

DEPRESSION, ANXIETY AND SOCIAL SUPPORT IN RHEUMATOID ARTHRITIC WOMEN WITHOUT AND WITH A SPOUSE***

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A comparison was made of income and physical, social and psychological aspects of health between 22 female patients who had never married, 127 patients living with a spouse and 53 patients who were widowed or divorced. No significant differences were found between never married patients and patients living with a spouse. The widowed or divorced patients however had a lower income, reported less potential support, more depression and anxiety than the patients who were never married and those living with a spouse. The relationship of social support to depression and anxiety was investigated in spouseless patients ($n=75$) and in those living with a spouse ($n=127$). In both groups of patients, less potential support was found to be related to more anxiety. In addition, pain was found to contribute significantly to depression and to anxiety only in the patients living with a spouse. With regard to the latter, it is suggested that the debilitating influence of pain on the relationship with the partner might have been the mediating factor.

KEY WORDS: Rheumatoid arthritis, social support, depression, anxiety, marital status, female patients.

INTRODUCTION

Rheumatoid arthritis (RA) is a disease with a chronic and unpredictable course, occurring in about 1 percent of the population. The main feature of RA is inflammation of the joints, resulting in joint damage and invalidity. The disease strikes all ages, but the first signs are predominantly observed between the ages of 20 and 50 years. The male-female ratio is 1 to 3 (Anderson, Bradley, Young and McDaniel, 1985). RA is a disease of the autoimmune system. Its specific cause, however, remains unknown. Therefore, prevailing medical treatments have been so far aimed at the suppression of symptoms and prevention of joint damage.

The pain inflicted and physical disability produce changes in nearly every area of life. Characteristic symptoms are physical disability, pain, depression, anxiety and social isolation (Meenan, Yelin, Nevitt and Epstein, 1981). Physical disability and pain are related to depression and anxiety (e.g., Bijlsma, Huiskes, Kraaimaat, VanderVeen and Huber-Bruning, 1991). The following mechanisms are assumed to be involved in

this relationship: (a) helplessness as a result of the loss of activity and social reinforcement (e.g., Rudy, Kerns and Turk, 1988); (b) a common neurochemical mechanism (France, Krishnan and Trainor, 1986), and (c) a possible side-effect of medication (Moldofsky and Rothman, 1971).

Great individual differences are observed in the relationship of physical disability and pain to depression and anxiety. Langley and Sheppard (1985) assessed the co-occurrence of pain with depressive moods and anxiety in RA patients over a two-week period. Asynchronous as well as synchronous relationships were observed in patients with high levels of pain, while synchronous relationships prevailed in the patients with low levels of pain. The heterogeneity in the relation between physical and psychological parameters led to a search for mediating social and psychological variables.

Current research focuses on social support (e.g., Brown, Wallston and Nicassio, 1989) and on pain-coping strategies (e.g., Brown, Nicassio and Wallston, 1989; Kraaimaat and Huiskes, 1989). Social support has been studied extensively and found to have beneficial effects on the individual's adaptation to chronic disease (Cohen and Wills, 1985). An important asset for RA patients is their network of social relationships upon which they can rely for instrumental and emotional support. It is assumed that physical impairment and a decrease of mobility may lead to a loss of social relationships and social support. However, there is no indication that the size of the network in RA patients is smaller than that in healthy subjects (Bal, 1992). On the other hand, it has been found that RA patients make fewer visits and perceive less social support than people in the general population (van Dam-Baggen and Kraaimaat, 1992). Research indicates that social integration and perceived availability of social support contribute to reducing the negative affective reactions of RA patients (Fitzpatrick, Newman, Lamb and Shipley, 1988; Goodenow, Reisine and Grady, 1990).

The general discussion on the relationship between social support and health focusses on the circumstances in which social support may be more or less beneficial. It is hypothesized that social support may effect well-being in two different ways. Firstly, the main effect hypothesis proposes that social resources may have a beneficial effect on adjustment, irrespective of the level of stress. Secondly, the buffer effect hypothesis proposes that social support is only beneficial for persons under stress. Support for both hypotheses has been found in several investigations. When the social support measure assesses structural aspects of the social network, evidence is more likely to favour the main effect hypothesis. A buffering effect of social support is more likely to be found when functional aspects of social support are assessed (Cohen and Wills, 1985). It should be noted that the causal relationship assumed in both hypotheses between social support and health is questionable. A considerable number of studies supporting a significant relationship between social support and adjustment have relied on a cross-sectional research design that precludes the examination of predictive effects. Studies that explore the social support-adaptation relation over time cannot rule out the possibility that other intervening processes may account for the relationship established. In addition, reversed causation may be involved. A cross-sectional as well as prospective study in RA patients was performed by Brown, Wallston and Nicassio (1989). They examined the role of social support and depression in patients who had suffered the illness for 7 years or less. Data were collected in three waves over two

6-month periods. In the cross-sectional part of the study a moderate negative relationship was found between emotional support and severity of depression. Furthermore, the patients' perception of the degree of support appeared to be more important than the size of their network. When the effect of social support was considered over time, support was found for the main effect hypothesis, and not for the buffering effect hypothesis.

In evaluating the role of social support on health, the fact that the quantity as well as the quality of social support may vary with sex, age, SES and cultural background must be considered (Argyle and Henderson, 1985). In addition, these demographic variables may also be related to self-reported complaints. In the general population it was found that sex and marital status were both related to reported complaints and social support. In comparison with men, women reported physical and psychological complaints more frequently and made more use of the health system. Men, on the other hand, were more disposed to alcohol abuse and overt antisocial behavior (Whitehead, 1988). Women were more inclined than men to discuss psychological problems with others (Horwitz, 1977). Roberts, Roberts and Stevenson (1982) distinguished between patients who had never married and patients who were single due to separation, divorce or death of spouse. In their community survey of American women, they found that women who had never married reported less symptoms than married women, who in turn had fewer symptoms than those who had been separated, divorced or widowed.

Sex and marital status, in combination with age and duration of RA, are often analyzed as covariates in psychosocial research in rheumatology to control the effects of these patient characteristics. The focus on sex and marital status in RA research is of recent date. Ward and Leigh (1993) used a prospective study to investigate whether marital status was associated with differences in progression rates of functional disability in RA patients. These authors showed that progression rates are higher in unmarried than in married patients. Although Ward and Leigh did not have data on the mechanisms that might account for this effect, they speculate that the health benefits of marriage derive from the social support engendered by this relationship. In her editorial introduction of Ward and Leigh's paper, Reisine (1993) mentioned some preliminary data which suggest that the benefits of marriage are the result of a more supportive social network. Although the aforementioned studies are promising, the interpretation of their results is complicated by the fact that no distinctions were made between men and women, nor between patients who have never married and were widowed or divorced.

The present study attempts to clarify the effect of marital status on social support, depression and anxiety in female outpatients with chronic RA. Its purpose is two-fold. Firstly, it attempts to investigate differences in the size of the social network, perceived social emotional support, depression and anxiety between patients who have never been married, those living with a spouse and those who have been widowed or divorced. Secondly, it proposes to examine the role of social support with regard to depression and anxiety in patients who had lived without a spouse and those who had lived with a spouse. In order to assess main and buffer effects, this relationship was explored while taking demographic and functional disability variables into account.

METHOD

Patients

Rheumatologists of 4 hospitals in the central region of the Netherlands selected 500 RA outpatients¹. The diagnosis of RA was assessed by a rheumatologist² according to the revised criteria of Arnett, Edworthy and Bloch (1988). The patients were sent a set of self-report questionnaires (IRGL, Huiskes, Kraaimaat and Bijlsma, 1990a, 1990b; IPG, Kraaimaat and Schevikhoven, 1988) and requested to complete and return them by mail. The data of 362 patients were useful for further analysis. From that pool, female patients were selected who met the following criteria: at least 21 years of age, a duration of the disease of at least 2 years, and an onset of RA after the age of 18. This procedure resulted in a sample of 202 female outpatients consisting of 127 patients living with a spouse (122 married, 5 living together; age $M=57.4$, $SD=12.9$; duration of RA $M=14.5$, $SD=11.0$) and 75 patients living without a spouse. The 75 patients without a spouse were subdivided into: (a) 22 patients who had never married and lived without a spouse (age $M=59.7$, $SD=14.1$; duration of RA $M=15.7$, $SD=11.9$); (b) 53 patients who had once been married, of whom 42 were widowed and 11 divorced (age $M=69.3$, $SD=11.1$; duration of RA $M=17.6$, $SD=15.3$).

Measurements

Physical, psychological and social aspects of health were measured with a Dutch health status questionnaire, the IRGL (Invloed van Reuma op Gezondheid en Leefwijze=Impact of RA on Health and Lifestyle) (Huiskes, Kraaimaat and Bijlsma, 1990a, 1990b). The IRGL is partly derived from the Arthritis Impact Measurement Scales (AIMS; Meenan, Gertman and Mason, 1980) and consists of 21 items for the physical health dimension (resulting in 3 scales: mobility, self-care and pain), 22 items for the psychological dimension (resulting in the scales: anxiety, depression and cheerfulness), 13 items for the social health dimension, and 9 items referring to the impact of RA on daily activities. The items for the social health dimension result in two social network indices (number of neighbours and number of friends) and three empirically derived scales referring to perceived emotional social support (potential support, actual support and mutual visits). Sample items for emotional social support are: When I am in pain, there is someone to support me (potential support), I speak confidentially with others (actual support), I visit friends or relatives (mutual visits). In the present investigation, all the IRGL scales were used with the exception of the scales for 'cheerfulness' and 'impact'. In previous research, the reliability and validity of the IRGL scales were shown to be satisfactory (Huiskes, Bijlsma and Kraaimaat, 1990a; Kloth, Huiskes and Kuiper, 1991; van Dam-Baggen and Kraaimaat, 1992).

For the purpose of the present study, one item was added concerning the income of patients. Patients were requested to indicate their annual family income level with respect to one of the following categories: 1= at most NLG 20,000 2= from NLG

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20,000 to 40,000 3= from NLG 40,000 to 60,000 4= from NLG 60,000 to 80,000
5= NLG 80,000 or more.

RESULTS

Differences between patients who were never married, those living with a spouse and those who were widowed or divorced

The patients who were widowed or divorced differed in age and duration of RA from patients who were living with a spouse and from those who were never married. Previous research established that age and duration of RA were related to mobility and self-care, and that age was related to social support (Huiskes, Kraaimaat and Bijlsma, 1990a). Therefore differences between groups were assessed by ANCOVA. Due to the relatively high correlation between age and duration of RA, age proved to be sufficient as a covariate in the analyses to control differences in age and duration of RA between groups. The covariate age was found to be significant for income [$F(1,198)=6.8$, $p < .01$], mobility [$F(1,198)=50.7$, $p < .001$] and self-care [$F(1,198)=15.1$, $p < .001$].

The mean scores and the standard deviations for income and for the scales representing physical, social and psychological functioning and F-values for differences between groups are shown in Table 1.

Significant differences between groups were found for income [$F(2,198)=13.65$, $p < .001$], potential support [$F(2,198)=3.53$, $p < .05$], depression [$F(2,198)=4.39$, $p < .01$] and anxiety [$F(2,198)=3.84$, $p < .05$]. In order to examine differences between groups Student-Newman-Keuls tests ($p < .05$) were applied to the adjusted means. The widowed or divorced patients were found to differ significantly from both the patients who had never married patients and patients living with a spouse with regard to income, depression and anxiety. Widowed or divorced patients also differed from patients living with a spouse with regard to potential support. As can be seen in Table 1, widowed or divorced patients reported in comparison with the other groups of patients a relatively lower income, less potential support, more depression and more anxiety. No differences in income, physical functioning, social support and psychological distress were found between the patients who were never married and those living with a spouse.

The mean level of depression of the widowed or divorced patients was compared with that of a sample of psychiatric outpatients ($M=5.82$, $SD=5.93$) obtained by Zwart and Spooren (1982). No significant differences ($t=0.10$) were revealed in levels of depression between widowed or divorced patients and psychiatric outpatients.

Relationship between social support and depression and anxiety

The relationship between social support and depression and anxiety was investigated separately in patients living with a spouse and those living without a spouse. The sample without a spouse ($n=75$) consisted of patients who had never married and those who were widowed or divorced. The sample with a spouse ($n=127$) consisted of all the patients with a spouse. A hierarchical regression analysis procedure was used to determine the aforementioned relationships (Pedhazur, 1982). The independent variables were each entered in the regression analysis in a series of steps: (1) demographic variables (age and income), (2) physical functioning (mobility, self-care

Table 1 Income, physical functioning, social support and psychological distress in 3 groups of RA patients: patients who had never married, patients who lived with a spouse and widowed or divorced patients (standard deviations in parenthesis).

	<i>never married n=22</i>	<i>with spouse n=127</i>	<i>widowed/ divorced n=53</i>	<i>F-value Newman-Keuls test @</i>
	<i>M</i>	<i>M</i>	<i>M</i>	
<i>Income</i>	2.3 (0.8)	2.5 (1.0)	1.5 (0.6)	13.65*** 3 < 1,2
<i>Physical functioning</i>				
<i>Mobility</i>	17.3 (7.4)	16.5 (6.6)	13.5 (6.3)	.66
<i>Self-care</i>	23.0 (7.7)	22.8 (6.4)	22.0 (6.9)	.29
<i>Pain</i>	16.4 (5.2)	16.2 (4.5)	16.7 (4.50)	.05
<i>Network</i>				
<i>Neighbours</i>	5.6 (4.1)	6.1 (4.6)	5.9 (5.5)	.14
<i>Friends</i>	9.5 (10.3)	9.6 (7.8)	9.1 (8.6)	.46
<i>Emotional support</i>				
<i>Potential</i>	13.4 (4.8)	14.8 (4.5)	12.9 (4.2)	3.53* 3 < 2
<i>Actual</i>	7.7 (2.1)	6.8 (2.0)	6.7 (2.3)	1.80
<i>Mutual visits</i>	5.9 (1.5)	5.9 (1.4)	5.7 (1.5)	.08
<i>Psych. distress</i>				
<i>Depression</i>	3.3 (4.1)	3.9 (4.5)	6.1 (4.9)	4.39** 3 > 1,2
<i>Anxiety</i>	18.2 (3.9)	20.0 (6.3)	22.3 (5.5)	3.84* 3 > 1,2

* $p < .05$ ** $p < .01$ *** $p < .001$

@ 1=never married, 2=with spouse, 3=widowed/divorced

and pain), and (3) social support (network: friends and neighbours, perceived emotional support: potential support, actual support and mutual visits).

Patients without a spouse

Demographic variables (step 1: age and income) and physical functioning (step 2: mobility, self-care and pain) were neither significantly contributing factors for depression nor for anxiety. With regard to depression an F value of 1.18 (ns) was obtained at step 1 and a value of .93 (ns) at step 2. With regard to anxiety, an F value of 1.31 (ns) was obtained at step 1 and a value of .62 (ns) at step 2. At step 3 all independent variables accounted for 34% of the variance in depression ($F=1.93$, $p = .07$) and for 41% of the variance in anxiety ($F=2.50$, $p < .05$) (Table 2). Univariate tests of these independent variables revealed that the amount of potential support was a significantly contributing factor for depression ($t=-3.06$, $p < .01$) and for anxiety ($t=-3.82$, $p < .01$). It has to be noted that the strength of the relationship between potential support and depression and anxiety may be somewhat overestimated by combining patients who had never married with widowed or divorced patients. Relatively high

levels of depression and anxiety and a relatively low level of potential support were demonstrated in the widowed and divorced patients.

Taken together, the results imply that higher levels of depression and anxiety were found in female patients without a spouse who perceived less potential support.

Patients with spouse

Demographic variables (step 1: age and income) were neither significantly contributing factors for depression ($F=1.34$, ns) nor for anxiety ($F=.49$, ns). Physical functioning (step 2), which was entered next in the regression equations, accounted for 20% of the variance in depression ($F=3.87$, $p < .01$) and for 17% in anxiety ($F=4.56$, $p < .01$). Univariate tests of the independent variables revealed that pain was significantly contributing factor for depression ($t=3.39$, $p < .001$) and for anxiety ($t=3.20$, $p < .01$). At step 3 (social support variables), all independent variables accounted for 28% of the variance in depression ($F=2.84$, $p < .01$) and for 41% of the variance in anxiety ($F=5.26$, $p < .01$) (Table 2). Univariate tests revealed that pain ($t=3.24$, $p < .01$) was a significantly contributing factor for depression. Univariate tests revealed that pain ($t=2.59$, $p < .05$), self care ($t=-1.99$, $p < .01$) and potential support ($t=-2.89$, $p < .01$) were significantly contributing factors for anxiety.

In order to investigate the nature of the contribution of physical functioning and social support to depression and anxiety, the social support variables were entered at step 2 and the variables for physical functioning at step 3. This reversed procedure revealed similar percentages of explained variance at step 2 and step 3 in depression and anxiety, and in the results obtained in the univariate tests. Hence, no support was found for the presence of a buffering effect. The results support the direct effect hypothesis for social emotional support. In female patients with a spouse, a low level of physical functioning was associated with more depression and anxiety; a higher level

Table 2 Three step hierarchical regression analyses with depression and anxiety as dependent variables in patients without ($n=75$) and with a spouse ($n=127$)

	<i>Without spouse</i>		<i>With spouse</i>	
	<i>Depr. Beta</i>	<i>Anxiety Beta</i>	<i>Depr. Beta</i>	<i>Anxiety Beta</i>
<i>1. Demographic</i>				
Age	-.06	-.06	-.07	.04
Income	.03	-.11	.00	.03
<i>2. Physical functioning</i>				
Mobility	-.27	-.18	.11	-.17
Self-care	-.12	-.05	-.05	-.24*
Pain	-.12	-.05	.40**	.29**
<i>3. Social support</i>				
Neighbours	-.17	-.20	.15	.08
Friends	.20	.12	-.06	-.08
Potential support	-.54**	-.67**	-.13	-.30**
Actual support	-.08	.02	-.13	-.11
Mutual visits	.17	.19	-.12	-.17
<i>R²</i>	.34*	.41*	.28**	.41**

* $p < .05$ ** $p < .01$

of potential support was associated with less anxiety, independent of physical functioning.

DISCUSSION

There is extensive evidence in the literature that social support contributes to psychological well-being in the general population as well as in RA patients. In addition, higher levels of depression and lower levels of perceived social support have been demonstrated in individuals with RA than in healthy samples. In the general population, the level of social support and psychological distress have been found to be influenced by age, sex and marital status. Research on the role of sex and marital status on psychological distress and social support in individuals with RA is of recent date.

The marital status of the female patients in our study was found to be influential on the level of psychological distress, perceived social support, and the relationship between both. Widowed or divorced patients differed from those who had never been married and those living with a spouse in that they had a lower income, reported less potential support and higher levels of depression and anxiety. The level of depression of these widowed or divorced patients appeared to be similar to that of psychiatric outpatients. These results suggest that widowed or divorced female patients are at risk in terms of their psychological and social functioning. No differences in psychological and social functioning were revealed between patients who had never married and those who were living with a spouse.

Age and family income were not contributing factors to depression and anxiety in patients without a spouse and in those with a spouse. Low levels of potential emotional support were associated with high levels of depression and anxiety in patients without a spouse and with a high level of anxiety in those with a spouse. A remarkable difference between both groups of patients was that a low level of physical functioning was associated with high levels of depression and anxiety only in the female patients living with a spouse. Pain contributed to 20% of the variance in depression and 17% of the variance in anxiety. Main effects on both physical functioning and social support were demonstrated in these patients with regard to anxiety. Why did physical functioning contribute to psychological distress in patients with a spouse and not in those without a spouse? A possible explanation is that pain has a negative impact on the relationship with a spouse. The contribution of the relationship with the partner to depression in patients with a chronic disease has been documented in several investigations. Kerns, Haythornthwaite, Southwick and Giller (1990) found that the partner's aversive responses contributed to depression in chronic pain patients. Manne and Zautra (1989) investigated psychological adaptation in female RA patients and the role of their partner's positive and critical responses. Positive responses were associated with a higher level of psychological adaptation, while critical responses were associated with lower levels. Pursuing the results of Kerns *et al.* (1990) and those of Manne and Zautra (1989), we suggest that the response of the spouse is a mediating variable in the relationship between physical functioning and depression. The patient's pain might elicit positive as well as negative responses in the spouse with opposite effects on the patient's psychological well-being.

In conclusion, it must be noted that we studied only female RA patients. There is evidence suggesting that men and women are differentially vulnerable to various types of undesirable events (Conger, Lorenz, Elder, Simons and Ge, 1993). It will be important for future research to study the role of physical disability and social support on psychological distress in male patients with and without a spouse.

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