

Predictors of psychosocial adjustment in people with physical disease

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Aims. The purpose of this paper was to examine the demographic, medical and psychosocial variables that result in the deterioration of psychosocial adjustment in patients with physical disease, the meaning their illness has for them and their coping style.

Methods. The study was carried out in inpatient clinics of the Istanbul Faculty of Medicine ($n = 198$). The following evaluation instruments were used: a semi-structured questionnaire, the Psychosocial Adjustment to Illness Scale-Self Report (PAIS-SR), the Meaning of Illness Questionnaire (MIQ), the Hospital Anxiety-Depression Scale, the Multivariate Perceived Social Support Questionnaire and the Ways of Coping Inventory (WCI). Variables to be related with psychosocial adjustment were analysed by using Forward Logistic Regression.

Results. The mean age of patients was 36.9 (SD 12.9) (18–65), 55% of which were women, the average PAIS-SR score was 1.02 (SD 0.41) (0.7–2.26); 47% of the patients had poor adjustment scores. Univariate analysis showed that psychosocial adjustment was affected by having children ($p = 0.02$), anxiety, depression, locus of control, perceived social support ($p < 0.001$), information level about their illness and its treatment ($p = 0.01$), the subscales of WCI [escape-avoidance ($p < 0.001$), distancing ($p = 0.002$), planned problem solving ($p < 0.001$), positive re-appraisal ($p = 0.02$)]. The psychosocial adjustment of patients with respiratory or infectious illnesses or bone-muscle-skeletal disorders was even less ($p = 0.03$). All 33 items of the MIQ were found to have a significant impact on psychosocial adjustment ($p < 0.001$). According to the regression analysis, the best predictors of psychosocial adjustment were: depression ($p < 0.001$) and the meaning of illness for patient ($p < 0.01$).

Conclusions. Having a physical illness is an important stress factor. In providing assistance, a number of factors should be taken into consideration, including how

the patient perceives his illness, the impact the illness has on the patient's life, and a determination of the degree of depression being experienced by the patient.

Relevance to clinical practice. The study indicated some predictors in the assessment of psychosocial adjustment and care of patients with physical illness. In daily clinical practice, among the patients with physical illness, those with a negative perception of their illness and those who define depression should be given special attention for psychosocial support.

Key words: adjustment, depression, nurses, nursing, psychiatry, psychosocial care

Introduction

For the individual, physical illness is a multifaceted phenomenon that includes biological, psychological, social, environmental, familial, psychosocial and psychosexual factors. It is an existential crisis involving issues of identity and daily life. Illnesses can adversely affect the psychosocial adjustment at many levels. Adjustment to physical illness has many dimensions, involving interactions between individuals and the physical and social environments as well as intrapsychic processes (Mayou *et al.* 1978, Moos & Schaefer 1984, Derogatis *et al.* 1995). Psychosocial adjustment is the management of intrapsychic (anxiety and depression) and social demands (Courts 2000). Thus, medical, sociodemographic and psychological variables can influence psychosocial adjustment to physical disease.

Adjustment disorder is defined as a temporary episode of a function disorder that manifests itself as a response to specific stressors (Amstrong 1996). The main characteristic of an adjustment disorder is the appearance of specific, clinically significant emotional or behavioral symptoms that arise as a reaction to a psychosocial stress factor or factors (American Psychiatric Association 1994). In the nursing literature, it is referred to as impaired adjustment: the state in which individuals are unable to modify their lifestyle or behaviour in a manner consistent with a change in health status (Carpenito 1997).

Adjustment disorders and depression are the most frequently encountered disorders among hospital psychiatry cases in both national and international literature (Kligerman & McKegney 1971, McKegney *et al.* 1983, Mayou & Hauton 1986, Özkan *et al.* 1993, Cimili *et al.* 1995, Hales *et al.* 1986, Özkan *et al.* 1998). Adjustment disorder is a commonly assigned diagnosis in consultation-liaison psychiatric referrals (12–21%) (Popkin *et al.* 1990, Synder *et al.* 1990, Clarke *et al.* 1991, Strain *et al.* 1998). In studies conducted in Turkey, this rate varies between 16.8% and 32.1% (Özkan *et al.* 1993, 1998, Özkan *et al.* 2006).

Consultation-liaison psychiatry is able to help the person with a physical disease to re-establish equilibrium, e.g. by

adapting or making a positive adjustment to his new situation (Monsen *et al.* 1992, Barry 1996). Hence, when conducting assessment and intervention, knowing which factors contributing to or lessening psychosocial adjustment is important. Ensuring psychosocial adjustment in persons who have a physical illness can prevent the formation of major psychiatric disorders and have a positive influence on the severity of the illness and its course, treatment and period of recovery, as well as the overall quality of life of the patient. It can reduce unnecessary workload, the duration of the treatment and the amount of expenses incurred (Schuster 1992, Ramirez 1997, Roberts 1997).

Our goal in this study was to examine the demographic, medical and psychosocial variables that result in the deterioration of psychosocial adjustment in patients with physical illnesses, the meaning their illness has for them and their coping style.

Methods

Participants

Istanbul Faculty of Medicine is a university hospital with 2600-bed capacity. The written permission of the ethical committee of the faculty was obtained. Written information was given to departments excluding those in which the bed capacity and the number of patients were relatively restricted and the duration of hospitalization was not long enough, such as the department of surgery, and written permission from each department was requested in two weeks.

The study was carried out in inpatient clinics which had written permissions (hematology, endocrine, diabetes, infection, nephrology, gynaecology, chest disease, orthopaedics and cardiology) from the Istanbul Faculty of Medicine.

A total of 198 patients, 22 patients from each clinic were included, who had a physical illness for at least a month, had been hospitalized for at least five days and were between 18–65 years old, had received a Karnofsky score of 40 and above, had no sign of psychosis or mental retardation and who had given informed consent.

Given that a review of the literature designed to determine the extent of adjustment difficulty in physically ill patients was inconclusive and that the number of possible clinical variables was great, an interim analysis was conducted on 100 cases. According its results, 22 patients in each clinic were chosen as being representative cases.

Procedure

Patient medical information and the appropriateness of patient performance criteria were obtained from the patient’s medical records and by talking to the patients themselves. Taking into consideration such criteria as the normal activity of the patients, their performance, ability to work and whether or not they were dependent on assistance and care, their functional state was assessed by using the Karnofsky Performance Status Scale (Mor *et al.* 1984). A semi-structured questionnaire was applied to the patient by an interviewer, who also recorded the verbal responses. The semi-structured questionnaire included socio-demographic variables (age, gender, education, current employment status, marital status, number of children, economic status and health insurance), medical variables (the service at which the patient is seen, medical diagnosis, the duration of the illness, the number of hospitalization), existence of the psychosocial stressors other than the illness itself, information level about their illness and its treatment and locus of control. To

determine locus of control vis-à-vis illness and treatment, a semi-structured form was used, with each question requiring a response on a scale of 0–10.

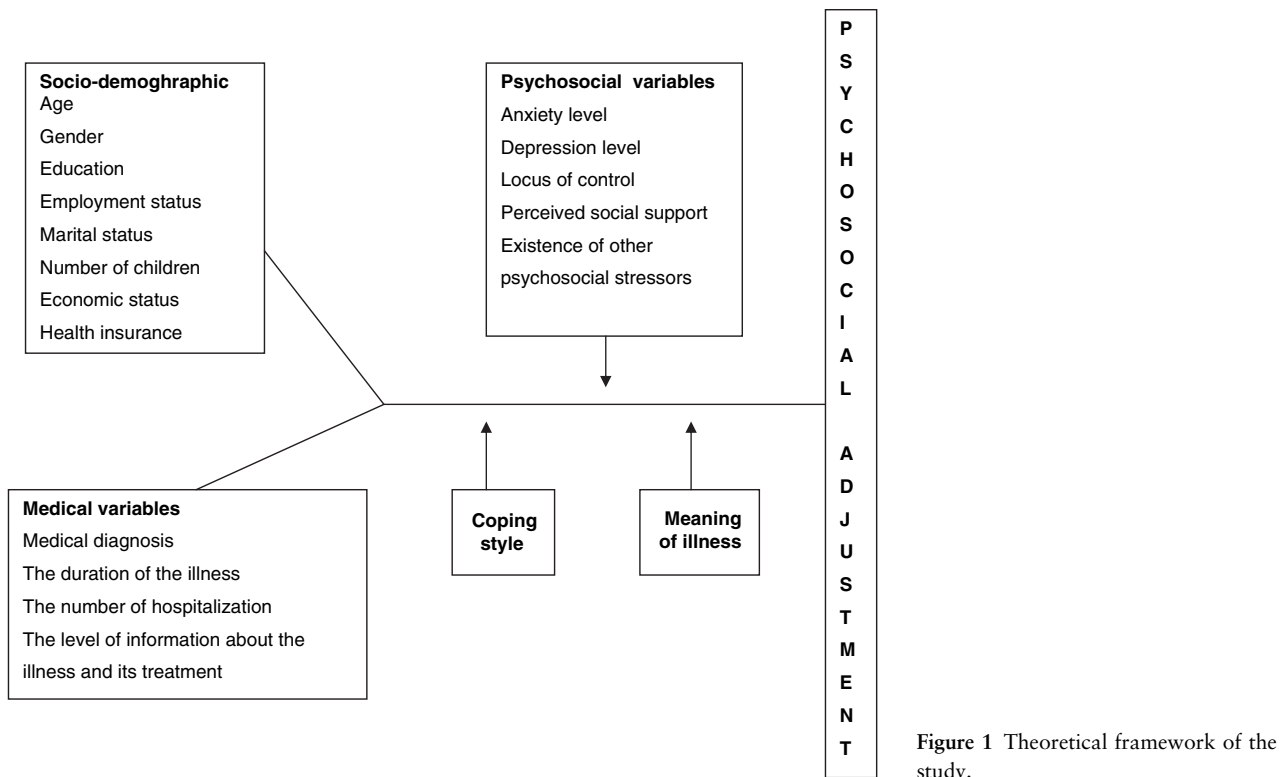
Information was provided to the patient as to how to fill out self-report questions. Because several criteria were used to achieve the aim of the study, to reach sound conclusions, two days were devoted to the having the patient respond to the questions.

Psychosocial adjustment was the dependent variable scored by PAIS-SR. Sociodemographics, medical, psychosocial variables, coping style and the meaning their illness has for them were independent variables as illustrated in Fig. 1.

Instruments

Psychosocial Adjustment to Illness Scale – Self-Report Version (PAIS-SR).

The PAIS-SR was used to assess the psychological and social adjustment to illness (Derogatis 1986). The PAIS-SR is a 46-item four-point scale (0–3) consisting of seven domains: healthcare orientation (eight items), vocational environment (six items), domestic environment (eight items), sexual relationships (six items), extended family relationships (five items), social environment (six items) and psychological distress (seven items). Higher scores indicate poorer adjustment. Reliability coefficient alphas for the PAIS-SR with renal



patients range from 0.63 to 0.87. The Turkish version of the PAIS-SR was prepared by Adaylar (1995).

The Hospital Anxiety and Depression Scale

The The Hospital Anxiety and Depression Scale (HADS) is a 14-item scale designed as a brief screening instrument for both anxiety and depression (Zigmond & Snaith 1983). Items are answered on a four-point Likert scale (range: 0–3). The anxiety and depression subscales each comprise seven items that are summed to give subscale scores ranging from 0 to 21, with higher scores indicating greater levels of anxiety and depression. Good reliability has been reported for each of the HADS subscales. Cronbach's alpha coefficients for the HADS subscales are 0.84 for anxiety and 0.78 for depression. Validity and reliability studies have been performed for the Turkish form (Aydemir *et al.* 1997), with a Cronbach alpha value of 0.88 having been found.

Meaning of illness questionnaire

This criterion which was developed by McAdams *et al.* (1987) establishes the meaning the patient attributes to his illness (Browne *et al.* 1988). It has been prepared to quantify the complex assessment individuals make of their state of existence. It is designed to determine (1) the degree to which patients feel the illness has affected their life and interpersonal relations; (2) how the threat of the illness is perceived by the patient; (3) how they evaluate the illness from the point of view of its prognosis; (4) how patients grade the degree to which the illness has harmed them; (5) the level of stress being experienced by the patient because of the illness; (6) the extent of the ambiguity and hesitation felt by the patient; (7) the degree to which they fear the recurrence of the illness; (8) their level of optimism and motivation to overcome the illness; (9) changes made in decision-making that can be attributed to having the illness; (10) coping power; and (11) whether the patients are pleased by their general condition and the demeanor of others. The measure consists of 33 questions, two of which (the 5th and 6th) are open-ended. Every question is given a score from 0–6. The Turkish form of the Cronbach alpha, which was created by Adaylar (1995) and used on patients with acute and chronic illnesses, yielded a value of 0.76.

The Ways of Coping Inventory

Developed by Folkman and Lazarus (1988), this inventory consists of 66 articles, divided up into eight sub-groups [(1) confronting, (2) distancing, (3) self-controlling, (4) seeking social support, (5) accepting responsibility, (6) escape-avoidance, (7) planned problem solving, and (8) positive re-appraisal]. The measure, which is based on a four-step Likert-type scale, indicates the frequency with which various means of

coping are used. Validity and reliability studies have been performed for the Turkish form (Kutlu & Pektekin 1999), with a Cronbach alpha value of 0.88 having been found.

The Multidimensional Scale of perceived social support

Multidimensional Scale of perceived social support, a 12-item scale, assesses the individual's present perception of the extent to which social support is available from family, friends and a significant others (Zimet *et al.* 1988). Higher scores indicate higher levels of perceived availability: lower scores indicate lower levels. Validity and reliability studies have been performed for the Turkish form (Eker & Arar 1995), Cronbach alpha value of 0.90 has been found.

Statistical analysis

The psychosocial adjustment (PAIS-SR) variable is normally distributed by using the Kolmogorov–Smirnov Z-test. The psychosocial adjustment (PAIS-SR) variable is normally distributed by using the Kolmogorov–Smirnov Z-test. The relationship between psychosocial adjustment and sociodemographics, psychosocial, medical variables, coping style and meaning of illness was tested using unpaired Student-*t*, ANOVA, and Spearman's rho tests of correlation.

In univariate analysis, the relationship between psychosocial adjustment with sociodemographics was analysed with unpaired Student *t* and Spearman's rho test. The relationship between psychosocial adjustment with medical diagnosis was analysed with ANOVA. The relationship between psychosocial adjustment with the duration of illness, number of hospitalization, anxiety level, depression level, locus of control, perceived social support was analysed by both unpaired Student *t*-test and Spearman's rho. The relationship between psychosocial adjustment with the level of information about illness and its treatment, existence of the psychosocial stressors other than the illness itself was examined by using unpaired Student-*t*. The relationship between psychosocial adjustment with coping style was analysed with Spearman's rho. The relationship between psychosocial adjustment with each item in meaning of illness was analysed ANOVA.

This was followed by a multivariate analysis employing Logistic Regression (Forward-LR) on the variables determined to have an impact on psychosocial adjustment.

Results

The results of statistical analysis for both univariate and multivariate analysis of the relationship between the level of psychosocial adjustment and each of the other variables (sociodemographics, medical, psychosocial variables, coping

style and meaning of illness) are presented under separate headings.

Psychosocial adjustment to physical illness

The average psychosocial adjustment score among patients was 1.02 (SD 0.41) (0.7–2.26), with 47.5% ($n = 94$) registering poor adjustment. Table 1 presents the means and SDs of the PAIS-SR measures of the research participants' psychosocial adjustment to the physical disease in each of the seven life domains.

Sociodemographic variables and their impact on psychosocial adjustment

Of the participants, 55.1% are women and 44.9% are men. Their average age is 36.9 (SD 12.9) (18–65). A total of 27.8%

Table 1 Mean scores and SDs of the Psychosocial Adjustment to Illness Scale-Self Report domains (PAIS-SR) ($n = 198$)

PAIS-SR domain	Mean	SD
Health care	1.04	0.49
Vocational	1.37	0.59
Domestic	0.78	0.50
Sexual	1.01	0.72
Extended family	0.54	0.50
Social	1.38	0.83
Psychological	1.01	0.65
Total PAIS-SR	1.02	0.41

are university graduates. Most are married (62.6%), have children (62.1%), and are unemployed (60.1%). A total of 70.2% indicate that their economic level is poor or average, 60.6% had health insurance.

Sociodemographics and their correlation with psychosocial adjustment were shown in Table 2. Among the sociodemographic variables, having children ($t = -2.268$; $p = 0.02$) was the only variable that was correlated with psychosocial adjustment. No correlation was found between age and psychosocial adjustment ($r = -0.024$ and $p = 0.73$).

Medical variables and their impact on psychosocial adjustment

Cases were classified on the basis of the International Classification of Illnesses (Alimoğlu 1999). This classification system groups physical illnesses according to the inpatient clinic where treatment is received. After illness categories were generated, they were compared with psychosocial adjustment.

The cases fell into the following groups as follows: endocrine disorders (21.7%), urogenital disorders (16.2%) and haematological disorders (13.1%).

In increasing degree of strength of association, infectious diseases, bone–muscle–skeletal disorders and respiratory system disorders were found to be statistically correlated with psychosocial adjustment ($p = 0.03$) (Table 3).

The average duration of illness was 46.26 (SD 72.99) (1–480 months), with 41% ($n = 81$) of the illnesses being acute (1–6 months) and 59% ($n = 117$) being chronic (seven or

Sociodemographics	Mean ± SD	n	t	p
Gender				
Women	1.06 ± 0.40	109	1.767	0.07
Male	0.96 ± 0.42	89		
Education				
Primary education	1.07 ± 0.44	92	1.672	0.09
High school-university	0.97 ± 0.38	106		
Marital status				
Married	1.04 ± 0.41	124	1.201	0.23
Single or divorced	0.97 ± 0.41	74		
Number of children				
No child (0)	0.93 ± 0.39	75	-2.268	0.02
Children (1–6)	1.07 ± 0.42	123		
Employment				
Yes	1.01 ± 0.39	79	-0.210	0.83
No	1.02 ± 0.43	119		
Economic status				
Low	1.05 ± 0.42	139	-1.613	0.10
High	0.94 ± 0.39	59		
Treatment expenses				
Health insurance	1.01 ± 0.40	174	-0.521	0.60
None	1.06 ± 0.51	24		

Table 2 Sociodemographic predictors of psychosocial adjustment

Table 3 A comparison of the physical illnesses of participants and their psychosocial adjustment scores

Physical disease	Mean \pm SD	<i>n</i>	<i>F</i>	<i>p</i>
Infectious diseases	1.21 \pm 0.51	13	2.239	0.03
Cancer	0.91 \pm 0.24	15		
Endocrine system diseases	0.86 \pm 0.43	43		
Haemathological diseases	1.08 \pm 0.40	26		
Circulatory system diseases	0.95 \pm 0.43	25		
Respiratory system diseases	1.14 \pm 0.32	21		
Urogenital system diseases	0.96 \pm 0.42	32		
Muscle-skeletal system diseases	1.18 \pm 0.38	23		

more months). It was determined that, for 71.2% of the patients ($n = 141$), this was not their first hospitalization and that the average number of hospitalizations was 3.3 (SD 3.6) (1–30). No significant impact of these variables was found on psychosocial adjustment.

Psychosocial scores and their impact on psychosocial adjustment

An average score of 7.81 (SD 4.7) (0–20) was found for anxiety, 7.17 (SD 4.34) (0–20) for depression, 5.64 (SD 2.68) (0–10) for locus of control and 66.4 (SD 14) (23–83) for perceived social support. A total of 72.2% ($n = 143$) of the patients indicated that there was no other factor creating psychosocial stress during the preceding year other than their existing illness. A total of 27.8% ($n = 55$) were found to have high anxiety scores, 42.4% ($n = 84$) high depression scores. A 49% ($n = 97$) reported that they felt unable to control or

get a handle on their illnesses and its treatment. A total of 42.9% ($n = 85$) felt that social support was insufficient. A total of 46.5% ($n = 92$) of the patients indicated that they did not have adequate information about their state of health.

According to Spearman's rho test of correlation, the psychosocial adjustment score was positively correlated to both anxiety ($r = 0.597$, $p < 0.001$) and depression ($r = 0.632$, $p < 0.001$) scores. The psychosocial adjustment score was negatively correlated to both locus of control score ($r = -0.268$, $p < 0.001$) and perceived social support ($r = -0.231$, $p = 0.001$). Unpaired Student *t*-test revealed that in patients who felt that they had not received sufficient information about their illness and its treatment had even lower psychosocial adjustment scores ($t = -2.425$, $p = 0.01$) (Table 4).

Coping style and its impact on psychosocial adjustment

The most frequent coping styles resorted to by participants were: seeking social support, maintaining a distance, planned problem solving, maintaining an optimistic attitude, assuming responsibility, keeping oneself under control, evasion-avoidance behaviour and confronting the problem. In Spearman's rho test of correlation, psychosocial adjustment score was positively correlated to escape-avoidance ($r = 0.290$, $p < 0.001$) and was negatively correlated to distancing ($r = -0.218$, $p = 0.002$), planned problem solving ($r = -0.252$, $p < 0.001$) and positive re-appraisal ($r = -0.162$, $p = 0.02$). There was no correlation between psychosocial adjustment and confronting coping, self-controlling, seeking social support and accepting responsibility.

Table 4 Psychosocial predictors of psychosocial adjustment

	Mean \pm SD	<i>n</i>	<i>t</i>	<i>P</i>	<i>r</i>	<i>p</i>
Anxiety score						
Anxiety \downarrow (0–10)	0.91 \pm 0.36	143	-6.697	<0.001	0.597	<0.001
Anxiety \uparrow (11–21)	1.31 \pm 0.41	55				
Depression score						
Depression \downarrow (0–7)	0.81 \pm 0.32	114	-9.839	<0.001	0.632	<0.001
Depression \uparrow (8–21)	1.30 \pm 0.36	84				
Locus of control						
Below mean (poor)	1.10 \pm 0.41	97	-2.741	0.007	-0.268	<0.001
Above mean (good)	0.94 \pm 0.40	101				
Perceived social support						
Below mean (poor)	1.13 \pm 0.44	85	-3.492	0.001	-0.231	0.001
Above mean (good)	0.93 \pm 0.37	113				
Psychological stressors						
Yes	1.05 \pm 0.44	55	-0.678	0.49		
No	1.00 \pm 0.40	143				
Level of Information						
Sufficient (Full)	0.95 \pm 0.40	106	-2.425	0.01		
Insufficient (Partial)	1.09 \pm 0.42	92				

The Meaning of Illness Questionnaire and its impact on psychosocial adjustment

Of the patients 47% ($n = 93$) said that their illness had an overwhelming influence on their daily lives and their ability to work. The same proportion indicated that they perceived their illness as requiring a resolute effort to overcome. In addition, 45.5% ($n = 90$) felt that they were significantly harmed by their illness; 38.9% ($n = 77$) perceived their illness as a threatening situation; 41.4% ($n = 82$) considered their illness a major personal failure. In only 8.6% ($n = 17$) of the cases were stress levels found to be low. While 54.5% ($n = 108$) of the patients felt that they had to accept their illnesses completely, 49.5% ($n = 98$) thought that it was necessary to do something about it; 56.6% ($n = 112$) indicated that they felt largely handicapped by their illness; 47.5% ($n = 94$) stated that since having become ill, they had experienced a major change in the kinds of decisions they make; 48.5% ($n = 96$) said that their decisions were, for the most part, under their own control and that they felt like they had the strength, energy and patience to handle the situation.

The assessment patients made of their illness and psychosocial adjustment scores were compared with one another via ANOVA. All 33 items on the assessment survey were found to have a significant impact on psychosocial adjustment ($p < 0.001$).

Results obtained by subjecting variables determined to have an impact on psychosocial adjustment to logistic regression analysis

Logistic Regression Analysis was applied to all the variables (sociodemographics, medical, psychosocial, coping style and

meaning of illness) to understand their effects on psychosocial adjustment.

Conclusions showed that physically ill patients with a high score for depression indicated 7.64 times lower ($p < 0.001$) on psychosocial adjustment than patients at lower score for depression. Patients who indicate that their daily lives have been affected by their illness have 16.33 poorer ($p < 0.001$) psychosocial adjustment scores than those whose daily lives are not affected to any great degree by their illness. Patients who expressed dissatisfaction with way of handling things had psychosocial adjustment scores 3.03 times poorer ($p < 0.001$) than those who expressed complete satisfaction. In those patients who indicated change in commitments after the illness, psychosocial adjustment scores were 4.91 times poorer ($p = 0.009$) compared with those who indicated no change in commitment after the illness (Table 5).

Discussion

Psychosocial adjustment to physical disease is a complex multivariate process. In our study, we investigated whether the level of adjustment to physical illness and demographic, medical and other, psychosocial, independent variables could be predictive of psychosocial adjustment, as measured by PAIS-SR. In 47.5% of the cases such adjustment was poor, especially in the social, vocational, health care, sexual and psychological domains. In the literature, the factors most studied for their impact on psychosocial adjustment are such physical illnesses as diabetes mellitus, myocardial infarction (MI), rheumatoid arthritis, asthma, burns and late-stage kidney failure; being on haemodialysis; and various illnesses requiring the surgical intervention. In one study (Drory *et al.* 1999), patients having received a diagnosis of acute MI for

	<i>B</i>	<i>p</i>	Exp (B) (OR)	95% GA
Depression				
(ref) Low score (0–7)			1	
High score (8–21)	2.03	<0.001	7.64	3.33–17.50
Impact on daily life				
(ref) No-none		<0.001	1	
Some	1.11	0.096	3.04	0.82–11.30
Completely	2.79	<0.001	16.33	4.18–63.75
Way of handling things				
(ref) No-none		0.001	1	
Some	–2.65	0.002	0.70	0.01–0.36
Completely	–3.40	<0.001	0.33	0.06–0.18
Change in commitments				
(ref) No-none		0.008	1	
Some	1.64	0.003	5.15	1.77–15.00
Completely	1.59	0.009	4.91	1.49–16.15
Constant	0.096			

Table 5 Results of an analysis of variable determined to have an impact on psychosocial adjustment

the first time were studied. It was determined that adjustment was poor, particularly in the areas of work and healthcare. This was followed by psychological state, family circle and sexual relations. Similar results were found in Turkey for patients with a chronic illness (Adaylar 1995) and in those having received a colostomy (Çavdar 1999).

In studies of the impact of sociodemographic variables on psychosocial adjustment, educational level in patients with coronary artery disease (Drory *et al.* 1999), being single, in patients having chronic illnesses (Adaylar 1995) and in those having various physical illnesses (Mullen & Suls 1982, Scherbourne *et al.* 1992) was determined to have an impact on psychosocial adjustment. Moreover, in many studies, psychosocial adjustment was not affected to any great degree by age, sex, or marital status (Conn *et al.* 1991, Williamson *et al.* 1994, Crowe *et al.* 1996, Dunn 1996, Courts & Boyette 1998). Having children puts pressure on persons in terms of the number of roles they have to balance and the responsibility that they have to assume. Being ill makes it difficult to meet associated expectations and, hence, is a source of added stress. While this is meaningful, this conclusion has not been reached by any other study.

The physical illnesses of patients requiring inpatient treatment were obtained from medical records at the hospital, with 52 separate diagnoses being established. The biological parameters that formed the basis for this determination were also useful in making medical diagnoses and in coming up with treatment plans. However, in consultation liaison psychiatry (CLP), there is great difficulty in classifying physical illnesses. In their examination of studies of the impact of the medical variable in various groups of illness on psychosocial adjustment, Drory *et al.* (1999) found that psychosocial adjustment was affected less by medical variables than it was by psychological ones. In studies carried out on different groups of illnesses, no relationship was discovered between severity of illness and psychosocial adjustment (Devins *et al.* 1993, Fisk *et al.* 1994, Devins *et al.* 1996, Pakenham *et al.* 1997). In contrast, declining physical capacity tended to produce poor psychosocial adjustment (Wineman 1990, Devins *et al.* 1993).

In our study, no relationship was seen between psychosocial adjustment and length of illness and number of hospitalizations. The literature provides support for this finding (Maybury & Brewin 1984, Rudick *et al.* 1992). There are also studies, however, that show that as the length of the illness increases, adjustment tends to increase as well (Fisk *et al.* 1994, Pakenham *et al.* 1997). In one study on patients having ischaemic heart disease (Stewart *et al.* 1997), patients who were repeatedly hospitalized were more likely to see their illness as threatening than those hospitalized for the first

time. In the former, uncertainty, loss of control, and emotional difficulties increased. It is reported that coping as a form of assuming responsibility was accepted less often.

In contrast, our study showed that, in univariate analyses, such psychosocial variables as anxiety, depression, locus of control, perceived social support and having insufficient information about one's illness had an impact on psychosocial adjustment. In regression analysis, however, only depression was found to have such an impact. Depression was thus found to be predictive of psychosocial adjustment in all life domains except for healthcare orientation (Drory *et al.* 1999). A negative correlation was found between the locus of control patients felt they had over their illness and psychosocial adjustment. Other studies (Taylor *et al.* 1985, Affleck *et al.* 1987, Courts & Boyette 1998, Courts 2000) support this finding. Many studies have shown that social support is an important factor in the achievement of psychosocial adjustment – as the level of social support a patient has increases, so does his level of psychosocial adjustment (Rose 1990, Scherbourne & Hays 1990, Williamson *et al.* 1994, Rybarczyk *et al.* 1995, Drory *et al.* 1999, Williaughby *et al.* 2000). In one study, conducted on patients with diabetes mellitus by using multiple regression analysis, 47% of the changes in adjustment could be explained by personal resources and social support (Williaughby *et al.* 2000). Conn *et al.* showed that social support – both directly and indirectly, by enhancing sound health-related behaviour – played an important role in the recovery from MI (Conn *et al.* 1991).

Our study also found a significant relationship between the level of knowledge a patient had regarding his illness and his degree of psychosocial adjustment. Other studies (Fontana *et al.* 1989, Horne & Weinman 1999, Stull *et al.* 1999) have shown that those with sufficient information about their illness and those who understood the necessity of what was being done to treat it had higher levels of psychosocial adjustment than those who did not. Being informed is the right of both the patient and his family; it is necessary in order to ensure the effectiveness of treatment and care provided.

In one study involving patients with ischaemic heart disease (Stewart *et al.* 1997), the most frequently used means of coping was seeking out sources of social support. This was followed by planned problem solving and optimistic assessment of their situation. Other studies have also demonstrated a relationship between means of coping and level of psychosocial adjustment (Pakenham *et al.* 1997, Leake *et al.* 1999, Livneh *et al.* 1999, Pakenham 1999, Curtis *et al.* 2005). Dunn found that the use of such coping techniques as finding positive meaning, having an optimistic outlook and having a

feeling of greater control tended to reduce symptoms of depression and increase adjustment (Dunn 1996). In another study, by Roberts *et al.* (1987) adjustment was greater in patients who took a problem-solving approach to their situation and relied less on avoidance behaviour. These conclusions parallel those found in this study.

In our study, in addition to these variables, the meaning an illness has for a patient has a particular bearing on how well he achieves psychosocial adjustment. In fact, when a regression analysis is performed by using variables found to have an impact on psychosocial adjustment, the other three variables other than depression having any significant impact are related to how a patient assesses his illness. This has been discussed in a few other possibly relevant studies in which the Meaning of Illness Questionnaire scale has been used. In one study (Browne *et al.* 1988), in cases where three different illnesses were present at the same time in the same patient, the meaning each of these illnesses had for the patient did not vary from one illness to another; neither did the severity of the illness make any difference to the patient's assessment of its meaning to him. A more powerful factor in explaining psychosocial adjustment of a patient was coping style and the meaning given to stress and situational factors.

In addition to our study, other studies have shown that, while the perception of an illness as a threat tends to create greater distress in a patient (Wineman 1990, Pakenham *et al.* 1997) its being perceived as a threat does not negatively affect adjustment (Pakenham *et al.* 1997). On the contrary, some studies have determined that an illness being perceived as a challenge is in fact a positive factor in achieving the adjustment (Pollock 1986, Folkman & Lazarus 1988). In one study on patients having chronic coronary failure (Rideout 1986), while adjustment did not fluctuate according to duration of the illness, its severity or the physical restrictions it brought, in patients with high levels of hope and morale, levels of social and physical functioning tended to be higher. It was determined that depression was an indicator related less to the severity of the illness and more to how a patient actually perceived his illness (Sacks *et al.* 1990). In one study (Scioli *et al.* 2000), it was established that the meaning a patient attributes to an illness was an important factor in being able to cope and that it, in fact, played a critical role in some patients.

In conclusion, just as several variables have an impact on the psychosocial adjustment of persons with physical illnesses, depression and the way in which a patient perceives his illness have a particularly significant effect on psychosocial adjustment – especially in the area of impact on daily life, general behaviour and decisions made after becoming ill.

Contributions

Study design: NK, YK, SÖ, MÖ; data collection and analysis: NK, YK; and manuscript preparation: NK, YK, MÖ.

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