

# Partner Participation in Cognitive-Behavioral Self-Management Group Treatment for Patients with Rheumatoid Arthritis

WIM van LANKVELD, TOON van HELMOND, GÉRARD NÄRING, DIRK JAN de ROOIJ, FRANK van den HOOGEN

**ABSTRACT.** *Objective.* To determine if participation of the spouse of patients with rheumatoid arthritis in cognitive-behavioral oriented self-management training aimed at improving disease related cognitions and coping with pain has additional benefits for the patients.

*Methods.* A total of 59 couples were randomly assigned to 2 conditions. In the experimental condition the couples participated in a group program aimed at restructuring disease related cognitions and decreasing passive coping. In the control condition, only the patient participated. Disease status, self-reported physical and psychological functioning, coping, disease related cognitions, and marriage characteristics were assessed prior to the intervention and 2 weeks and 6 months postintervention. A general linear model with repeated measures was used to test for differences between conditions.

*Results.* In both conditions, similar positive changes in disease activity, cognitions, coping, and physical and psychological functioning were observed. Patients reported a decrease in potential support. There were no differences between conditions. However, at the followup assessment patients in the experimental condition reported more improvement of disease related communication with their spouse.

*Conclusion.* No evidence was found for additional beneficial effects of spouse participation in the cognitive-behavioral oriented self-management group treatment. (J Rheumatol 2004;31:1738–45)

## Key Indexing Terms:

RHEUMATOID ARTHRITIS  
COUPLES

COGNITIVE-BEHAVIORAL TREATMENT  
COPING

In recent years the notion that psychological approaches need to be incorporated in ongoing biomedical treatment of rheumatic diseases has become widely accepted<sup>1</sup>. The onset of rheumatoid arthritis (RA) has been described as a biographical disruption in that it disturbs the taken-for-granted assumptions and behaviors<sup>2</sup>. The disease has a negative impact on many areas of life<sup>3-8</sup>, resulting in impaired psychological functioning<sup>9-11</sup>. Different treatments based on educational and/or psychological principles may have a positive effect on disease activity, pain, psychological status, coping, self-efficacy, and disease related behavior in addition to the positive effects of regular medical treatment<sup>12-14</sup>.

Most promising are interventions based on cognitive-behavioral principles aiming at restructuring disease related cognitions and improving active coping. Illness related cognitions referring to the general concept of control have a negative effect on outcome in RA<sup>15</sup>. Therefore, cognitive reevaluation has been a promising target for psychological interventions<sup>16</sup>. The effect of behavioral coping on both psychological and physical functioning has also been observed in longitudinal studies. Even when controlling for changes in disease activity, passive behavioral coping, i.e., decreasing activity in order to cope with pain, is related to subsequent decrease in psychological functioning<sup>17</sup>, physical functioning<sup>18</sup>, observed dexterity<sup>19</sup>, and withdrawal from work in patients with RA<sup>20</sup>. Therefore, improving behavioral coping is a frequent goal of psychological interventions. However, the observed effects of cognitive-behavioral interventions are small and of short duration<sup>13</sup>.

Including the patient's spouse in psychological interventions in RA may help increase the effect of such interventions by improving the quality of the interaction. The quality of the interaction between spouses, especially the interaction with regard to the disease, is related to psychological functioning in both the patient and the spouse<sup>21-24</sup>. In RA, the patient's perception of spouse responsiveness, criticism in particular, is an important predictor of pain behavior<sup>25</sup> and psychological functioning<sup>26</sup>. These findings emphasize the

---

From the Departments of Rheumatology and Research and Development, Sint Maartenskliniek, Nijmegen, The Netherlands.

Supported by a grant from NWO Medical Science and the Dutch League Against Rheumatism.

W.G.J.M van Lankveld, PhD, Psychologist, Department of Research and Development; T. van Helmond, MSc, Psychologist, Sint Maartenskliniek; G. Näring, PhD, Psychologist, Department of Clinical Psychology, University of Nijmegen; D.J. de Rooij, PhD, Rheumatologist; F.H.J. van den Hoogen, PhD, Rheumatologist, Department of Rheumatology, Sint Maartenskliniek.

Address reprint requests to Dr. W. van Lankveld, Department of Research and Development, Sint Maartenskliniek, PO Box 9011, 6500 GM Nijmegen, The Netherlands. E-mail: w.van.lankveld@smk-research.nl

Submitted July 9, 2003; revision accepted March 17, 2004.

importance of marital interaction in determining the patient's behavior and psychological functioning. Further, because the spouse has been viewed as the most important environmental reinforcer<sup>27</sup>, it can be assumed that including the spouse in psychological interventions is likely to improve the desired changes in behavior and psychological functioning. The spouse may encourage desirable behavior and cognitions in the patient and discourage passive coping behavior and negative cognitions. Including the spouse may therefore increase the effect of the intervention, as well as increasing endurance of these effects.

One study from the early 1990s showed small short-term effects of spouse participation in a cognitive-behavioral treatment for patients with RA<sup>28</sup>. That study did focus on pain management skills and maladaptive pain behaviors. However, in recent years psychological interventions have become more focused and comprehensive. Interventions now target specific coping styles, for instance "decreasing activity," as detrimental styles of coping with pain. Further, in the last decade cognitive factors have been incorporated in psychological intervention programs. However, it is still unclear whether inclusion of the spouse in such a group program aimed at improving the patient's disease related cognitions and behavioral coping with pain has any additional beneficial effects for the patient.

Our aim was to determine if inclusion of the spouse in a self-management group treatment focusing on cognitive-behavioral factors as part of ongoing medical treatment does result in increased effects for the patients. Patients and spouses were randomly assigned to 2 conditions. In the experimental condition both spouses participated in the cognitive-behavioral oriented self-management treatment, whereas in the control condition, only the patient participated. It was expected that the experimental condition would show larger beneficial effects in disease cognitions and behavioral pain coping compared to the control condition, resulting in greater effects on physical and psychological functioning of the patient on the longer term.

## MATERIALS AND METHODS

**Patient selection.** Patients were selected from the Sint Maartenskliniek in Nijmegen. All patients referred for multidisciplinary treatment were screened for possible participation in the study. The first step was screening for participation in the group based treatment. Only patients who met the American College of Rheumatology criteria for RA<sup>29</sup> were screened. Further, patients had to be in a stable relationship for at least one year. During the period of this study a total of 106 couples meeting these criteria were screened for treatment (Figure 1). Eleven couples were excluded from treatment because of psychiatric or physical comorbidity in one spouse. In 9 couples, work or family circumstances prohibited participation in treatment. A further 11 couples were excluded because one of the partners was unwilling to participate in the program. The most cited reason for not wanting to participate was the time investment required<sup>8</sup>. The remaining 75 couples met the inclusion criteria for the program and both spouses were able and willing to participate. These 75 couples were informed about the design of the study, the time investment required, and the nature of the questions that had to be answered. Based on this information, 16 couples

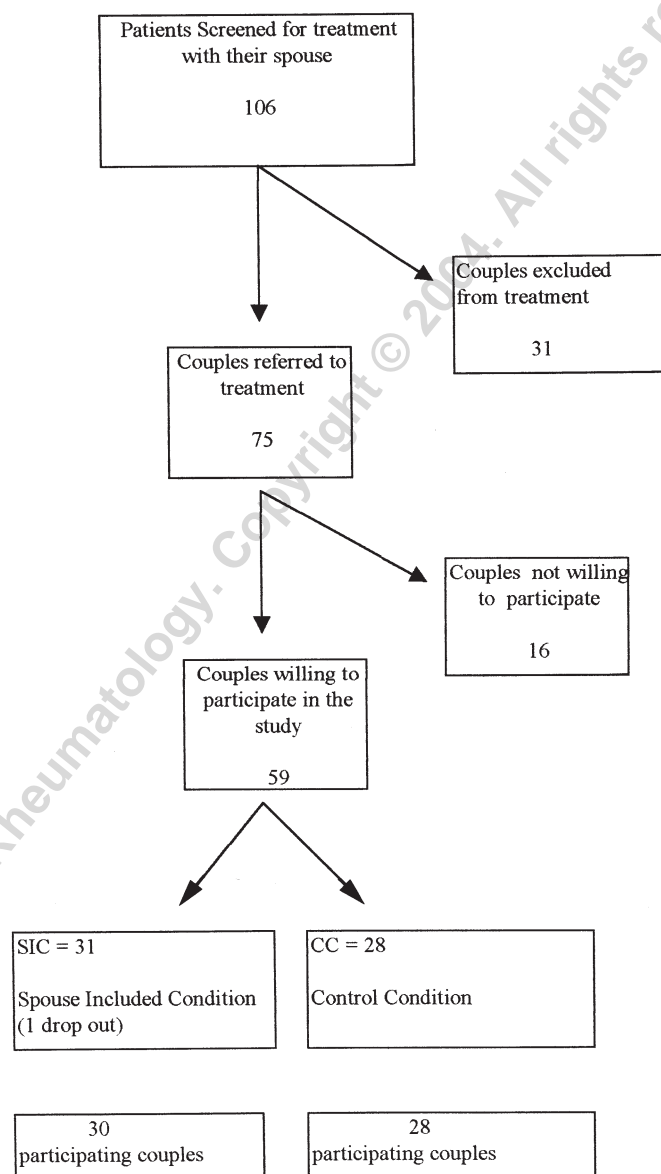


Figure 1. Selection of couples and allocation to study condition.

refused to participate. Reasons for declining to participate were: aversion to testing and the nature of this study (4 times); time investment required on top of treatment (5); distance to the hospital (3); or a combination of these reasons (4). The remaining 59 couples (79%) agreed to participate, both patient and spouse giving their informed consent. Both partners were contacted independently and briefed about the procedure of allocation to treatment. Participants were allocated to the Spouse Experimental or Control condition by way of consecutive admission. Treatment groups were scheduled one year in advance, with alternation of couples- and patients-only conditions. After giving informed consent couples were allocated to the next condition on schedule. All patients received regular continuing medical treatment. During the study no changes in prescribed medication were allowed. On average, patients received 6 h of physical therapy and 2 h of occupational therapy during the 4 weeks of the intervention. The study was conducted with approval of the medical ethics committee of the Sint Maartenskliniek.

One couple withdrew from participation after the baseline question-

naires were completed because they thought information sought in the questionnaires was too private. However, this couple continued with treatment. The first and second assessments were completed by all the remaining couples. Two couples (one in each condition) did not complete the followup assessment.

**Methods.** After both partners had given their informed consent, the questionnaires were mailed. All participants were asked to fill in the questionnaire independently of their spouse. The completed questionnaire was given to one of the researchers at an appointment at the clinic. During this appointment a blood sample was drawn from the patient to measure erythrocyte sedimentation rate (ESR) and a research nurse performed the joint counts. The researcher was blinded to condition allocation. Assessments were done 2 weeks prior to the start of treatment, 2 weeks after the treatment, and 6 months later.

## Measurements

### General outcome measures

**Disease activity.** Current disease activity was assessed with the Disease Activity Score (DAS), a composite score based on 3 measurements: ESR, number of swollen joints, and number of painful joints. The 28 joint count measure was used. This composite score is a reliable and valid measure of current disease activity<sup>30</sup>.

**Physical functioning.** The physical functioning scales of the Impact of Rheumatic Diseases on General Health and Lifestyle instrument were used (Invloed van Reuma op Gezondheid en Leefwijze: IRGL)<sup>31</sup>. These self-report scales are based on the Arthritis Impact Measurement Scale (AIMS)<sup>32</sup>. Psychometric properties of the IRGL scales are good<sup>33</sup>. Physical functioning was measured with 3 scales: mobility, dexterity, and pain. Higher scores on these scales indicate higher levels of mobility, dexterity, and pain.

**Psychological functioning.** Two scales of the IRGL were used as indicators of psychological distress. "Anxiety" measures the level of anxiety during the last month. The 10 items are rated on a 4 point Likert scale between "rarely or never" and "almost always." Depressive mood was assessed with 6 items. The scale measures mood in the previous week. The scores on the 5 point Likert scales range from "not at all" to "a lot."

**Cognitive evaluation of disease stressors.** Previous research identified pain, limitations, and dependence as the most prominent stressors. Pain was measured using the IRGL pain scale. Perceived limitations and dependence were measured using 2 independent scales. Perceived limitations was measured with a scale of 10 items. A typical item is "I feel limited." Perceived dependence was measured with a 9 item scale. An example is "Being in need of help is irritating to me." Both scales have high internal consistency<sup>8</sup>. Higher scores depict higher levels of stress perception (either pain, limitations, or dependence).

**Patient's passive pain coping.** Coping was assessed using the Coping with Rheumatoid Stressors (CORS) Questionnaire. This instrument measures coping with the most important stressors of the disease: pain, limitations, and dependence. The instrument has good internal and external validity<sup>34,35</sup>. In this study only one scale of the CORS was used. Behavioral coping with pain was assessed with the scale Decreasing Activity in coping with pain.

### Marriage related variables

**Marital satisfaction.** The scale Marital Satisfaction of the Maudsley Marital Questionnaire (MMQ) was used to measure marital satisfaction. The construction, reliability and validity of the Dutch version have been well established<sup>36,37</sup>. The scale Marital Satisfaction consists of 10 items measuring overall satisfaction with marriage in general (theoretical range of score = 0–80). Examples of items are "Are you satisfied with your life with your partner" and "How often do you consider divorce." In this study, internal consistency for the scale Marital Satisfaction, expressed in Cronbach's alpha, was 0.91 in the patient group and 0.90 in the partner group. In the original MMQ, a lower score depicts higher level of satisfaction. In order to ease the interpretation of the results, in our study the direc-

tion of the scales has been reversed. Higher scores on the MMQ now reflect higher levels of satisfaction.

**Social support.** Social support from the spouse was measured with 2 scales of the IRGL: Potential Support (5 items) and Actual Support (3 items). An example of an item on the Potential Support scale is "When I am in trouble, there is someone to support me." The item "I speak confidentially with others" is an example of actual support. Scores were rated on a 4 point Likert scale.

**Spousal criticism.** The patient's perception of spousal criticism was assessed using one scale of the empirically derived spouse reaction questionnaire<sup>26</sup>. The criticism scale (ranging from 2 to 8) consists of the items (1) ignores me and (2) shows his irritation.

**Communication improvement.** A new scale was developed to measure the extent to which patients thought that participation in the treatment did result in better understanding/communication concerning the disease. The scale consists of 4 items: "Thanks to the treatment, the communication with my partner has improved," "It is easier to talk with my partner about the rheumatic disease," "I have a better understanding of the problems my partner has with the disease," and "We have a better understanding of each other." The 4 items were randomly embedded in a larger number of items referring to an overall evaluation of the treatment, including evaluation of the location and the staff. Internal consistency expressed in Cronbach's alpha is 0.81. "Communication improvement" was only assessed at followup.

**Statistics.** All variables were tested for normality. Depending on the measurement level, chi-square or Student t-test was used to test for differences between experimental conditions at baseline. Variables showing significant differences between the 2 conditions were used as covariates in repeated measurement analysis. A general linear model for repeated measures was used to test for a difference in effect for the 2 conditions on outcome measures. Time was used as a fixed factor with 3 measurement levels, and with experimental condition as between-subjects factor. Multivariate analyses were performed on physical functioning (mobility, dexterity, and pain), psychological functioning (depressive mood and anxiety), and stressors of the disease (limitations and dependence). Additional univariate analyses were performed to analyze the changes in individual variables. Because there was only one dropout from each condition for the followup assessment, analyses were performed with intention-to-treat methods, using the last-observation-carried-forward method. In this method, the result of the second assessment is copied to the third (missing) assessment.

Statistics were calculated using the Statistical Package for the Social Sciences, version 9.1. Significance level was set at 0.05.

### Conditions

**Control condition.** The group treatment program "Werken aan Reuma" (Working on Arthritis) was developed at the Department of Rheumatology of the Sint Maartenskliniek by a multidisciplinary team consisting of a rheumatologist, psychologist, nurse, nutritionist, physiotherapist, occupational therapist, and social worker. The program combines education by a multidisciplinary team with cognitive-behavioral techniques. The goal is to restructure disease related cognitions and to teach effective (active) coping styles using rational emotive therapy (RET). Cognitions targeted are cognitive stress appraisals of the most important stressors of the disease: pain, limitations, and dependence. The behavioral goal is to discourage "decreasing activity" when dealing with pain. Patients meet for 8 sessions of 1.5 hour under the guidance of a psychologist over a period of 4 weeks. Each discipline gives information about the disease and treatment. One session (medical information) is solely focused on information-giving. In 3 sessions patients are educated about the treatment of RA by a nurse, a physical therapist, and an occupational therapist. The health professionals emphasize the importance of the patient's behavior and encourage the patient to practice active coping skills. The remaining 4 lessons focus on changing the patient's cognitions and behavior by using RET. The super-

vising psychologist ensures that RET is applied consistently throughout the program. The technique is used to help patients reshape their disease related cognitions and to develop more active ways of coping with disease related problems. The content of the program has been evaluated over the years by patients. Patients have consistently evaluated all lessons of the program as important for them.

*Experimental condition.* The experimental condition differs from the control condition in the following aspects: participants (patients only in the control condition; couples in the experimental condition), time of day (the control condition is during daytime; the experimental condition program is in the evening to allow partners to attend), and aim of the intervention. The experimental condition in the study is similar in duration of the program, content of the information given by the different health practitioners, and the use of RET to change coping. Both programs cover the same topics. In the patients-only group, the focus of the cognitive-behavioral techniques is solely on the patients coping with disease-specific stressors and cognitions. In the patient-partner condition, the lessons also focus on the consequences of the disease for the patient-partner relationship.

## RESULTS

The sample consisted of 59 couples; demographic details of the sample are given in Table 1.

As expected, the majority of patients were female (65%). The mean age of both patients and spouses was 50.0 years. The average disease duration was 7.2 years. Conditions did not differ for sex, age, education, intensity of (para)medical treatment, and percentage of patients taking nonsteroidal antiinflammatory drugs. Furthermore, no differences were found in any of the outcome measures at baseline. Because average disease duration differed between the 2 conditions ( $T(57) = 2.7, p < 0.01$ ), all reported analyses were done with and without duration of the disease entered as a covariate. Both analyses gave similar results. Therefore, analyses without duration of disease as a covariate are reported.

The general linear model for repeated measurements was used to test for time effect and differences between conditions on the outcome measures. Table 2 shows average scores for disease activity, physical and psychological functioning, disease stressors, and coping with pain for the 2 conditions at each assessment.

The baseline assessment shows that patients included in the study had slightly higher levels of disease activity and pain, and lower levels of mobility and dexterity, than an average sample of patients with RA<sup>31</sup>. Univariate testing showed that during the study period Disease Activity decreased ( $F(2,112) = 6.2, p < 0.01$ ). Multivariate testing of

Table 1. Demographic and disease related variables in spouse inclusion and control condition.

|                          | Spouse Condition (SD) | Control (SD) |
|--------------------------|-----------------------|--------------|
| Female, %                | 62                    | 67           |
| Age, yrs                 | 49 (12.0)             | 50 (14.1)    |
| Duration of disease, yrs | 4.5 (5.4)             | 11.2 (14.1)  |
| Education, %             |                       |              |
| Primary                  | 16                    | 14           |
| Secondary                | 77                    | 75           |
| Tertiary                 | 7                     | 10           |

physical functioning showed a significant improvement of physical functioning over time ( $F(6,208) = 2.9, p < 0.05$ ). Additional univariate testing revealed that improvement occurred in Mobility ( $F(2,112) = 3.1, p < 0.05$ ) and Dexterity ( $F(2,112) = 5.8, p < 0.01$ ). Multivariate testing of psychological functioning was significant ( $F(6,208) = 2.4, p < 0.05$ ). The effect was observed in both Depression ( $F(2,112) = 3.1, p < 0.05$ ) and Anxiety ( $F(2,112) = 3.5, p < 0.05$ ). However, within-subjects contrast analysis showed that both effects were most obvious directly after the intervention. Perception of disease stressors decreased over time ( $F(6,222) = 4.1, p < 0.001$ ). Additional univariate analysis showed that all 3 variables improved over time: Pain ( $F(2,112) = 5.7, p < 0.05$ ), Perceived Limitations ( $F(2,112) = 10.4, p < 0.01$ ), and Perceived Dependence ( $F(2,112) = 5.4, p < 0.05$ ). Limiting activity as a way to cope with pain decreased over time ( $F(2,112) = 4.2, p < 0.05$ ).

The condition of the experiment was used as between-subjects factor. No significant effects were found for condition  $\times$  time interaction in any of the analyses. The 2 experimental conditions did not differ in any of the observed effects, indicating that all patients, regardless of condition, showed similar improvement.

Average scores on marriage related variables for both conditions at all assessments are given in Table 3. Multivariate testing of the 4 variables that are indicative of the quality of the marriage was not significant. Additional univariate testing showed that Marital Satisfaction ( $F(2,112) = 3.3, p < 0.05$ ) and Potential Support ( $F(2,112) = 6.2, p < 0.01$ ) each showed a significant Time effect. Within-subjects contrast analysis showed that Marital Satisfaction increased slightly after the intervention, but this effect was not sustained at followup assessment. The decrease in Potential Support was linear, with a steady decrease in perceived Potential Support. No effects were observed in either Actual Support or Criticism. Again, no difference between the 2 conditions was found in any analysis.

As part of the followup assessment, patients were asked to indicate whether they believed that participating in the treatment did improve the communication with their spouse. The average score in Improved Communication in the experimental group (12.4, SD 1.5) was higher compared with scores in the control condition (10.3, SD 2.0). This difference was significant ( $T(58) = 3.9, p < 0.001$ ).

## DISCUSSION

On average, patients participating in the study showed improvement in both disease related cognitions and behavioral coping, independent of the condition. Cognitive stress appraisals of the most important stressors of the disease, pain, limitations, and dependence, all changed in a favorable direction in both conditions. Furthermore, patients participating in the study reported less frequent use of "decreasing activity" in coping with pain. This style of coping with pain

Table 2. Average scores for disease activity, physical functioning, disease stressors, psychological distress, and coping for both conditions at each assessment, and testing of Time effect.

|                           | Measurement |             |             | F          |              |
|---------------------------|-------------|-------------|-------------|------------|--------------|
|                           | Time 1 (SD) | Time 2 (SD) | Time 3 (SD) | Univariate | Multivariate |
| Disease activity          |             |             |             |            |              |
| DAS                       |             |             |             |            |              |
| Spouse                    | 4.6 (1.0)   | 4.2 (1.1)   | 4.3 (1.0)   | 6.2**      |              |
| Control                   | 4.7 (0.9)   | 4.5 (1.1)   | 4.2 (1.0)   |            |              |
| Physical functioning      |             |             |             |            |              |
| Mobility                  |             |             |             |            |              |
| Spouse                    | 17.5 (6.2)  | 18.4 (6.0)  | 18.8 (6.1)  | 3.1*       |              |
| Control                   | 15.7 (5.8)  | 16.9 (5.8)  | 17.0 (5.4)  |            | 2.9*         |
| Dexterity                 |             |             |             |            |              |
| Spouse                    | 22.7 (7.1)  | 23.8 (6.4)  | 23.6 (6.3)  | 5.8**      |              |
| Control                   | 21.0 (6.2)  | 22.6 (6.8)  | 23.4 (5.8)  |            |              |
| Psychological functioning |             |             |             |            |              |
| Depression                |             |             |             |            |              |
| Spouse                    | 4.2 (3.7)   | 3.0 (4.0)   | 3.9 (3.6)   | 3.1*       |              |
| Control                   | 5.4 (4.6)   | 4.2 (3.4)   | 4.5 (4.4)   |            |              |
| Anxiety                   |             |             |             |            |              |
| Spouse                    | 19.1 (5.7)  | 17.7 (5.7)  | 19.6 (5.4)  | 3.5*       |              |
| Control                   | 20.7 (5.6)  | 19.6 (5.9)  | 20.0 (6.2)  |            |              |
| Disease stressors         |             |             |             |            |              |
| Pain                      |             |             |             |            |              |
| Spouse                    | 16.2 (4.2)  | 14.5 (3.8)  | 15.0 (4.6)  | 5.7**      |              |
| Control                   | 18.2 (4.8)  | 16.4 (4.3)  | 16.1 (4.9)  |            |              |
| Limitations               |             |             |             |            |              |
| Spouse                    | 31.8 (4.3)  | 29.3 (4.9)  | 30.0 (3.9)  | 10.4**     |              |
| Control                   | 31.4 (5.4)  | 29.3 (5.1)  | 29.3 (5.9)  |            |              |
| Dependence                |             |             |             |            |              |
| Spouse                    | 27.6 (4.1)  | 26.1 (5.1)  | 26.7 (3.8)  | 5.4**      |              |
| Control                   | 26.3 (3.7)  | 25.0 (4.6)  | 24.9 (4.9)  |            |              |
| Coping                    |             |             |             |            |              |
| Decreasing activity       |             |             |             |            |              |
| Spouse                    | 20.9 (3.7)  | 19.8 (3.3)  | 20.1 (2.7)  | 4.2*       |              |
| Control                   | 19.6 (5.0)  | 18.5 (4.1)  | 18.7 (4.4)  |            | 4.1**        |

\*  $p < 0.05$ ; \*\*  $p < 0.01$ .

Table 3. Average scores in marital satisfaction, social support, and spouse criticism for both conditions at each assessment and testing for repeated measures Time effect.

|                      | Measurement |             |             | F          |
|----------------------|-------------|-------------|-------------|------------|
|                      | Time 1 (SD) | Time 2 (SD) | Time 3 (SD) | Univariate |
| Marital satisfaction |             |             |             |            |
| Spouse               | 67.9 (9.3)  | 69.2 (7.8)  | 65.3 (12.3) | 3.3*       |
| Control              | 64.1 (12.6) | 65.6 (11.3) | 65.5 (10.1) |            |
| Actual support       |             |             |             |            |
| Spouse               | 6.7 (2.0)   | 7.3 (1.6)   | 7.3 (1.8)   | 1.4        |
| Control              | 6.6 (1.9)   | 6.5 (1.9)   | 6.7 (1.78)  |            |
| Potential support    |             |             |             |            |
| Spouse               | 16.4 (2.9)  | 16.0 (2.9)  | 15.0 (3.4)  | 6.3**      |
| Control              | 15.6 (3.4)  | 14.5 (3.9)  | 14.7 (3.2)  |            |
| Criticism            |             |             |             |            |
| Spouse               | 3.9 (1.1)   | 4.1 (1.1)   | 4.2 (1.2)   | 2.4        |
| Control              | 3.5 (1.2)   | 3.8 (1.3)   | 3.8 (1.3)   |            |

\*  $p < 0.05$ ; \*\*  $p < 0.01$ .

has consistently been reported to have negative consequences on the patient's future functioning. Finally, positive effects were observed in a number of general outcome

measures, including disease activity and self-reported physical and psychological functioning. Our findings are therefore consistent with previous reports, in that cognitive-

behavioral treatment can have additional positive effects on a number of outcome measures when incorporated into ongoing medical treatment<sup>38</sup>. The main aim of this study was to determine if participation of the spouse in the cognitive-behavioral oriented self-management group treatment had additional benefits for the patients. It was expected that including the spouse would have beneficial effects. However, this study found no evidence for any additional beneficial effect for the patient. Variables related to marital interaction were largely unaffected by the interventions. Because patients did not benefit from participation of their spouse, it seems advisable to include only patients in this program. Other studies assessing the benefits of partner participation in psychological treatment of RA patients have reported similar results. One study compared a behavioral intervention to improve management skills in RA patients with or without family participation (most often the partner). The condition using family participation was more effective in improving outcome at the end of the intervention. However, these differences were not significant 2 months after the intervention<sup>28</sup>. A more recent study showed that including the partner may sometimes have negative effects<sup>39</sup>. Here, the effect of spouse participation in another intervention with a different content was studied: a psycho-educational program focusing on self-management techniques of the patient. Participation of the spouse did not lead to improved effects of the intervention. On the contrary, spousal participation resulted in poorer self-efficacy and fatigue. The absence of evidence of positive effects of spousal participation in interventions in RA is contrary to results reported by Keefe, *et al* in osteoarthritis<sup>40</sup>. Spouse-assisted coping-skills training for patients with osteoarthritis of the knee was superior to coping-skills training with no spouse involved.

Surprisingly, the level of Potential Support in our study decreased over time in both conditions. Patients report that they are less convinced they could turn to someone else for help when in trouble. One explanation for these surprising findings is that the patient has become more assertive and thus less likely to evaluate the social support in the same way. However, from this study it is clear that cognitive-behavioral oriented self-management group treatment with or without spouse does not improve the negative effects of RA on social relations, including the relationship with the spouse, that have often been observed<sup>41-45</sup>.

This study is not without flaws. The small number of patients in the 2 conditions makes it impossible to draw definitive conclusions about the absence of additional effects of partner participation<sup>46,47</sup>. Another flaw of the study is related to patient selection. The study design required a large time investment of the couples, on top of the time-consuming treatment, and may well have introduced a selection bias. That the participating spouses were willing to invest a lot of time in participating in the treatment may be

taken as a token of the quality of the relationship. Baseline levels of Marital Satisfaction in this sample were high, and levels of Criticism low, indicating that couples were involved in fulfilling relations. Because baseline assessment of marriage characteristics indicated high marital satisfaction, there was little room for additional improvement in this sample. Thus, these findings do not exclude the need for any form of treatment for all couples in which one of the spouses has RA. In RA, the partner will also be confronted by the consequences of the disease<sup>48</sup>. As in any other chronic disease it is expected that the spouse will take responsibility for the care of the partner<sup>44</sup>. Further, as primary caregivers, partners will have to take on a number of daily tasks previously performed by the patient. Finally, they have to give emotional support to the patient, as well as dealing with their own emotions<sup>49</sup>. Taking care of a partner with a chronic disease is, therefore, a physical and psychological burden to the spouse<sup>50,51</sup>. The number of studies into the burden of RA caregivers is small, and there are conflicting results. Some research has shown elevated levels of physical exhaustion, emotional exhaustion, and affective disorders in partners of patients with RA<sup>21</sup>. Other researchers have observed moderate levels of subjective burden, with high variability in objective and subjective burden<sup>52</sup>. It cannot be excluded that the method of selection of couples excluded couples in which the spouse perceived a high burden. For instance, persons that have to invest a lot of time in taking care of their spouse may have felt that the additional investment of time in treatment would tax their coping skills. It is entirely possible that these couples would benefit most from cognitive-behavioral treatment. Identifying couples at high risk and submitting them to tailor-made treatment might have beneficial consequences.

It may be argued that participation of the spouse has beneficial effects for the spouse. In this study no such effects were found. Additional analysis of data assessed in the spouse (not reported here) showed that spouses participating in the treatment did not improve in any of the psychological variables assessed. However, these findings do not suggest that education of the spouse is not needed. In order to cope with the demands the disease imposes on their coping skills, spouses have to be well informed about the disease and its consequences. This information is also needed to be able to communicate about the disease. Indeed, patients in the experimental condition reported higher levels of improved communication with their spouse about the disease. Further research is needed to develop efficient ways to educate the spouse and thus improve communication regarding the disease within the couple. Another promising line of research is to identify malfunctioning couples. Treatment tailored to the specific problems of individual couples may prove to be more helpful than general treatment of all couples dealing with RA.

## REFERENCES

1. Keefe FJ, Smith SJ, Buffington ALH, Gibson J, Studts JL, Caldwell DS. Recent advances and future directions in the biopsychological assessment and treatment of arthritis. *J Consult Clin Psych* 2002;70:640-55.
2. Bury M. Chronic illness as biographical disruption. *Soc Health Illness* 1982;4:167-81.
3. Van Riel P, van Lankveld W. Quality of life in rheumatoid arthritis. *Pharmacol World Sci* 1993;15:93-7.
4. Doeglas D, Suurmeijer T, Krol B, Sanderman R, van Leeuwen M, Rijswijk M. Work disability in early rheumatoid arthritis. *Ann Rheum Dis* 1995;54:455-60.
5. Sokka T, Kautiainen H, Mottonen T, Hannonen P. Work disability in rheumatoid arthritis 10 years after the diagnosis. *J Rheumatol* 1999;26:1681-5.
6. Doeglas D, Suurmeijer T, Krol B, Sanderman R, van Leeuwen M, van Rijswijk M. Work disability in early rheumatoid arthritis. *Ann Rheum Dis* 1995;54:455-60.
7. Anderson KO, Bradley LA, Young LD, McDaniel LK, Wise CM. Rheumatoid arthritis: a review of psychological factors related to etiology, effects and treatment. *Psychol Bull* 1985;98:358-87.
8. Van Lankveld W, Näring G, Staak C, van't Pad Bosch P, van de Putte L. Stress caused by rheumatoid arthritis: Relation among subjective stressors of the disease, disease status, and well-being. *J Behav Med* 1993;16:309-21.
9. Abdel-Nasser AM, El-Azim SA, Taal E, El-Badawy SA, Rasker JJ, Valkenburg HA. Depression and depressive symptoms in rheumatoid arthritis patients: an analysis of their occurrence and determinants. *Br J Rheumatol* 1998;37:391-7.
10. Anderson KO, Bradley LA, Young LD, McDaniel LK, Wise CM. Rheumatoid arthritis: Review of psychological factors related to etiology, effects and treatment. *Psychol Bull* 1985;98:358-87.
11. Creed F, Ash G. Depression in rheumatoid arthritis: aetiology and treatment. *Int Rev Psychol* 1992;4:23-34.
12. Astin JA, Beckner W, Soeken K, Hochberg MC, Berman B. Psychological interventions for rheumatoid arthritis: a meta-analysis of randomized controlled trials. *Arthritis Care Res* 2002;47:291-302.
13. Riemsma RP, Taal E, Kirwan JR, Rasker JJ. Patient education programmes for adults with rheumatoid arthritis. Benefits are small and short lived. *BMJ* 2002;325:558-9.
14. Savelkoul M, Witte L, Post M. Stimulating active coping in patients with rheumatic diseases. A systematic review of controlled intervention studies. *Patient Educ Coun* 2002;39:215-8.
15. Blalock SJ, DeVellis BM, DeVellis RF, et al. Psychological well-being among people with recently diagnosed rheumatoid arthritis. Do self-perceptions of abilities make a difference. *Arthritis Rheum* 1992;35:1267-72.
16. DeVellis RF, Blalock SJ. Psychological and educational interventions to reduce arthritis disability. *Ballieres Clin Rheumatol* 1993;7:397-416.
17. Van Lankveld W, Näring G, van't Pad Bosch P, van de Putte L. The negative effect of decreasing the level of activity in coping with pain in rheumatoid arthritis: an increase in psychological distress and disease impact. *J Behav Med* 2000;23:377-91.
18. Evers AW, Kraaijmaat FW, Geenen R, Bijlsma JW. Psychosocial predictors of functional change in recently diagnosed rheumatoid arthritis patients. *Behav Res Ther* 1998;36:179-93.
19. Van Lankveld W, Näring G, van't Pad Bosch P, van de Putte LBA. Behavioral coping and physical functioning: The effect of adjusting the level of activity on observed dexterity. *J Rheumatol* 1999;26:1058-64.
20. Chorus AMJ, Miedema HS, Wevers CWJ, van der Linden S. Work factors and behavioral coping in relation to withdrawal from the labour force in patients with rheumatoid arthritis. *Ann Rheum Dis* 2001;60:1025-32.
21. Das Chagas Medeiros MM, Ferraz MB, Quaresma MR. The effect of rheumatoid arthritis on the quality of life of primary caregivers. *J Rheumatol* 2000;27:76-83.
22. Manne SL, Zautra AJ. Couples coping with chronic illness: Women with rheumatoid arthritis and their healthy husbands. *J Behav Med* 1990;13:327-42.
23. Revenson TA, Schiaffino KM, Majerovitz SD, Gibofsky A. Social support as a double edged sword: the relation of positive and problematic support to depression among rheumatoid arthritis patients. *Soc Sci Med* 1991;33:807-13.
24. Kerns RD, Haythornthwaite J, Southwick S, Giller EL. The Role of marital interaction in chronic pain and depressive symptom severity. *J Psychosom Res* 1990;34:401-8.
25. Williamson D, Robinson ME, Melamed B. Pain behavior, spouse responsiveness, and marital satisfaction in patients with rheumatoid arthritis. *Behav Modif* 1997;21:97-118.
26. Kraaijmaat FW, Dam BRMJ, Bijlsma JWJ. Association of social support and the spouse's reaction with psychological distress in male and female patients with rheumatoid arthritis. *J Rheumatol* 1995;22:644-8.
27. Sharp JT, Nicholas MK. Assessing the significant others of chronic pain patients: the psychometric properties of significant other questionnaires. *Pain* 2000;88:135-44.
28. Radojevic V, Nicassio PM, Weisman MH. Behavioral intervention with and without family support for rheumatoid arthritis. *Behav Ther* 1992;23:13-30.
29. Arnett FC, Edworthy SM, Bloch DA, et al. The American Rheumatism Association 1987 revised criteria for the classification of rheumatoid arthritis. *Arthritis Rheum* 1988;31:315-24.
30. Prevoe MLL, Hof MA, Kuper HH, van Leeuwen MA, van de Putte LBA, van Riel PLCM. Modified disease activity scores that include twenty-eight-joint counts. Development and validation in a prospective longitudinal study of patients with rheumatoid arthritis. *Arthritis Rheum* 1995;38:44-8.
31. Huiskes CJAE, Kraaijmaat FW, Bijlsma JWJ. Development of a self-report questionnaire to assess the impact of rheumatic diseases on health and lifestyle. *J Rehabil Sci* 1990;3:65-70.
32. Meenan RF. The AIMS approach to health status measurement: conceptual background and measurement properties. *J Rheumatol* 1982;9:785-8.
33. Evers AWM, Taal E, Kraaijmaat FW, et al. A comparison of two recently developed health status instruments for patients with rheumatoid arthritis: Dutch-AIMS 2 and IRGL. *Br J Rheumatol* 1998;37:157-64.
34. Van Lankveld W, Näring G, Staak C, van't Pad Bosch P, van de Putte LBA. De ontwikkeling van de CORS: Coping met reuma stressoren [Development of the CORS: Coping with rheumatic stressors]. *Gedrag en Gezondheid* 1992;21:40-8.
35. Van Lankveld W, van't Pad Bosch P, van de Putte LBA, Näring G, Staak C. Disease specific stressors in rheumatoid arthritis: coping and well-being. *Br J Rheumatol* 1994;33:1067-73.
36. Arrindell WA, Emmelkamp PMG, Bast S. The Maudsley Marital Questionnaire (MMQ): a further step towards its validation. *J Per Ind Diff* 1983;4:457-64.
37. Arrindell WA, Schaap C. The Maudsley Marital Questionnaire (MMQ): an extension of its construct validity. *Br J Psychol* 1985;147:295-9.
38. Riemsma R, Kirwan J, Taal E, Rasker J. Patient education for adults with rheumatoid arthritis *Cochrane Database Syst Rev* 2003; (2): CD003688. Review.
39. Riemsma RP, Taal E, Rasker JJ. Group education for patients with rheumatoid arthritis and their partners. *Arthritis Care Res* 2003;49:556-66.
40. Keefe FJ, Caldwell DS, Baucom D, et al. Spouse-assisted coping

- skills training in the management of knee pain in osteoarthritis: long-term follow-up results. *Arthritis Care Res* 1999;12:101-11.
41. Bernas BL, Tucker JS, Winkelman DK, Natz JN. Marital satisfaction in couples with rheumatoid arthritis. *Arthritis Care Res* 2000;13:149-55.
  42. Elst P, Sybesma T, van der Stadt RJ, Prins AP, Muller WH, den Butter A. Sexual problems in rheumatoid arthritis and ankylosing spondylitis. *Arthritis Rheum* 1984;27:217-20.
  43. Kraaimaat FW, Bakker AH, Janssen E, Bijlsma JW. Intrusiveness of rheumatoid arthritis on sexuality in male and female patients living with a spouse. *Arthritis Care Res* 1996;9:120-5.
  44. Revenson TA, Gibofsky A. Marriage, social support, and adjustment to rheumatic disease. *Bull Rheum Dis* 1995;44:5-8.
  45. Hill J, Bird H, Thorpe R. Effects of rheumatoid arthritis on sexual activity and relationships. *Rheumatology Oxford* 2003;42:280-6.
  46. Greene WL, Concato J, Feinstein AR. Claims of equivalence in medical research: are they supported by the evidence. *Ann Intern Med* 2000;132:715-22.
  47. Altman DG, Bland JM. Absence of evidence is not evidence of absence. *BMJ* 1995;311:485.
  48. Revenson TA, Gibofsky A. Marriage, social support, and adjustment to rheumatic disease. *Bull Rheum Dis* 1995;44:5-8.
  49. Revenson TA, Majerovitz SD. The effects of chronic illness on the spouse. *Arthritis Care Res* 1991;4:63-72.
  50. Coyne JC, Wortman CB, Lehman DR. The other side of support: emotional overinvolvement and miscarried helping. In: Gottlieb BH, editor. *Marshalling social support*. Newbury Park, CA: Sage; 1988:305-30.
  51. Scholte op Reimer WJ, de Haan RJ, Rijnders PT, Limburg M, van den Bosch GA. The burden of caregiving in partners of long-term stroke survivors. *Stroke* 1998;29:1605-11.
  52. Riemsma RP, Taal E, Rasker JJ, et al. The burden of care for informal caregivers of patients with rheumatoid arthritis. *Psychol Health* 1999;14:773-94.