for chronic lung disease. Twenty per cent had a typical angina, 12% suspected angina but 66% had no chest pain. Breathlessness on exertion was reported by 18% and a history of calf pain was present in 5%. Psychoactive drugs were used by 3%. Forty per cent reported previous emotional complaints. Among all patients 32% had seen a doctor, 30% had been on medication, 24% had been on a temporary sick-leave and 13% had seen a psychiatrist because of emotional complaints. There was no difference in any of these respects in comparison to the healthy reference group. A history of previous emotional complaints was more common among the younger patients ($p \leq 0.05$).

Severity of the infarction and symptoms during the acute phase

The median number of days in hospital was 11. During the stay in hospital 6% suffered a cardiac arrest, 29% displayed left ventricular failure and 33% complained about breathlessness at the onset of MI. Arrhythmias in need of treatment occurred among 31% of the patients. Seventeen per cent were given psychoactive drugs, mostly sedatives. The severity of the infarction (see methodological considerations) was associated with smoking ($p \leq 0.05$) and a high consumption of tobacco ($p \leq 0.01$) before the MI and a longer hospital stay ($p \leq 0.001$). It was, however, unrelated to previous somatic and emotional morbidity. Severity of the infarction had a relation to somatic illness ($p \leq 0.05$) and fatigue ($p \leq 0.05$) as well as to use of psychoactive drugs three months after the MI ($p \leq 0.05$) but proved unrelated to other measures of emotional or psychological problems after the MI.

Table III. *Responses to questions (MI patients N = 201)*

	%
"How often do you think about your heart disease?"	
Very often	17
Often	25
Sometimes	42
Almost never	11
Never	5
"How do you experience your MI?"	
Anguished	3
Very worried	24
Somewhat worried	61
Practically unaffected	9
Unaffected	2
"How often do you talk about your heart disease?"	
Daily	19
Several times a week	18
Once a week	34
Almost never	23
Never	5

Symptoms and morbidity three months after the MI

Thirty-two per cent of the patients were classified by the physicians as having typical angina, 14% suspected angina and 5% other kinds of chest pain. Breathlessness was reported by 46% and 17% suffered from hypertension. Twenty-four per cent had heart failure in need of treatment with digitalis and/or diuretics, 4% had diabetes and 3% calf pain. Psychoactive drugs were given to 18%.

Re-admission to hospital after the MI

Re-admission as suspect infarctions occurred among 7% of the patients within three months after the MI. One patient was readmitted because of heart failure, three patients due to arrythmias, two patients because of other infarction complications and one patient for psychiatric reasons.

Health preoccupation

The degree of concern varied considerably among the patients (Table III). In answer to "Does any-

Table IV. *Responses to the question "Which symptoms are limiting your daily life?" (MI patients N = 201 and reference group N = 175)*

	MI		Ref.	
	Very much (%)	To some extent (%)	Very much (%)	To some extent (%)
Fatigue	23	58**	5	47
Nervousness	11	53**	4	42
Chest pain	10	51**	1	17
Sleeplessness	9	35**	4	26
Breathlessness	6	34**	1	12
Fear	6	35**	3	12
Palpitation	4	35**	2	13

** The difference between MI and reference group is significant ($p \leq 0.01$).

thing worry you in the future?" 84% worried about cardiac function and symptoms, 80% about care of the family, 70% about the possibility to work, 63% about the length of life and 34% about their personal financial situation. In reply to an open question "What do you consider the worst aspect of your heart disease?" 26% mentioned inactivity and inability to work, 26% fear of another infarction, 16% an altered life style, 15% fear of the future (health, family, physical activity) and 9% symptoms as chest pain or depression.

How the occurrence of symptoms affected the patients emotionally was reflected by the questions "What is your emotional response when the symptoms appear?" and "What do you do when the symptoms appear?". A reaction of fear or strong fear was present in 20% and another 51% reported light fear. Activities in progress were interrupted by 43% and further 33% limited their activity when symptoms appeared.

After factor analysis of questions about preoccupation with the health one factor emerged supporting the idea that such questions are closely related. This factor was designated as *health preoccupation* (Table I).

Fatigue and nervousness were the most frequent limiting symptoms in both the MI and the reference group (Table IV). All limiting symptoms were overrepresented in the MI group. The difference was most obvious concerning chest pain. The subjective limiting symptoms were divided by factor analysis into *emotional* and *coronary symptoms*. Fatigue, often regarded as a mental symptom, turned out to be more related to coronary than to emotional symptoms (Table I). Forty per cent of the patients reported chest pain every day, 15% had chest pain several times weekly, 7% sometimes while 38% never had chest pain. When chest pain was rated by the physician 22% had chest pain every day, 23% several times a week, 5% sometimes whereas 50% never had chest pain.

Preoccupation with the health had no relation to factors before the MI but was associated with self-reported chest pain and emotional problems during convalescence (Table V). Neither cardiac symptoms registered by the physician, nor severity of the infarction were related to preoccupation with the health.

Emotional instability

All mental symptoms were overrepresented in the MI group in comparison with the reference group (Tables VI and VII). If the age difference between MI and reference group is taken into consideration the significant difference regarding the symptoms lack of appetite and isolated does not remain. Fatigue was the most common symptom. Insomnia was more common among MI patients whereas stress and headache were more frequent in the reference group.

After factor analysis of the symptoms only one factor fit for use came out and an index of *emotional instability* was compiled (Table I).

Emotional instability was associated with varia-

Table V. *Significant relationships ($p \leq 0.05$) between factors prior to, during and after MI and health preoccupation*

	Correlation coefficient	
Factors prior to MI	–	
Factor during MI	0.27***	Use of psychoactive drugs
Factors after MI	0.52***	Subj. limiting emotional symptoms
	0.49***	Emotional instability
	0.41***	Subj. limiting coronary symptoms
	0.41***	Neurotic traits (N-scale EPI)
	0.30***	Subj. frequency of chest pain
	0.22**	Use of psychoactive drugs
	0.19**	Sexual problems
	0.18**	Smoking

** $p \leq 0.01$, *** $p \leq 0.001$.

Table VI. *Mental symptoms among MI patients (N = 201) and in reference group (N = 175)*

"Have you lately felt?"	MI		Ref.	
	Very much (%)	To some extent (%)	Very much (%)	To some extent (%)
Easily fatigued	29	50**	5	24
Restless	15	52**	4	31
Nervous, anxious	15	50**	3	34
Depressed	10	52**	2	26
Emotional	14	44**	5	26
Irritable	14	43**	6	37
Unenterprising	12	36**	3	17
Agonized	7	37**	2	16
Sensitive	7	28**	1	8
Isolated	2	18**	2	10
Lack of appetite	2	11**	1	4

** The difference between MI and ref. group is significant $p \leq 0.01$.

bles reflecting emotional problems before, during and after the MI (Table VIII). Breathlessness was the only somatic variable related to emotional instability. Severity of the infarction and cardiac symptoms evaluated by the physician were unrelated to emotional instability.

Twenty-eight per cent of the patients were neurotic compared to 23% of the standard distribution of the N-scale of Eysenck Personality Inventory. Neurotic traits were related to age ($p \leq 0.01$) and to somatic ($p \leq 0.01$) and emotional ($p \leq 0.001$) problems before the MI. Neuroticism was associated with the same variables after the MI as emotional instability and health preoccupation.

Sexual activity

In answer to the question "What is your sexual activity now in comparison with before the MI?" 46% noted a decline to some extent or very much and the sexual life had ceased among 13%. Thirty-six per cent reported that they had sex weekly, 31% monthly and 16% less often than that. No sexual activity at all was admitted by 17%. The main reason for a reduced sexual activity was fear of physical exertion. Other reasons were lack of sexual feelings, chest pain, impotency, weakness and medication.

Sexual problems were related both to emotional and somatic symptoms which corresponded well with the reasons for an altered sex life. Sexual decline was also associated with age and socioeconomic level (Table IX). The relationships were constantly low and must be interpreted with caution.

DISCUSSION

The establishment of a Post-Myocardial Infarction Clinic (PMIC) in Göteborg offered an opportunity to study unselected MI patients (12). Since the aim of the study included descriptive as well as rehabilitative aspects some patients were excluded. Sixty years was set as an upper age limit considering that the general old-age pension in Sweden was 65 years. Previous somatic disability might influence the emotional coping with MI. Therefore patient retired due to sickness and patients on long-term sick-leave were excluded. For the same reason only patients with a first MI were studied. Patients with a reinfarction in the mean time between discharge and data collection were few. Exclusion due to language difficulties was negligible. All patients involved in the study were treated in a standardized way at the PMIC. The attitude towards MI varies with the cultural setting. International differences in the social security system, in medical care and rehabilitation measures contribute to the variations

Table VII. *Psychosomatic symptoms among MI patients (N = 201) and in reference group (N = 175)*

"Have you lately had/felt?"	MI		Ref.	
	Very much (%)	To some extent (%)	Very much (%)	To some extent (%)
Difficulty to relax	9	36	5	34
Insomnia	12	31	7	25*
Impaired concentration	3	31	2	31
Sensations of stress	5	25	13	48**
Difficulty to remember	5	25	2	40
Indecision	3	26	3	24
Headache	4	24	7	39**
Gastritis	6	21	9	21
Feelings of inferiority	1	18	1	13
Nightmares	3	14	1	15
Fainting fits	1	8	–	8

* The difference between MI and ref. group is significant $p \leq 0.05$.
** The difference between MI and ref. group is significant $p \leq 0.01$.

in a patient's experience of a MI. Generalizations from this study must therefore be cautious.

Knowledge about social factors in the reference group was not available. The median age and range differed between the patients and the reference group. The influence of age was, however, examined statistically when the symptoms of the MI and reference group were compared. Caution has been stressed when studying case–control relationships since bias due to participation/non-participation might overestimate differences between cases and controls (1). By applying the same criteria of inclusion to both the MI and the reference group the potential bias was minimized.

The period two to three months after the MI was considered crucial in order to detect potential problem patients in need of intervention and extra rehabilitation measures.

All mental and psychosomatic symptoms were highly intercorrelated. Traditional psychiatric symptoms clusters as depression and anxiety syndromes could not be distinguished by the factor analysis. Mental symptoms were considerably more frequent in the MI than in the reference group. The frequency of previous emotional complaints and psychiatric morbidity in the two groups did not differ from the general Swedish population (45). The post-MI emotional disturbance was therefore considered a result of the acute illness. The high frequency of fatigue has not often been emphasized in the literature. Fatigue has sometimes been interpreted as a psychological symptom. In contrast the present study showed it to be more related to coronary than to emotional symptoms. Anxiety and depression were frequent and comparable with results in other studies (6, 27). Emotional instability was more common among patients with a history of previous emotional complaints in agreement with an earlier report (7). The fact that stress and headache were overrepresented in the reference group might be ascribed to the circumstance that the healthy subjects were gainfully employed and participated in the strains of everyday life while most MI patients were sick-listed. High correlations between emotional instability, health preoccupation and the N-scale of Eysenck Personality Inventory indicated that the emotional problems had a neurotic value also corroborated in other studies (5, 7).

Myocardial infarction is sometimes a fatal illness but it is also surrounded by prejudice and misconceptions. The diagnosis of MI might therefore create excessive anxiety and despair with ensuing behavioural restriction. Anxiety rather than cardiac problems seemed to increase the patient's inclina-

Table VIII. *Significant relationships ($p \leq 0.05$) between factors prior to, during and after MI and emotional instability*

	Correlation coefficient	
Factors prior to MI	0.31***	Previous emotional complaints
	0.18	Previous use of psychoactive drugs
Factor during MI	0.33***	Use of psychoactive drugs
Factors after MI	0.67***	Subj. limiting emotional symptoms
	0.61***	Neurotic traits (N-scale EPI)
	0.49***	Health preoccupation
	0.36***	Subj. limiting coronary symptoms
	0.36***	Use of psychoactive drugs
	0.32***	Readmission
	0.28***	Subj. frequency of chest pain
	0.20**	Somatic symptoms
	0.15	Sexual problems
	0.15	Breathlessness

** $p \leq 0.01$, *** $p \leq 0.001$.

Table IX. *Significant relationships ($p \leq 0.05$) between factors prior to, during and after MI and sexual problems*

	Correlation coefficient	
Factors prior to MI	0.22**	Age
	0.17	Previous emotional complaints
	−0.14	Socioeconomic status (high)
Factor during MI	–	
Factors after MI	0.21**	Frequency of angina pectoris
	0.19**	Health preoccupation
	0.15	Emotional instability
	0.15	Readmission
	0.15	Somatic illness
	0.15	Somatic symptoms
	0.14	Subj. limiting coronary symptoms
	0.14	Subj. limiting emotional symptoms

** $p \leq 0.01$, *** $p \leq 0.001$.

tion to seek hospital care since readmission was associated with emotional instability.

Although a majority of the patients displayed emotional upset during convalescence the use of psychoactive drugs in the acute phase was notably low in comparison to other reports (20, 36). This discrepancy could either be explained by inability of the staff to perceive the mental state of the patient or by differences in the treatment policy.

Preoccupation with the health was common although the degree varied which underlined the need of an individualized patient care. Perceived chest pain contributed to the cautious behaviour of the patient and activities of daily life were restricted by emotional symptoms. Health preoccupation was interpreted as a reaction produced by the MI. Enhanced concern about the somatic state and functioning could be mobilized by the MI (4). Health preoccupation and emotional instability were neither related to severity of the infarction nor to medically assessed coronary symptoms while self-reported coronary symptoms had a strong relationship to health preoccupation and emotional instability. The medical rating of angina pectoris was lower than the patient's subjective experience of chest pain. The patient was probably especially observant of symptoms from the region of the chest whereas the physician recorded angina pectoris due to coronary insufficiency. Self-reported symptoms did not always represent a picture of the patient's morbidity but rather expressed concern about the health (38). However, severe chest pain has been found more often among patients experiencing severe anxiety (33).

The sexual decline was in accordance with other reports (21, 29). The decreased sexual activity was associated with how the patient experienced and reacted to the MI. Sexual activity was diminished not only in the anxious and health preoccupied patient but also in relation to somatic symptoms and illness. Also in the present study the reduction of sexual activity was associated with age (2).

Mental state before and after the infarction and decreased sexuality were not correlated to severity of the infarction. The present results have been supported by previous findings (7, 10, 15, 27).

The significance of social and demographic factors in relation to psychological adjustment after MI have so far been contradictory (23). No relationships were found between social and demographic factors and emotional reaction or preoccupation with the health after the heart attack. Another Swedish study (33) corroborated the findings that the young patient showed more neurotic traits, lower work stability, higher tobacco consumption and more previous emotional complaints.

Emotional disturbance after an acute MI is considerable. It seems likely that the subjective limitations increase and maintain the emotional symptoms. The severely afflicted cardiac patient can remain relatively unaffected while the cardiac healthy may be distressed. Emotional upset requires more attention especially since a majority of the patients with symptoms of anxiety and depression in the post-hospital period remain distressed (8, 26, 36). Immediate, active planning for the future after discharge may reduce worry. Another way of reducing worry is early assessment and intervention, e.g., a more generous prescription of tranquilizers (20) and supportive psychotherapy based upon crisis intervention (17). Early mobilization and exercise training after discharge have proved successful in alleviating anxiety (34). Early intervention with a continuous follow-up by a social worker has been proved to facilitate adjustment (24). Information about the occurrence of emotional problems before the onset of the acute episode may facilitate identification of risk patients. Smoking after the MI may give an indication since an increased health preoccupation is more common among smokers. Relationships between smoking habits and emotional and social problems have been reported (37). Self-reported symptoms and excessive health preoccupation need more attention.

ACKNOWLEDGEMENTS

Sincere thanks to Professor Kjell Härnqvist for statistical and methodological advice, to the Greta and Einar Asker Foundation and the Swedish National Association against Heart and Lung Disease for economic support.

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