Determinants of Psychological Distress and Its Course in the First Year After Diagnosis in Rheumatoid Arthritis Patients

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In order to examine determinants of psychological distress and its course in the first year after diagnosis in rheumatoid arthritis patients, self-report data and clinical and laboratory measures were collected in 91 patients (70% female, mean age 57 years) shortly after diagnosis and 1 year later. Multiple regression analysis indicated that sex, pain and functional status, disease impact on daily life, life events, and perceived social support were related to psychological distress (anxiety and depressed mood) shortly after diagnosis. Coping strategies were related to distress levels only 1 year later. Multiple regression analysis of change in anxiety and depressed mood revealed that a decrease of psychological distress after 1 year could be predicted by male sex, an initially less severe inflammatory activity and an initially more extended social network. In addition, a decrease in distress was related to parallel improvements in clinical status. Results indicate the importance of a multimodal assessment of demographic variables, clinical and life stressors and social resources for the understanding of distress and the identification of risk factors in the first stage of the disease. Personal coping resources appear to become more important predictors of distress in a later phase of the disease.

KEY WORDS: rheumatoid arthritis; psychological distress; pain; functional status; disease impact; social support; coping with stress.

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INTRODUCTION

Rheumatoid arthritis (RA) is a chronic, unpredictive, and progressive inflammatory disease primarily affecting the joints. After diagnosis, the patient is confronted with a new, unexpected, and uncontrollable stressor with actual as well as foreseeable long-term consequences in physical, psychological, and social areas of life. Physical disability, pain, social dependency, uncertainty about disease progression, and threats to one's self-esteem are some of the consequences of the disease that impose great demands on the patient's adaptive capabilities and may increase psychological distress.

Raised levels of anxiety and depressive symptoms have frequently been reported and are indicative of a prevalence of about 20% in patients with longstanding RA (e.g., Bishop et al., 1987; Frank et al., 1988; Katz and Yelin, 1993; Murphy et al., 1988). Whether the psychological status of recently diagnosed patients is different to that of patients with longstanding RA is not yet clear. It has been supposed that an increased level of psychological distress would be expected shortly after the diagnosis as a reaction to a personally threatening event, with an ensuring process of psychological adjustment to the disease, due to a growing capacity to cope with the stressor later on (Newman et al., 1989; Devins et al., 1992). Shorter illness duration has been shown to be related to increased levels of depression by Chaney et al. (1996), Deyo et al. (1982), Katz and Yelin (1993), Newman et al. (1989), and Wolfe and Hawley (1993), while Meenan et al. (1991) reported no differences between recently diagnosed patients (disease duration of less than 1 year) and those with more established disease. Little is known about the factors which affect psychological status shortly after the diagnosis and which predict its course in the first stage of the disease. The relative amount of psychological distress as well as the process of adaptation to a chronic disease are supposed to be both affected by the encountered stressors and the resources available (Lazarus and Folkman, 1984).

Research in RA patients with established disease has indicated that a broad set of physical, psychological, and social stressors and resources are relevant for the understanding and prognosis of psychological distress. The disease itself and the clinical status figure as important stressors in RA patients. Especially pain and the patient's functional status have been shown to be related to depression in recently diagnosed patients (disease duration of less than 1 year) (Van der Heide et al., 1994a), in patients with more established disease (mean disease duration of 3 years) (Brown, 1990; Nicassio and Wallston, 1992) and in patients with longstanding RA (mean disease duration of more than 10 years) (Newman et al., 1989; Wolfe and Hawley, 1993). Less evidence has been found with regard to a relation between distress and clinical measures such as blood sedimentation rate and

joint score (e.g., Bijlsma *et al.*, 1991; Newman *et al.*, 1989; Wolfe and Hawley, 1993). In addition, there is suggestive evidence that the impact of the disease on daily life, such as the impact on household activities, income, work, sexuality and leisure activities, figures as an important stressor affecting psychological distress in patients with longstanding RA. Indicative of a positive relationship between disease impact on daily life and depressed mood are the results of Devins *et al.* (1992), Brons *et al.* (1993), and Katz and Yelin (1995). Finally, stress research has focused on the occurrences of major life events. Studies in patients with longstanding RA yielded equivocal results, and significant relations between major events and health outcomes in RA patients were rather low (e.g., Brons *et al.*, 1993; Klages, 1991; Koehler and Vertheim, 1993; Rimon and Laakso, 1985).

Individual differences in psychological distress independent from health status suggest that various psychological processes, such as receiving social support and the way of coping with stressors, mediate or modify the relationship between stressors and the psychological reaction to a chronic disease (Cohen and Wills, 1985; Lazarus and Folkman, 1984). One main conceptualization of social support is the distinction between qualitative aspects, such as the perceived availability of support, and quantitative aspects, such as the size of the social network (Cohen and Wills, 1985). In accordance with Cohen and Wills (1985), research suggested that qualitative aspects of social support are more important than quantitative aspects in patients with a disease duration of about 3 years (Brown *et al.*, 1989) and in patients with longstanding RA (Goodenow *et al.*, 1990). From investigations of coping strategies among individuals with RA, it can be concluded that passive, avoidant, and emotion-focused ways of coping are related to maladaptive functioning, whereas active and problem-focused coping strategies are associated with adaptive functioning (for review, see Manne and Zautra, 1992; Young, 1992).

The multimodal influence of these determinants on psychological distress shortly after diagnosis and its course in the first year of the disease have not yet been investigated in RA patients. The stressors and coping resources might be partly different for recently diagnosed patients which are relatively inexperienced with a chronic stressor. In order to gain insight into predictors of psychological distress and its course in the first year of the disease, we examined the extent to which demographic variables, clinical status, disease impact, life events, social support, and coping strategies shortly after diagnosis predict the level of psychological distress and its course in the first year after diagnosis. We expected that a high level of distress shortly after diagnosis as well as a smaller decrease in psychological distress within the first year of the disease would be related to an initially worse clinical status, a greater amount of disease impact on daily life, the occurrence of more life events, and less personal and social coping resources.

METHOD

Subjects

The sample consisted of successive outpatients with recently diagnosed RA from five hospitals in the Utrecht area, the Netherlands. Patients were participating in a prospective study on the effects of different medication strategies. Inclusion criteria were a minimum age of 18 years, a disease duration of less than 1 year, and a diagnosis of RA assessed by a rheumatologist according to the 1987 ACR criteria (Arnett et al., 1988). Patients were informed by their rheumatologists about this study during the first routine visit in which ACR criteria were assessed. One hundred patients agreed to participate and received a questionnaire during the second routine visit which was scheduled about 3 weeks later (range 0-12 weeks). This second visit was also the starting point for the second-line antirheumatic medication. Correctly completed questionnaires were returned by 95 patients. One year later, 91 patients completed the questionnaires again. In none of the patients remission occurred. The sample was predominantly female (70%), married or living together with a partner (74%), with primary (34%) or secondary (53%) education. The mean age was 57 years (range 20-82 years). The medication of the patients was as follows: 31% patients were on NSAIDs alone; the others were on NSAIDs in combination with methotrexate (25%), intramuscular gold (16%), hydroxychloroquine (14%), or prednisone (14%). Means of psychological distress and clinical status measures of the patients on first and second assessments are presented in Table I.

Measures

Psychological distress in the past month was measured with the "anxiety" and "depressed mood" scales of the IRGL (Impact of Rheumatic Diseases on General health and Lifestyle; Huiskes et al., 1990). The IRGL is partly derived from the Arthritis Impact Measurement Scales (AIMS; Meenan et al., 1980) and measures the physical, psychological, and social aspects of health status in patients with rheumatic diseases. The "Anxiety" scale (ten items) of the IRGL is a condensed version of the Dutch state-anxiety questionnaire (STAI-DY; Spielberger et al., 1970; Van der Ploeg et al., 1980). The "Depressive mood" scale (6 items) of the IRGL is derived from a questionnaire of Zwart and Spooren (1982). Any of these scales contains somatic items which could reflect the RA disease process or consequences. Items of the IRGL-scales are scored on a 4- or 5-point Likert-scale.

Table I. Means and SDs of Psychological Distress and Clinical Status Shortly After the Diagnosis (T1) and 1 Year Later (T2)

Variable (range)	T1		T2	
	Mean	SD	Mean	SD
Psychological distress				
Anxiety (10–40)	19.2	6.7	19.0	6.8
Depressed mood[a] (0–4.9)	1.5	1.3	1.3	1.3
Clinical status				
ESR (1–140 mm 1st hr)	30.9	23.3	23.7	22.4
Joint score (0–534)	96.9	95.9	66.0	77.4
Grip strength (0–130 kPa)	32.7	23.0	40.4	26.2
Pain (6–25)	15.6	4.9	14.1	5.3
Mobility (8–28)	19.6	6.1	20.9	5.7
Self-care (8–28)	24.3	5.9	25.3	5.6

[a]Square root.

In previous research, reliability and validity of the IRGL scales were shown to be highly satisfactory (Huiskes et al., 1990).

Clinical status measures were obtained through standardized clinical and laboratory data as well as self-report measures. Clinical and laboratory data were collected on ESR (Erythrocyte Sedimentation Rate), joint scores according to the method described by Thompson (1987), and grip strength measured by a Martin vigorimeter (mean of three measurements of each hand was calculated). Self-report measures included assessments of pain and functional status. Pain in the past month were assessed by the "pain"-scale (six items) of the IRGL. Self-reports of functional status in the past month were assessed by the "mobility" (seven items) and "self-care" scale (eight items) of the IRGL.

Disease impact on daily life was measured by the "disease impact" scale of the IRGL (ten items) referring to the general impact the disease has on several domains of daily life (i.e., work, leisure, relationships, sexuality, food).

Stressful life events were measured with a Dutch version of the Life Experience Survey (LES), assessing the occurrence of 60 events concerning health, work and financial situation, relationships, living, and personal matters during the past 12 months (Sarason et al., 1978; Van de Willige et al., 1985). In order to minimize confounding effects with disease impact, four disease related events were excluded (admission to hospital, surgical operation, occurrence of severe disease, important change in health status).

Social support in the past 6 months was measured by the social functioning scales of the IRGL, reflecting a quantitative and qualitative aspect of social support: the size of the social network was measured through the

index "number of friends"; perceived availability of support was assessed by the scale "potential support" (five items).

Coping strategies were assessed using the Utrecht Coping List (UCL; Schreurs *et al.*, 1993), partly adopted from Westbrook (1979). Patients were instructed to indicate the extent to which they used different kinds of coping behavior in dealing with stressors of everyday life. Items were scored on a 4-point Likert scale. Four of the seven scales of the questionnaire were used in the present study: "Tackling problems actively" (seven items), "Comforting cognitions" (five items), "Distraction" (eight items), and "Avoidance" (eight items). Reliability and validity have been shown to be satisfactory (Sanderman and Ormel, 1992).

Statistical Analyses

Because of skewed distributions of scores at depressed mood and life events, square root transformations were applied. Social network scores were categorized according to norm classes (Huiskes *et al.*, 1990). In order to examine the relative contribution of demographic variables, clinical status, disease impact on daily life, life events, social support, and coping strategies on psychological distress shortly after diagnosis, hierarchical multiple regression analysis was performed with all predictors which were significantly related to at least one of the measures of psychological distress (anxiety or depressed mood). In order to predict the course of psychological distress within 1 year, the same procedure was followed for the longitudinal data with distress levels about 1 year after diagnosis, entering distress levels shortly after diagnosis at the first step. Bivariate associations between all variables were calculated with Pearson's correlation coefficients. Differences between means of the first and second assessment were tested with Student's *t*-test and Wilcoxon Signed Rank test in the case of ESR and Thompson's joint score. All statistical analyses were carried out with the SPSS 6.1/Windows statistical package with a minimum of 88 patients sharing complete datasets.

RESULTS

Level of Psychological Distress

Patients exhibited relatively high levels of psychological distress. In comparison to norm groups of the general population obtained by Van der Ploeg *et al.* (1980) and Zwart and Spooren (1982), this group of recently

diagnosed RA patients reported significantly higher levels of depressed mood ($t = 4.42, p < .01$) and anxiety ($t = 4.92, p < .01$). When examining risk groups, 27 and 38 patients, respectively (28% and 40%) had an equal or higher anxiety and depressed mood value than the mean score of DSM-III-diagnosed psychiatric outpatients, while 17 and 19 patients, respectively (18% and 20%), reported an equal or higher level than the mean score of patients with a clinical anxiety or depression diagnosis (Van der Ploeg *et al.*, 1980; Zwart and Spooren, 1982).

Predictors of Psychological Distress Shortly After Diagnosis and 1 Year Later

Hierarchical multiple regression analyses were used to examine the relationship between demographic variables (sex, age, educational level), clinical status (ESR, joint score, grip strength, mobility, self-care, pain), disease impact on daily life, life events, social support and coping strategies, and the level of psychological distress shortly after diagnosis. Only those variables were entered in the regression model which were significantly related to at least one of the measures of psychological distress (anxiety or depressed mood at T1); that were sex, pain, and self-report measures of functional status (mobility and self-care), disease impact on daily life, life events, social support, and coping strategies (distraction and avoidance) (see Table II). The results of the last step of the cross-sectional regression analysis are shown in the left columns of Table II.

At step 1, sex (being female) contributed 5% to the variance in anxiety (Fchange $= 5.96, p < .05$), but it did not explain any significant variance in depressed mood. Clinical status variables (pain, mobility, self-care) entered at step 2 added 12% of the variance in anxiety (Fchange $= 5.46, p < .01$) and 20% in depressed mood (Fchange $= 8.51, p < .001$). In order to analyze the relative contribution of pain and functional status (mobility and self-care), both were also separately entered into the model. Pain accounted for significant variance when entered either before or after functional status. Functional status failed to make a significant contribution if it was entered after pain, suggesting that pain mediated the relationship between functional status and distress. At step 3, disease impact on daily life contributed a further 11% to the variance in anxiety (Fchange $= 14.37$, $p < .001$) and 7% of the variance in depressed mood (Fchange $= 9.64, p < .01$). Life events entered at step 4 explained an additional 9% of the variance in anxiety (Fchange $= 12.32, p < .001$), but did not contribute to the variance in depressed mood. When life events were entered before disease impact, the same results were revealed as in the reversed order. Social

Table II. Stepwise Multiple Regression Predicting Psychological Distress at Study Entry (T1) and 1 Year Later (T2) from Selected Predictors at Study Entry (Demographic Variables, Clinical Status, Disease Impact, Life Events, Social Support, and Coping Strategies)[a]

	Anxiety T1			Depressed mood T1			Anxiety T2			Depressed mood T2		
	r	Beta	R^2 (adj.)	r	Beta	R^2 (adj.)	r	Beta	R^2 (adj.)	r	Beta	R^2 (adj.)
Psychological distress T1												
Anxiety T1[b]							.76**	.68**	.57**			
Depressed mood T1[b]			.05*			.02			.02*	.66**	.61**	.43**
Demographic variables												.00
Age	-.17			-.11			.07			.16		
Sex	.24*	.11		.17	.09		.21*	.13		.13	.06	
Education	.07			.02			-.04			-.02		
Clinical status T1			.12**			.20**			.01*			.00
ESR	.08			.05			.21*	.14*		.10	.08	
Thompson score	.13			.12			-.03			.05		
Grip strength	-.15			-.05			-.14			-.12		
Pain	.29**	.03		.40**	.20*		.00			-.11		
Mobility	-.29**	.04		-.34**	-.13		-.17			-.14		
Self-care	-.31**	-.05		-.21*	.11		-.15			-.16		
Disease impact T1	.54**	.37**	.11**	.52**	.31**	.07**	.04			-.06		
Life events T1	.40**	.24**	.09**	.25*	.02	.00	-.14			-.02		
Social support T1			.05**			.04*			.01			.03*
Social network	-.28**	-.11		-.21*	-.09		-.20			-.22*	-.18*	
Perceived support	-.39**	-.20*		-.30**	-.18*		.15	-.11		-.09		
Coping strategies T1			.02			.03						
Tackl. problems actively	-.15			-.17			-.05			-.03		
Comforting cognitions	-.07			-.10			-.19			-.04		
Distraction	.22*	.03		.29**	.19*		-.13			-.04		
Avoidance	.31**	.16		.30**	.07		.11			.13		
Total adj. R^2			.44**			.36**			.61**			.46**

[a]Two-tailed probabilities of R^2 (F-change), r (calculated with anxiety and depressed mood T1 and the residual gain scores), and beta (t-test). Selection criterion was the significant association with one of the measures of psychological distress (anxiety or depressed mood T1 and the residual gain scores).
[b]Zero order correlation.
*p < .05.
**p < .01.

support at step 5 added 5% to the variance in anxiety (Fchange $= 5.14$, $p < .01$), and 4% to the variance in depressed mood (Fchange $= 3.08$, $p = .05$). If social network and perceived support were entered separately, only perceived support made a significant contribution to the variance in anxiety and depressed mood. Coping strategies at step 6 did not add any more significant variance to anxiety or depressed mood. Also when entry order of social support and coping strategies was reversed, the latter did not made a significant contribution. All independent variables accounted for a total amount of 44% of the variance in anxiety and 36% of the variance in depressed mood.

One year after diagnosis, psychological distress was related to the same set of predictors at that time. Entering these predictors in multiple regression analyses, they explained even 55% variance in anxiety and 45% in depressed mood. The greater amount of explained variance mainly arose from a stronger contribution of social support variables (9% in anxiety and 8% in depressed mood), and a significant contribution of the coping strategies (avoidance and distraction) in anxiety and depressed mood (4% and 6%, respectively).

Taken together, the amount of psychological distress shortly after diagnosis could be best predicted by female sex, high levels of pain and disease impact on daily life, the occurrence of more life events and low levels of perceived social support. Pain seems to mediate the relationship between functional status and psychological distress. One year after diagnosis, relationships were replicated, but the contribution of social and personal coping resources were stronger.

Predictors of the Course of Psychological Distress in the First Year After Diagnosis

Change in Clinical Status and Psychological Distress 1 Year After Diagnoses. One year after diagnosis, there was a mean decrease in five of the six clinical status measures (see Table I). Improvements in clinical status were reflected by a decrease in ESR ($z = -3.64$, $p < .001$), Thompson's joint scores ($z = -3.24$, $p < .001$), and pain ($t = 2.71$, $p < .01$) as well as an increase in grip strength ($t = -4.27$, $p < .001$) and mobility ($t = -3.05$, $p < .01$) 1 year after diagnosis. However, psychological distress was rather stable (Table I). The mean levels of anxiety and depressed mood were not changed after 1 year. Looking at individual changes, improvements (more than 0.5 SD) occurred in $n = 18$ patients (19%) in anxiety and $n = 17$ patients (18%) in depressed mood. A deterioration in psychological distress

occurred in n = 13 patients (15%) in anxiety and n = 24 patients (25%) in depressed mood.

Predictors of Change in Psychological Distress. In order to evaluate the extent to which the independent variables shortly after diagnosis predicted the individual patient's course of psychological distress within 1 year, a hierarchical multiple regression analysis was conducted with the distress levels 1 year after diagnosis, entering distress levels shortly after diagnosis at the first step. Again, only those variables were entered in the regression model which were significantly related to at least one of the outcome measures. For this purpose, residual gain scores of anxiety and depressed mood were calculated. Of the set of predictors, only sex, ESR, and social network were significantly related to change in anxiety or depressed mood (see Table II). Hierarchical regression analyses indicated a strong autoregressive effect for psychological distress over time, accounting for 57% of the variance in anxiety (*F*change = 118.23, p < .001) and for 43% in depressed mood (*F*change = 68.95, p < .001). At step 2 and 3, sex (being female) contributed 2% and high levels of ESR contributed 1% to the variance in anxiety change (*F*change = 5.17, p < .05; *F*change = 3.84, p < .05, respectively), but did not add variance to depressed mood change. At step 4, the size of the social network did not make a significant contribution in anxiety change, but a smaller social network added 3% to the variance in depressed mood change (*F*change = 4.83, p < .05).

Due to the significant mean improvements in clinical status, the extent to which changes in psychological distress were related to parallel changes in clinical status were also examined. Pearson correlation coefficients revealed that a decrease in anxiety and depressed mood was significantly related to a decrease in pain (r = .42, p < .001; r = .23, p < .05) and an increase in mobility (r = -.35, p < .01; r = -.36, p < .01, respectively) and self-care (r = -.32, p < .01; r = -.21, p < .05, respectively), but not to changes in ESR, Thompson score or grip strength. If change in pain, mobility, and self-care were entered into the regression analysis at step 4 (after sex, ESR, and social network), they were responsible for a further 8% of the variance in anxiety and 5% variance in depressed mood (*F*change = 7.99, p < .001; *F*change = 3.48, p < .05, respectively), accounting for a total variance of 69% in anxiety and 51% in depressed mood.

Taken together, a decrease in anxiety in the first year after the diagnosis was related to male sex and initial lower levels of ESR. A decrease in depressed mood was associated with an initially larger social network. In addition, a decrease in both distress measures were related to simultaneous improvements in clinical status.

DISCUSSION

The amount and prevalence of psychological distress is relatively high in recently diagnosed RA patients. Our sample reported significantly higher distress levels than healthy subjects with a depression and anxiety prevalence of about 20%, which has also been reported in patients with established disease (Bishop *et al.*, 1987; Frank *et al.*, 1988; Murphy *et al.*, 1988). In line with research of Meenan *et al.* (1991), it can be concluded that recently diagnosed patients do not differ dramatically from chronic patients in the amount of distress they are experiencing. Psychological distress also appeared to be a rather stable phenomenon for our group RA patients, and an adaptation to the disease seems not to have taken place (yet) in the first year after diagnosis. Psychological adaptation may be indicated by a reduction or stability of distress with a simultaneous deterioration of the disease state. While clinical status improved, probably due the positive effects of the medication therapy (Van der Heide *et al.*, 1994b), the mean level of psychological distress did not change, and percentages of patients whose distress improved or deteriorated were about the same.

For the understanding of psychological distress shortly after diagnosis, the multimodal assessment of demographic variables, clinical and life stressors, and social resources was shown to be important in the current study. The amount of distress shortly after diagnosis could be substantially explained by sex, functional status and pain, disease impact at daily life, stressful life events, and perceived social support. All these factors were also related to the amount of distress 1 year later. Their relationship with distress therefore seems to be relatively stable within the first year of the disease.

How do our findings relate to findings in studies of patients with RA of longer disease duration? The role of pain and functional status with regard to distress have been previously demonstrated in recently diagnosed patients (van der Heide *et al.*, 1994a) and in patients with more established disease (Brown, 1990; Newman *et al.*, 1989; Nicassio and Wallston, 1992; Wolfe and Hawley, 1993). In our sample of recently diagnosed patients pain mediates the relationship between functional status and distress; a finding that was not observed in patients with longstanding RA (Wolfe and Hawley, 1993). A worse functional status, such as found in longstanding RA (Wolfe and Cathey, 1991), may figure as an additional stressor to pain, while the less worse functional status of recently diagnosed patients may be more clearly associated with pain. Moreover, pain and functional status may be more clearly related to current disease activity in the early phases of RA, while being distinct outcomes of past disease activity in the ad-

vanced phases. In addition to pain and functional status, the experienced impact the disease has on daily life, such as work, recreation and relationships was very important for higher levels of distress, as has also been suggested in studies of patients with longstanding RA (Devins et al., 1992; Brons et al., 1993; Katz and Yelin, 1995). Less evidence in patients with longstanding RA has been found for the experience of major life events (e.g., Brons et al., 1993) which figures as an additional stressor in anxiety in recently diagnosed patients. Results suggest that the additional effects of clinical and life stressors are especially important at an early stage of the disease when patients are less experienced with the stressors of a chronic disease. Irrespective of stressors, qualitative aspects of social support, such as the perceived availability of support, seem to be beneficial for the amount of distress in recently diagnosed patients, as has been demonstrated in patients with a more established disease (i.e., Brown et al., 1989; Goodenow et al., 1990). Considering the greater amount of variance social support explained 1 year later, this effect might increase with longer disease duration. Although the suggested direction of the predictors has been partly confirmed in patients with established disease, the direction of the relationships may be reversed or at least be reciprocal. For instance, it may be the case that higher distress levels also cause a higher sensitivity to pain, lead to the report of the occurrence of more life events and affect the perception of experienced disease impact on daily life and receipt of support.

Predictors for an increase in psychological distress in the first year after diagnosis were female sex, an initially higher inflammatory activity as indicated by ESR, and an initially smaller social network. Women did not only have higher levels of anxiety shortly after diagnosis, but their sex in itself was also a risk factor for an increase in anxiety after 1 year. After taking the influence of sex into account, patients with a greater inflammatory activity, indicated by higher levels of ESR shortly after diagnosis, had a higher risk of an increase in anxiety 1 year later. However, ESR was not related to the amount of anxiety shortly after diagnosis. While the amount of psychological distress shortly after diagnosis is related to directly experienced health outcome measures such as pain and functional status, measures more clearly reflecting the disease process such as ESR are predictive of the course of distress in the first year of the disease. Longitudinal studies in patients with longstanding RA have demonstrated that sex as well as ESR are both predictors of future functional status (Sherrer et al., 1987). Considering that the course of psychological distress was relative strongly related to the course of functional status and pain in the first year after diagnosis in our sample, the relation between the predictors and the course of distress may be parallel to the development of function. Post hoc analyses

indeed demonstrated that female sex and higher levels of ESR both also predicted a worse functional status after 1 year (self-care and grip strength, respectively). Results suggest that the course of psychological distress in the first year of the disease depend on similar factors than the course of the clinical outcome. Indicators of psychological adaptation may be therefore only visible in patients with a less severe disease process and less ongoing disability.

For changes in depressed mood, the magnitude of the social network predicted changes after 1 year. Patients who were less imbedded in a social network shortly after diagnosis showed an increase in depressed mood after 1 year. Such a prognostic effect for the quantitative aspect of social support seems to be in contrast with findings in patients with a more established disease (e.g., Brown *et al.*, 1989). An extended social network which probably offers broad resources of support (emotional as well as instrumental) seems to be more important for the psychological adaptation of a patient shortly after diagnosis, when usual patterns of life are disturbed and many life domains have to be reorganized, than at a more progressive stage of the disease. Network-enhancing interventions, for example, by offering support groups and facilities of interdisciplinary health care teams, may promote the well-being of recently diagnosed patients.

Our predictors allow the identification of risk factors for an increase in psychological distress in the first year after diagnosis, but their overall explained variance was rather small. One explanation may be that 1 year is too short to discover a larger influence of psychological factors on the development of distress. Probably due to beneficial effects of the medication therapy, psychological changes instead covary more strongly with changes in clinical status. Studies in patients with a longer disease duration partly failed to find a relationship between changes in clinical status and psychological functioning (McFarlane and Brooks, 1988). If associations were found, they only occurred in patients with relatively dramatic flares of disease activity (Bishop *et al.*, 1987) or seem to be most strong over a short period of time (Wolfe and Hawley, 1993). At a later phase of the disease the function of social and personal coping resources seems to increase. In our study, contribution of social support was stronger 1 year after diagnosis than on first assessment, and coping strategies did modify the relationship between stressors and distress only 1 year after diagnosis. After a personally threatening event, such as the occurrence of a chronic disease, the general way to cope with stress of daily life may be disturbed, old types of coping behavior may not be appropriate any more to deal with new stressors, and new behavior has not been established yet. Effects of readjustment processes, which derive from the personal coping resources

available, may be part of a more longstanding process and be only visible over a longer period of time and at later stages of the disease.

Results of our study underline the importance of a multimodal assessment and consultation in recently diagnosed patients, including demographic variables, clinical and life stressors, and social support characteristics which are relevant for the understanding of distress shortly after diagnosis and which highlight risk factors for less psychological adjustment to the disease in the first year. Besides medical treatment, psychological adjustment of patients may be optimized by support-enhancing health care facilities in the first year after diagnosis. The influence of personal coping factors seems to be more important at a later stage of the disease.

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