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EFFECTS OF A BRIEF INTERVENTION PROGRAM FOR PATIENTS WITH CANCER AND THEIR PARTNERS ON FEELINGS OF INEQUITY, RELATIONSHIP QUALITY AND PSYCHOLOGICAL DISTRESS

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SUMMARY

When one member of a couple develops a serious illness, the lives of both partners are likely to be affected. Interventions directed at both partners are generally lacking, however. In the present study, a brief counseling program directed at couples confronted with cancer was evaluated. The intervention focused mainly on the exchange of social support and help between both partners and was aimed at restoring perceptions of equity. Couples were randomly assigned to an experimental group or a waiting-list group. After the intervention, both patients and their partners reported lower levels of perceptions of underinvestment and overbenefit, and higher levels of relationship quality. Moreover, among patients psychological distress decreased after the intervention. These effects were generally maintained until follow-up three months later. Associations between perceptions of equity and relationship quality and psychological distress were also examined. Copyright © 2003 John Wiley & Sons, Ltd.

INTRODUCTION

A serious illness like cancer not only affects the lives of patients, but also the lives of those who are close to them, especially their partners. Although treatments have become increasingly successful for a wide range of cancers, the initial diagnosis often poses the threat of loss of one's life or one's partner. Even in those cases in which prognosis for survival is good, patients and partners often have to cope with stressors such as a worsening physical condition of the patient, negative side effects of treatments, and the uncertainty regarding the effectiveness of the treatments and the course of the illness (e.g. Compas *et al.*, 1994; Dunkel-Schetter, 1984). Several studies have shown that

both patients and their partners report higher levels of psychological distress as compared to the general population, and that patients and their partners do not differ in this respect (e.g. Compas *et al.*, 1994; Keller *et al.*, 1996). Moreover, research suggests that couples' distress often follows the same pattern of change over time (Hoskins, 1995; Northouse *et al.*, 1998). It is even estimated that about one-third of all patients with cancer and their partners experience clinically relevant distress and psychosocial disfunction (Williamson and Schultz, 1995; Weihs and Reiss, 1996).

From this point of view, it is surprising that most interventions in the field of psycho-oncology are directed at patients only (for reviews see Fawzy *et al.*, 1995; Helgeson and Cohen, 1996; Meyer and Mark, 1995). Only a few studies have addressed family-focused interventions. Most of these studies were qualitative in nature (Carter and Carter, 1994; Cohen and Wellisch, 1978; Keller *et al.*, 1996; Whitman and Gustafson, 1989), which

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makes it hard to evaluate the results, or are still in the pilot testing phase (Donnelly *et al.*, 2000). The few other studies that we found showed mixed results with various intervention techniques used. Moderately positive findings concerning adjustment to the cancer were found by Christensen (1983) who offered brief psychotherapy to couples facing cancer and compared them to a control group. In addition, Walsh-Burke (1992) found that couples who attended a weekend intervention reported positive changes in family communication after the intervention. In this study, no control group was included, however. In addition, in both studies the sample sizes were very small, that is, in the Christensen study (Christensen, 1983) both the experimental and control group consisted of 10 couples, in the Walsh-Burke study (Walsh-Burke, 1992) 14 couples participated but only seven couples provided complete data at a follow-up measurement three months later. In another study, Heinrich and Schag (1985) evaluated a stress and activity management treatment program conducted in a group. They found no differences in adjustment between couples who did and did not participate in the treatment. The paucity of studies, the small sample sizes, and the mixed findings highlight the need for more controlled outcome studies targeted at couples facing cancer.

Theoretical framework

In the present research a counseling program directed at both patients with cancer and their partners was developed and evaluated. The intervention focused on the exchange of social support and help between both partners. It was expected that by paying attention to these issues, both partners' satisfaction with the intimate relationship could be improved whereas their psychological distress could be reduced. The exchange between both partners was examined from a social psychological point of view, that is, from the perspective of equity theory (Walster *et al.*, 1978). When a couple is faced with a serious illness like cancer, a change may occur in the balance of give-and-take between both partners (Cutrona, 1996; Thompson & Pitts, 1992). Whereas help and support may have flowed back and forth between both partners before the onset of the illness, the exchange may become more unidirectional afterwards. Partners must often take on new caregiving roles, take over household tasks the patient can no

longer perform and provide emotional support to the patient. Due to physical limitations or emotional turmoil, patients may not be able to provide much help and support in return (e.g. Coyne *et al.*, 1988). The 'general case' among couples facing a serious illness may be that patients' contributions to the relationship decrease and their rewards increase, while the opposite may be true for their partners, that is, their contributions may increase and their rewards decrease (Cutrona, 1996; Thompson and Pitts, 1992). This 'general case' refers to a traditional patient-caregiver division of roles in which the patient is the care receiver and the partner the care provider. Although such a division of roles might be very adaptive shortly after diagnosis or during the acute phase of the illness, it may remain long after the necessity for it has ended, or it may spread to domains not associated with illness-related restrictions. As time goes by, both partners may feel increasingly uncomfortable with such a division of roles.

Equity theory predicts that when a relationship is out of balance, both partners will feel inequitably treated (Walster *et al.*, 1978). Individuals receiving disproportionately few rewards are expected to feel disadvantaged or deprived, and individuals receiving disproportionately many rewards are expected to feel advantaged in their relationship. Research among healthy couples shows that inequity is generally associated with lower relationship satisfaction (e.g. Buunk and VanYperen, 1989, 1991; Hatfield *et al.*, 1984) and more distress (e.g. Hegtvedt, 1990). In terms of equity theory, a traditional patient-caregiver division of roles may result in patients feeling advantaged in their relationship, either because they feel they benefit too much from their relationship, e.g. because they feel that they receive more support and help from their partner than they deserve, or because they feel they invest too little in the relationship, e.g. because they feel they are unable to do their share in giving support to their partner. These perceptions are referred to as perceptions of overbenefit and underinvestment. As a result patients may feel guilty, or worry about becoming a burden to their partner (Cutrona, 1996; Coyne *et al.*, 1988). Partners, on the other hand, may feel deprived in their relationship with their ill-partner, because they feel that they have to give too much and receive too little in return and as a result they may feel angry and frustrated. These perceptions are referred to as perceptions of overinvestment and underbenefit.

The few studies that have examined equity perceptions among couples facing serious illness, showed that among couples facing cancer, patients indeed felt on average advantaged in their relationship (Kuijjer *et al.*, 2001, 2002). Although these patients did not feel less satisfied with their relationship compared to patients who felt equitably treated (Kuijjer *et al.*, 2001, 2002), they did experience feelings of guilt about the give-and-take in their relationships (Kuijjer *et al.*, 2002). Most partners in these studies felt equitably treated. Those who felt deprived, experienced more anger about the give-and-take in their relationship (Kuijjer *et al.*, 2002), and reported in general lower relationship quality (Kuijjer *et al.*, 2001). In another study, perceptions of inequity were linked to depressive symptoms (Ybema, *et al.*, 2001). It was found that among patients with cancer, the perception of not giving enough to the partner (underinvestment) was related to depressive symptoms, whereas among the partners of these patients especially the perception of not receiving enough from the ill partner (underbenefit) was associated with depressive symptoms. Finally, two studies on caregiver burden showed that perceptions of inequity were related to higher caregiver burden among spouses of cardiac patients (Thompson *et al.*, 1995) and spouses of patients with cancer or multiple sclerosis (Ybema *et al.*, 2002). Thus, previous research indicates that a traditional patient-caregiver division of roles may indeed be distressing for both patients and their partners. Paying attention to the issue of give-and-take in counseling sessions for couples could therefore be very fruitful.

So far we have discussed the possible detrimental effects of a traditional patient-caregiver situation, in which the patient is likely to feel advantaged and the partner disadvantaged. In some cases the pattern may be reversed, however. Patients may for example feel disadvantaged when they feel their partner is not supporting them properly, or when they feel their partner is leaning too much on them for social support. Ample research has shown that family members sometimes do or say things that are perceived as unhelpful by the patient (e.g. Dakof and Taylor, 1990; Dunkel-Schetter, 1984). Partners on the other hand may feel they invest too little, for example, because they feel incompetent in supporting the patient or because they feel they can never provide enough support. Giving the pressing needs of the patient, they may feel it is selfish to

request support or they may feel guilty about the support and help they receive from their ill-partner (Coyne *et al.*, 1988). Although this reversed pattern was rare in our previous research (Kuijjer *et al.*, 2001, 2002; Ybema *et al.*, 2001), it must be noted that the samples in these studies consisted of couples who were on average happy and satisfied with their relationship. The present study is aimed at couples who experience difficulties in coping with the cancer together. It seems likely that among these couples, perceptions of underbenefit and overinvestment among patients and perceptions of overbenefit and underinvestment among partners are more prevalent and may be particularly distressing.

Research aim

In sum, the current intervention was aimed at restoring equity perceptions among both patients with cancer and their partners. The ultimate goal was to enhance perceived relationship quality and well-being. It was expected that after the intervention, both partners would report lower levels of perceived inequity and psychological distress, and higher levels of relationship quality. Longer-term effects of the intervention, that is, three months after the completion of the intervention, were also considered. Moreover, the associations between the expected decrease in perceived inequity on the one hand and relationship quality and psychological distress on the other hand were explored. Specifically, it was explored to what extent a decrease in perceived equity after the intervention could predict relationship quality and psychological distress directly after the intervention and three months later.

METHOD

Participants and design

The participating couples in the present study were recruited in the northern part of the Netherlands and in the region around Rotterdam. These couples responded to a flyer offering counseling to couples facing cancer who wanted to learn better ways to cope with the disease together. The brochure was distributed within several hospitals, two information centers for patients with cancer, and the Helen Dowling Institute (an institute that

provides psychological counseling to people with life threatening and/or chronic illnesses). Participants either responded directly to the brochure or were made aware of the counseling program by oncology nurses or employees of the participating institutions. Couples interested in this form of counseling were invited for an intake session. In order to be included into the study couples had to meet the following criteria: medical diagnosis of cancer in one partner, married or cohabiting, and an estimated life expectancy of at least six months for the ill-partner. Exclusion criteria were a serious physical illness (including cancer) in the healthy partner and severe marital dysfunction unrelated to the cancer warranting regular marital therapy rather than a brief counseling program.

A total of 64 couples expressed their interest in the study. Two of these couples elected not to participate because of time restrictions. One couple did not meet the inclusion criteria (both partners were cancer patients). Two out of the 61 couples who then completed the intake session did not participate in the study. One couple chose not to follow through with the study because the counseling program did not meet their expectations, and one couple was referred to regular marital therapy. A total of 59 couples were randomly allocated to the experimental group or waiting-list group. Couples in the experimental group started with the intervention program the following week. For ethical reasons, the waiting period for the waiting-list group was limited to the duration of the intervention program, that is, these couples had to wait two months before their intervention started.

Participants in the experimental group filled out questionnaires three times: before the intervention (T0), one week post intervention (T1), and three months post intervention (T2). Participants in the waiting-list group filled out questionnaires four times: twice before the intervention started (T0

and T1), one week post intervention (T2) and three months post intervention (T3) (see Table 1). Unless stated otherwise, only participants with at least complete data records at T2 were included in the analyses in this paper. These patients were diagnosed with various forms of cancer, including breast cancer ($N=19$), intestinal cancer ($N=4$), Hodgkin disease ($N=3$), brain cancer ($N=3$), and lung cancer ($N=2$). The various forms of cancer were evenly distributed over the experimental conditions. Demographic and other illness-related characteristics of the participants are presented in Table 2. Patients in the experimental group were diagnosed with cancer more recently than were patients in the waiting-list group (marginally significant). No other differences were found. All analyses in the present study were therefore executed twice, that is, with and without time since diagnosis as a covariate. Because time since diagnosis never changed the results substantially, the analyses without the covariate will be presented. In addition, all analyses were conducted again with metastatic site included as a covariate to control for the stage of the disease. Again, no substantial changes in the results were found and the analyses without this covariate will be presented.

As Table 1 shows, a number of couples dropped out at successive measurement times. Couples who dropped out and who continued participation were compared with each other at pretest (T0) on demographic, illness, and outcome variables. Only one difference was found: Patients who dropped out perceived their prognosis to be somewhat less favorable ($M=2.18$) than patients who continued participation ($M=2.97$), $t(52)=1.90$, $p<0.07$. With regard to this finding it should be noted that six couples dropped out during the course of the study because the patient died (despite our inclusion criteria) and five couples dropped out because the patient was too

Table 1. Experimental design

Experimental group	T0 pretest (32)	X	T1 posttest (26)	T2 follow-up (20)	
Waiting-list group	T0 pretest-1 (27)		T1 pretest-2 (22)	X	T2 posttest (19)
					T3 follow-up (16)

X = counseling program. The number of participating couples are in parentheses.

Table 2. Demographic and disease variables for the experimental group (EG) and the waiting-list group (WLG) at pretest

	EG (N = 20)	WLG (N = 19)
Demographic variables		
Age patient	50 (12)	49 (10)
Age partner	49 (10)	50 (11)
Marital status		
married	18 (90%)	19 (100%)
cohabiting	2 (10%)	
Relationship duration	22 (12)	21 (11)
Patient: male	6 (30%)	6 (32%)
Disease variables		
Time since diagnosis (years)*	1.64 (1.94)	3.57 (3.83)
Perceived prognosis	3.12 (1.27)	2.88 (1.68)
Physical symptom distress (RSCL)	1.56 (.31)	1.64 (.37)
Metastatic site	12 (60%)	10 (53%)
Treatment during previous month	8 (40%)	8 (42%)

Mean (S.D.) or no. of cases (%) are presented. Perceived prognosis: the higher the score, the better the perceived prognosis (1–5). RSCL = Rotterdam symptom checklist (de Haes *et al.*, 1996; 23 items). The higher the score, the more physical distress was experienced (1–4).

*means differ significantly from each other, $t(26, 32) = 1.97$, $p < 0.06$ (T-test with separate variance estimates).

ill to continue participation. This drop out was unrelated to the study or the intervention, however.

The intervention program

The program was designed to stimulate the provision of adequate support and help by the partner to the patient and *vice versa* in order to reduce feelings of inequity among both partners. The ultimate goal of the intervention was to enhance perceived relationship quality and well-being among both partners.

Walster *et al.* (1978) described three ways in which people generally restore equity. First, people may re-establish actual equity by adjusting contributions and rewards. The intervention paid direct attention to this way of restoring equity: For example, it might be the case that a partner has taken over certain tasks and responsibilities from the patient during the illness process. Whereas this might have been adaptive initially, it might become distressing for both partners after some time. In this situation, the patient may be

encouraged to perform these tasks him or herself again and the partner may be stimulated to let go of these tasks. A second way of re-establishing equity is restoring equity in a psychological way, that is, by changing one's perceptions of contributions and rewards. Patients and partners may hold unrealistic expectations about their own and/or their partner's contributions to the relationship. For instance, it may be unrealistic for a patient to want to invest the same energy into the relationship as he or she did before the onset of the cancer. As a result the patient may feel guilty for investing too little in the relationship. In such cases, both partners may be stimulated to adjust their standards by taking into account the patient's illness. In addition, patients and partners may be encouraged to emphasize other investments and rewards than before the onset of the illness. The third possibility of restoring equity described by Walster *et al.* (1978) is leaving the field, that is, terminating the relationship or disengaging from it. Obviously, this possibility was not an option that was discussed or encouraged in this intervention.

The intervention program consisted of five 90 min sessions led by a psychologist. The sessions were held biweekly and the approach was cognitive-behaviorally oriented (Emmelkamp and van Oppen, 1993). That is, the therapist actively stimulated perspective taking, cognitive restructuring, and behavioral exercises. In the first session, the relationship before and after the onset of the illness was discussed, actual problems and changes were listed, and both partners' expectations and wishes regarding the intervention were discussed. Moreover, a booklet with homework assignments was introduced. Two types of homework assignments were used. First, both partners were asked to write down their wishes and desires concerning the support they received or wanted to receive from their partner. Second, both partners were asked to read stories about other (hypothetical) couples facing cancer. These couples described the way they supported each other and the problems they encountered. Patients and partners were asked to comment on these stories. The stories were used for three reasons: First, to assist in explaining abstract themes such as 'balance of give-and-take in the relationship' and 'overprotection'; Second, to facilitate recognition and thereby making it easier for patients and partners to discuss their own difficulties. Finally, as a way of standardizing the content of the intervention.

In the next sessions, the homework assignments were discussed and used as a handle to talk about the situation, problems and needs of the particular couple. Specific supportive behaviors were practiced during the sessions and encouraged to perform at home. The fifth and final session was directed at the future of the couple and focused on the integration of the new information both partners gained about themselves and their partner and the new behaviors they learned during the intervention.

Measures

Perceptions of inequity. In the present study, two indicators of the extent to which patients and their partners perceived inequity in their relationship were used. These measures involved perceptions of being advantaged in the relationship, that is, investing too little (underinvestment) and receiving too much (overbenefit), and perceptions of being disadvantaged or deprived in the relationship, that is, investing too much (overinvestment) and receiving too little (underbenefit). Perceptions of overbenefit, underbenefit, overinvestment and underinvestment were each assessed by four items. The items measuring underbenefit and underinvestment were derived from scales previously developed by the authors (Ybema *et al.*, 2001, 2002). The items measuring overbenefit and overinvestment were newly constructed. Examples of items are 'I sometimes feel that I don't deserve all this attention from my partner' (overbenefit), 'I think my partner considers me too little' (underbenefit), 'I feel frustrated because I have to do so much for my partner' (overinvestment), and 'I think I do not give enough attention to my

partner' (underinvestment). All items were measured on a 5-point scale, ranging from 'this is not true' (1) to 'this is very strongly true' (5).

The 16 items were subjected to a factor analysis with varimax rotation to examine whether it was warranted to form four subscales or that a two factor solution would be preferable with one scale consisting of the items measuring underinvestment and overbenefit (both referring to feeling advantaged in the relationship) and the other scale consisting of the items measuring overinvestment and underbenefit (both referring to feeling disadvantaged in the relationship). For this analysis the data for all patients and partners who filled out T0 measurement ($N=118$) were combined.¹ Although the factor analysis resulted in three factors with eigenvalues greater than 1 (5.66, 3.11, and 1.16), it was decided to retain only two factors because the third factor explained only a small amount of additional variance (i.e. 7%) and because the three factor solution was hard to interpret. The first factor accounted for 35% of the variance and comprised the eight items measuring perceptions of overinvestment and underbenefit (factor loadings >0.66). The second factor accounted for 19% of the variance and comprised the eight items measuring perceptions of underinvestment and overbenefit (factor loadings >0.44).² Thus, two scales were constructed, each consisting of eight items, one for *perceptions of overinvestment and underbenefit* and one for *perceptions of underinvestment and overbenefit*.³ Means, standard deviations, reliabilities and zero-order correlations for the key variables at T0 for participants who completed T0 to T2 questionnaires are presented in Table 3. The positive correlation between both perceptions of inequity may seem unusual at first sight. However, feeling

Table 3. Means, standard deviations, reliabilities and correlations of the outcome variables at T0

	1	2	3	4	alpha	M	S.D.
1 Overinv/underben.	1.00				0.90	1.79	0.75
	1.00				0.74	1.99	0.60
2 Underinv/overben.	0.43**	1.00			0.85	2.48	0.76
	0.36*	1.00			0.76	2.24	0.61
3 Relationship quality	-0.77***	-0.24	1.00		—	7.37	1.96
	-0.45**	-0.39*	1.00		—	7.51	1.64
4 Psychological distress	0.32*	0.36*	-0.40*	1.00	0.92	17.24	10.30
	0.15	0.16	-0.28 ⁺	1.00	0.90	14.74	9.34

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Correlations and Cronbach's Alphas at T0 for participants who completed T0 to T2 questionnaires. Statistics in the upper row concern patients ($N = 39$), those in the lower row partners ($N = 39$).

that one does not give enough (underinvestment) and feeling that one receives too little (underbenefit) can go together when social exchanges in the relationship are of low quality (see Ybema *et al.*, 2001, 2002). In a similar vein, feeling that one gives too much (overinvestment) and feeling that one receives too much (overbenefit) may coincide.

Relationship quality: Participants were asked to rate the quality of their relationship on a ladder ranging from 0 to 10 (based on Cantril, 1965). A score of 10 represents the best imaginable quality of the relationship and 0 the worst imaginable quality. A global measure of relationship quality allows respondents to base their judgments on aspects of their relationship that are most important to them.

Psychological distress: Psychological distress was measured with the Center of Epidemiological Studies Depression Scale (CES-D: Radloff, 1977; Dutch translation by Bouma *et al.*, 1995). At T0, 61% of the patients and 45% of the partners had a score at or above the cutoff score of 16 indicating that these patients and partners were at risk for developing clinical depression. Patients and partners in the present study reported significantly

more psychological distress compared to the couples facing cancer who participated in our previous research (Ybema *et al.*, 2001; Hagedoorn *et al.*, 2000).

RESULTS

Intervention effects

Means and standard deviations of the outcome measures are presented in Table 4. It was expected that perceptions of inequity and psychological distress would decrease as a result of the intervention, whereas relationship quality was expected to increase. The data collected at T0, T1, and T2 (see Table 1) were used to test these hypotheses. The follow-up data (T3) of the waiting-list group were left out of consideration in these analyses. 2(Group: experimental versus waiting-list) \times 2(Role: patient versus partner) \times 3(Time: T0 to T2) ANOVA's were performed, with the first factor between groups, the second factor within couples, and the third factor within subjects. Polynomial contrasts were included to test the

Table 4. Means and standard deviations for patients and partners in the experimental and waiting-list group.

	Experimental Group (EG)			Waiting-list Group (WLG)			
	T0 (pretest)	T1 (posttest)	T2 (follow-up)	T0 (pretest-1)	T1 (pretest-2)	T2 (posttest)	T3 (follow-up)
<i>Overinvestment/underbenefit</i>							
M couple	1.98 (0.64)	1.71 (0.60)	1.83 (0.63)	1.81 (0.49)	1.86 (0.49)	1.84 (0.49)	1.72 (0.44)
patients	1.92 (0.79)	1.66 (0.77)	1.76 (0.76)	1.68 (0.67)	1.68 (0.62)	1.70 (0.64)	1.56 (0.52)
partners	2.04 (0.61)	1.76 (0.56)	1.89 (0.64)	1.97 (0.61)	2.03 (0.58)	1.98 (0.68)	1.88 (0.49)
<i>Underinvestment/overbenefit</i>							
M couple	2.36 (0.46)	2.12 (0.63)	2.13 (0.62)	2.38 (0.64)	2.38 (0.53)	2.09 (0.59)	1.99 (0.49)
patients	2.46 (0.69)	2.14 (0.80)	2.25 (0.81)	2.53 (0.83)	2.55 (0.62)	2.22 (0.69)	2.11 (0.66)
partners	2.25 (0.61)	2.11 (0.68)	2.02 (0.63)	2.24 (0.65)	2.22 (0.69)	1.97 (0.68)	1.84 (0.59)
<i>Relationship quality</i>							
M couple	7.68 (1.64)	8.26 (1.03)	8.07 (1.10)	7.19 (1.64)	7.13 (1.30)	7.84 (1.09)	7.38 (1.06)
patients	7.65 (1.82)	8.10 (1.23)	8.10 (1.37)	7.06 (2.07)	7.06 (1.98)	7.84 (1.39)	7.37 (1.36)
partners	7.70 (1.66)	8.42 (1.02)	8.05 (1.05)	7.32 (1.64)	7.21 (1.18)	7.84 (1.30)	7.38 (1.15)
<i>Psychological distress</i>							
M couple	15.24 (5.86)	11.26 (5.20)	12.66 (7.46)	16.50 (6.60)	16.33 (7.40)	13.87 (7.04)	13.16 (6.39)
patients	15.63 (9.97)	10.68 (6.61)	12.05 (7.52)	19.47 (10.21)	20.95 (11.33)	15.53 (8.06)	14.13 (6.85)
partners	14.84 (8.42)	11.84 (6.93)	13.26 (10.96)	13.53 (9.46)	11.71 (9.50)	12.21 (9.65)	12.19 (8.46)

T0, T1, T2: $N = 20$ couples in the EG (except for psychological distress $N = 19$) and 19 in the WLG. T3: $N = 16$. At T0 patients and partners in the EG did not differ from patients and partners in the WLG on any of the outcome variables, all $t_s < 1.11$, ns.

intervention effects. Changes in the outcome variables were expected to occur between T0 and T1 in the experimental group and between T1 and T2 in the waiting-list group, whereas no change was expected between T0 and T1 in the waiting-list group and between T1 and T2 in the experimental group. In support of these predictions, significant Group \times Time interactions were anticipated with non significant linear effects and significant curvilinear effects (polynomial contrasts analysis). In addition to levels of significance, effect sizes (Cohen's *d*) were calculated for intervention effects (see Dunlap *et al.*, 1996). The effect size refers to the size of a change and assists in interpretation of its clinical importance. According to Cohen (1988), an effect size of 0.20 should be defined as small, 0.50 as medium, and 0.80 as large.

The analysis of perceptions of overinvestment/underbenefit showed a significant main effect for Role, $F(1,37)=4.78$, $p<0.05$, indicating that on average partners ($M=1.94$) were bothered more by the feeling that they invested too much and received too little from the relationships than were patients ($M=1.73$). As expected, a significant interaction effect between Group and Time was found, $F(2,36)=4.52$, $p<0.05$, with a nonsignificant linear effect, $F(1,37)=1.60$, ns, and a significant curvilinear effect, $F(1,37)=6.86$, $p<0.05$. No other effects were found (all $F_s<2.25$, ns). The means corresponding to the Group \times Time interaction are presented in Table 4 (i.e. couple means from T0 to T2). As expected, perceptions of overinvestment/underbenefit decreased from T0 ($M=1.98$) to T1 ($M=1.71$) among couples in the experimental group, $t(19)=2.99$, $p<0.01$, effect size (ES)=0.44, and stabilized at this lower level between T1 and T2 ($M=1.83$), $t(19)=-1.36$, ns. Contrary to the expectation, perceptions of overinvestment/underbenefit among couples in the waiting-list group (see Table 4) remained the same over time (T0–T1: $t(18)=-0.89$, ns; T1–T2: $t(18)=0.26$, ns, ES=0.02).

The same analysis performed on perceptions of underinvestment/overbenefit demonstrated a marginally significant effect for Role, $F(1,37)=4.01$, $p<0.06$. Patients ($M=2.35$) were bothered somewhat more by the feeling that they invested too little and received too much from the relationship than were their partners ($M=2.13$). A significant effect for Time, $F(2,36)=5.95$, $p<0.01$, was qualified by a significant interaction between Time and Group, $F(2,36)=3.40$, $p<0.05$ (non significant linear effect, $F(1,37)=0.23$, ns; significant

curvilinear effect, $F(1,37)=6.49$, $p<0.05$). No other effects were found (all $F_s<1.15$, ns). As can be seen in Table 4, perceptions of underinvestment/overbenefit decreased between T0 ($M=2.36$) and T1 ($M=2.12$) among couples in the experimental group, $t(19)=2.72$, $p<0.05$, ES=0.44, and stabilized at this lower level between T1 and T2 ($M=2.13$), $t(18)=-0.09$, ns. Among couples in the waiting-list group, perceptions of underinvestment/overbenefit remained stable between T0 ($M=2.38$) and T1 ($M=2.38$), $t(18)=-0.01$, ns, and decreased between T1 and T2 ($M=2.09$), $t(17)=3.59$, $p<0.01$, ES=0.52.

With regard to relationship quality, a significant main effect for Time, $F(2,36)=4.01$, $p<0.05$ was found. This effect was qualified by a Group \times Time interaction, $F(2,36)=4.79$, $p<0.05$, with a non significant linear effect, $F(1,37)=0.48$, ns, and a significant curvilinear effect, $F(1,37)=8.76$, $p<0.01$. No other effects were found (all $F_s<2.65$, ns). In line with our expectations (see Table 4), relationship quality increased in the experimental group between T0 ($M=7.68$) and T1 ($M=8.26$), $t(19)=-2.21$, $p<0.05$, ES=0.43, and remained stable between T1 and T2 ($M=8.07$), $t(19)=1.10$, ns. In the waiting-list group, relationship quality remained unchanged between T0 ($M=7.19$) and T1 ($M=7.13$), $t(18)=0.26$, ns and increased between T1 and T2 ($M=7.84$), $t(18)=-2.81$, $p<0.05$, ES=0.59.

Finally, the analysis of psychological distress showed a significant effect for Time, $F(2,35)=4.24$, $p<0.05$, and marginally significant interaction effects between Role and Group, $F(1,36)=3.78$, $p<0.06$, and Group and Time, $F(2,35)=2.89$, $p<0.07$. These effects were qualified by a marginally significant Group \times Role \times Time effect, $F(2,35)=2.46$, $p<0.10$, with a non significant linear contrast, $F(1,36)=0.02$, ns, and a significant curvilinear contrast, $F(1,36)=4.79$, $p<0.05$. In line with our expectations (see Table 4), distress decreased between T0 ($M=15.63$) and T1 ($M=10.68$) among patients in the experimental group, $t(19)=2.45$, $p<0.05$, ES=0.55, and remained stable at this lower level between T1 and T2 ($M=12.05$), $t(19)=-0.56$, ns. Among patients in the waiting-list group, distress remained unchanged between T0 ($M=19.47$) and T1 ($M=20.95$), $t(18)=-0.71$, ns and decreased between T1 and T2 ($M=15.53$), $t(18)=2.51$, $p<0.05$, ES=0.55. Among partners (experimental and waiting-list group) distress did not decrease significantly.

To summarize, significant intervention effects were demonstrated for patients and partners with respect to perceptions of underinvestment/overbenefit and perceived relationship quality. For psychological distress, intervention effects were found for patients only. The findings for perceptions of overinvestment/underbenefit were ambiguous. Among couples in the experimental group these perceptions decreased after the intervention. This was not the case among couples in the waiting-list group.

Follow-up effects

As a result of our design, follow-up data of the waiting-list group could not be included in the previous analyses. For the outcome variables that showed significant intervention effects in the previous section (i.e. perceptions of underinvestment/overbenefit and relationship quality among patients and partners, and psychological distress among patients) data of the experimental and waiting-list group were aggregated at pretest (the second pretest was used for the waiting-list group),⁴ posttest and follow-up. Additional analyses of variance were conducted on these data to examine longer-term effects of the intervention among all participants and to examine possible differential effects of the intervention on participants in both groups.

Two 2(Group: experimental versus waiting-list) \times 2(Role: patient versus partner) \times 3(Time: pretest to follow-up)-analyses of variance were conducted with perceptions of underinvestment/overbenefit and relationship quality, respectively, as dependent variables. Repeated contrasts were included to compare pretest with posttest and posttest with follow-up. The analysis of perceptions of underinvestment/overbenefit showed a significant effect for Role, $F(1,34) = 4.64$, $p < 0.05$ (already discussed in the previous section), and a significant effect for Time, $F(2,33) = 10.49$, $p < 0.001$. Contrast analysis demonstrated a significant difference between pretest and posttest, $F(1,34) = 14.98$, $p < 0.001$, $ES = 0.45$, but not between posttest and follow-up, $F(1,34) = 0.50$, ns, $ES = 0.10$. No other effects were found. Perceptions of underinvestment/overbenefit decreased between pretest (M patients = 2.55; M partners = 2.21) and posttest (M patients = 2.18; M partners = 2.03) and remained at this low level until follow-up (M patients = 2.16; M partners = 1.95).

With regard to relationship quality, only a significant effect for Time was found, $F(2,33) = 7.76$, $p < 0.01$. Contrast analysis showed significant differences between pretest and posttest, $F(1,34) = 13.84$, $p < 0.001$, $ES = 0.52$, and between posttest and follow-up, $F(1,34) = 6.62$, $p < 0.05$, $ES = 0.28$. Relationship quality increased between pretest (M patients = 7.33; M partners = 7.44) and posttest (M patients = 7.97; M partners = 8.17) but decreased again between posttest and follow-up (M patients = 7.78; M partners = 7.75). Thus, participants experienced a relapse after the intervention. Additional contrast analysis comparing pretest and follow-up showed a marginally significant difference, $F(1,34) = 13.84$, $p = 0.06$, $ES = 0.29$, indicating that relationship quality at follow-up was still somewhat higher than at pretest.

For psychological distress, a 2(Group: experimental versus waiting-list) \times 3(Time: pretest to follow-up)-analysis of variance among patients only was conducted. A main effect for Time was found, $F(2,33) = 5.94$, $p < 0.01$. Contrast analysis demonstrated a significant difference between pretest and posttest, $F(1,34) = 11.65$, $p < 0.002$, $ES = 0.54$, but not between posttest and follow-up, $F(1,34) = 0.10$, ns, $ES = 0.03$. Psychological distress among patients decreased between pretest ($M = 18.86$) and posttest ($M = 13.47$) and remained at this lower level until follow-up ($M = 13.22$).

Associations between outcome variables.

The next issue concerns the question to what extent a change in perceived inequity between pretest and posttest is related to relationship quality and psychological distress at posttest and follow-up. The data of the experimental and waiting-list group were taken together at pretest (second pretest for the waiting-list group), posttest and follow-up to examine this. Change scores for perceived inequity were computed by subtracting posttest scores on perceptions of overinvestment/underbenefit and perceptions of underinvestment/overbenefit, respectively, from the corresponding pretest scores. Hierarchical regression analyses were conducted with relationship quality and psychological distress at posttest and at follow-up as dependent variables. In the first step, the dependent variable and perceived inequity at pretest were entered in the regression in order to control for initial differences at pretest. In the

second step, the difference score for perceived inequity was entered. The results of these analyses are presented in Table 5.

The results showed that change in perceived inequity between pretest and posttest explained a significant amount of variance in the second step of the regression analyses of relationship quality at posttest among patients as well as among partners. As expected, the more patients and partners experienced a decrease in perceptions of inequity (both under/overinvestment and under/overbenefit) between pretest and posttest, the higher they rated the quality of their relationship at posttest. With regard to perceived relationship quality three months later at follow-up, significant contributions of change in perceived inequity were found among patients only. The more patients experienced a decrease in perceptions of inequity between the start and the end of the intervention, the more satisfied they were with their relationship three months later.

With respect to psychological distress, Table 5 shows that a decrease in perceptions of overinvestment/underbenefit between pretest and

posttest was related to lower distress at posttest and follow-up among patients. A decrease in perceptions of underinvestment/overbenefit, was marginally related to lower distress at follow-up only. Among partners, only one marginally significant result was found. Partners who perceived a decrease in perceptions of underinvestment/overbenefit reported less distress at follow-up.

DISCUSSION

The results of this study showed positive effects of an intervention targeted at couples facing cancer. After the intervention, both patients and partners reported, as expected, lower levels of perceptions of underinvestment and overbenefit, and higher levels of relationship quality. In addition, patients reported lower levels of psychological distress after the intervention. An important finding in the present study is that the intervention not only elicited short-term effects, but that the effects were

Table 5. Relationship quality, and psychological distress at posttest and follow-up regressed on changes in perceived inequity between pretest and posttest

	Relationship quality				Psychological distress			
	Posttest		Follow-up		Posttest		Follow-up	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Patients								
Overinv/underben. Analysis								
1. Dependent variable (pretest)	0.51***	0.49**	0.47***	0.60***	0.39***	0.58***	0.18*	0.31 ⁺
OI/UB (pretest)		-0.29 ⁺		-0.11		0.06		0.25
2. Change in OI/UB	0.17***	0.48***	0.05 ⁺	0.27 ⁺	0.10*	-0.35*	0.09 ⁺	-0.33
Underinv/overben. Analysis								
1. Dependent variable (pretest)	0.51***	0.65***	0.49***	0.62***	0.44***	0.53***	0.44***	0.22
UI/OB (pretest)		-0.13		-0.17		0.28		0.58***
2. Change in UI/OB	0.09*	0.31*	0.08*	0.28*	0.01	-0.10	0.05 ⁺	-0.23 ⁺
Partners								
Overinv/underben. Analysis								
1. Dependent variable (pretest)	0.32**	0.58***	0.37**	0.65***	0.33**	0.46**	0.39**	0.43**
OI/UB (pretest)		-0.07		0.07		0.29 ⁺		0.38*
2. Change in OI/UB	0.16**	0.40**	0.01	0.08	0.00	0.07	0.00	-0.05
Underinv/overben. Analysis								
1. Dependent variable (pretest)	0.32**	0.55***	0.37***	0.59***	0.25*	0.40*	0.33**	0.37*
UI/OB (pretest)		-0.06		-0.01		0.19		0.36*
2. Change in UI/OB	0.10*	0.33*	0.00	0.02	0.03	-0.20	0.07 ⁺	-0.29 ⁺

⁺ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. OI/UB = perceptions of overinvestment/ underbenefit. UI/OB = perceptions of underinvestment/overbenefit.

generally preserved until three months after completion of the intervention. With respect to relationship quality, some relapse occurred between posttest and follow-up, although couples still reported higher levels of relationship quality at follow-up compared to their pretest levels. Moreover, it is important to stress that the changes in outcome variables after the intervention were not only statistically significant but also clinically relevant. Medium effect sizes or effect sizes approaching a medium size were found for all the outcome variables that showed intervention effects. As a result of the relapse in relationship quality, the effect size between pretest and follow-up was reduced to a small effect size.

The findings for perceptions of overinvestment and underbenefit were inconsistent. That is, these perceptions did indeed decrease among couples in the experimental group, but not among couples in the waiting-list group. This might be due to the fact that couples in the waiting-list group initially already scored somewhat lower on perceptions of overinvestment and underbenefit. At any rate, based on these findings we cannot conclude that the intervention was successful in reducing these particular perceptions of inequity.

In contrast with a number of studies that show that patients and partners are often equally distressed (e.g. Compas *et al.*, 1994; Keller *et al.*, 1996) we found that at the beginning of our study the patients in our sample reported higher levels of psychological distress than did their partners. It is possible that although other research suggests that patients and partners are in general equally distressed, especially couples with high levels of distress in the patient are inclined to seek counseling. Furthermore, the finding that psychological distress did not decrease as a result of the intervention among partners deserves attention. A possible explanation that this is due to a floor effect (i.e. that there was not much room for improvement in the first place) is not very likely because these partners reported higher levels of psychological distress compared to other samples of partners of cancer patients (Ybema *et al.*, 2001; Hagedoorn *et al.*, 2000). One could argue that, although it is a couple intervention, most attention goes to the patient and as a result partners' distress does not decrease. This is also not very likely, since self-reported relationship quality did increase among partners. Future research that addresses possible differential intervention effects on patients and partners is needed.

Furthermore, some interesting results were found with regard to the associations between the outcome variables. The more patients experienced a decrease in perceptions of inequity after the intervention, the higher they rated the quality of their relationship immediately after the completion of the intervention and three months later. In other words, patients who were less bothered by providing imbalanced investments or receiving imbalanced benefits from the relationship after the intervention, were more satisfied with their relationship, both immediately after the intervention and three months later. Among partners, a decrease in perceived inequity was associated with relationship quality immediately after the completion of the intervention only. Thus in line with equity theory (Walster *et al.*, 1978), restoring perceived inequity was associated with higher relationship quality. With regard to psychological distress, generally weaker associations were found. This is not surprising, because the perceptions of inequity are more compatible with relationship quality than with distress.

Finally, some differences between patients and partners are noteworthy. In line with the notion of a traditional patient-caregiver division of roles (Cutrona, 1996; Thompson and Pitts, 1992), patients were more than their partners bothered by investing too little in the relationship while benefiting too much from it. Partners, on the other hand, were more than patients bothered by the feeling that they invested too much and received too little from the relationship. In line with other research among couples facing cancer, no differences were found between patients and partners with regard to perceived relationship quality (Kuijer *et al.*, 2001, 2002).

This study has several limitations. First, the sample size was small and therefore our results should be interpreted with some caution. Although the sample size was larger than the few other studies that evaluated interventions targeted at couples (Christensen, 1983; Walsh-Burke, 1992), larger outcome studies are needed to determine the robustness of our findings. As a result of the small sample size, gender differences could not be studied. Research suggests that female partners are affected more by their partner's illness than male partners, that is, female partners generally report more psychological distress and caregiver burden than male partners (e.g. Hagedoorn *et al.*, 2000; Miller and Cafasso, 1992). In addition, research among couples facing cancer shows that

male patients and male partners feel on average more advantaged in their relationship than their female counterparts do (Kuijer *et al.*, 2001, 2002). These findings are in line with findings from many studies among healthy couples that show that men feel on average more advantaged in their relationship than women (e.g. Buunk and VanYperen, 1991, 1989). It is possible that an intervention aimed at reducing perceptions of inequity has differential effects on couples with a male or a female patient. For example, both patients and partners in couples with a male patient may report higher levels of perceptions of inequity than patients and partners in couples with a female patient. These higher levels of perceptions of inequity may leave more room for improvement. However, it is also conceivable that perceptions of inequity are more difficult to change in couples with a male patient because for many couples being disadvantaged in the relationship is more rooted into the female role in the household than into the male role, whereas the reverse is true for being advantaged. It is important that future research addresses possible gender differences.

A second limitation was the short period of time (i.e. three months) that was used to test the follow-up effects of the intervention. However, in the case of cancer, measuring effects over a larger period of time, for example a year, may be very difficult to realize. Note that during the course of our study and in spite of our exclusion criteria a number of couples dropped out because the patient died (six couples) or became too ill to continue (five couples).

Finally, the couples in the present study may not represent a random sample of couples coping with cancer-related problems in the population at large. The intervention in this study was specifically designed to assist couples with cancer to cope with illness-related problems together, but was not intended as a marital therapy for couples with severe marital problems. As a result, the sample in the present study consisted of couples with intact and stable relationships.

In conclusion, this study is one of the few that has evaluated an intervention program targeted at couples facing cancer. As far as we know, it is the first program that focussed especially on the give-and-take that goes on within couples confronted with a serious illness. It was found that both patients and partners were less bothered by feelings of underinvestment and overbenefit after the intervention, and that self-reported relation-

ship quality increased. Among patients, levels of psychological distress decreased. These effects were not only short-term changes, but were in general maintained until the follow-up measurement three months later. Moreover, the clinical relevance of the effects was substantial. Additionally, the findings indicate that by reducing feelings of inequity through an intervention, relationship quality may be enhanced.

NOTES

1. In the combined factor analysis, the data from patients and partners were treated as if they were independent observations. Strictly speaking this is not correct. We chose to do this because we wanted the contents of the subscales to be identical for both partners, and because a sample size of 59 participants is rather small. However, separate analyses on the patient and partner data were conducted and these results were similar to those presented in the text. In addition, a factor analysis performed on a larger sample of patients with cancer and their partners (Kuijer, unpublished report) showed similar results.
2. The item 'It weighs upon me to ask my partner for help' (intended to measure perceptions of overbenefit) loaded 0.45 on both factors. When this item was removed from the underinvestment/overbenefit scale, results were similar to those presented below.
3. In a brief check of the validity of the measures of perceptions of inequity, we examined how these measures were related to responses on a global, one item, inequity measure (based on Hatfield *et al.*, 1984) that was also assessed in this study (cf. Kuijer *et al.*, 2001). The item was: 'When you look at your relationship from a viewpoint of give-and-take, how would you describe your relationship'. The 5-point response scale ranged from 'My partner is doing ... a lot more for me than I am doing for him/her' (+ 2, overbenefit), through '...as much for me as I am doing for him/her' (0, equity), to '... a lot less for me than I am doing for him/her' (-2, underbenefit). At T0 underbenefit on the global measure (linear scale from underbenefit to overbenefit) was related to perceptions of overinvestment/underbenefit (patients: $r = -0.40$, $p < 0.05$; partners: $r = -0.31$, $p < 0.05$) but not to perceptions of underinvestment/overbenefit ($r < 0.19$, ns). Equity on the global measure (quadratic scale from equity to inequity) was related to both perceptions of overinvestment/underbenefit and underinvestment/overbenefit among patients ($r = 0.32$, $p < 0.05$ and 0.43 , $p < 0.01$, respectively) and to perceptions of underinvestment/overbenefit among partners ($r = 0.56$, $p < 0.001$).

4. Similar results as the ones presented in the text were found when the first pretest for participants in the waiting-list group was used.

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REFERENCES

- Bouma J, Ranchor AV, Sanderman R, VanSonderen E. 1995. *Het meten van symptomen van depressie met de CES-D*. (The measurement of symptoms of depression with the CES-D.) *Internal Report*, NCG, University of Groningen, The Netherlands.
- Buunk BP, VanYperen NW. 1989. Social comparison, equality, and relationship satisfaction: Gender differences over a ten-year period. *Soc Justice Res* **3**: 157–180.
- Buunk BP, VanYperen NW. 1991. Referential comparisons, relational comparisons, and exchange orientation: Their relation to marital satisfaction. *Pers Soc Psychol Bull* **17**: 709–717.
- Cantril H. 1965. *The Pattern of Human Concerns*. Rutgers University Press: New Brunswick.
- Carter CA, Carter RE. 1994. Some observations on individual and marital therapy with breast cancer patients and spouses. *J Psychosoc Oncol* **12**: 65–81.
- Christensen DN. 1983. Post mastectomy couple counseling: An outcome study of a structured treatment protocol. *J Sex Marital Ther* **9**: 266–275.
- Cohen J. 1988. *Statistical Power Analysis for the Behavioral Sciences*. Lawrence Erlbaum Ass.: Hillsdale.
- Cohen MM, Wellisch DK. 1978. Living in limbo: Psychosocial interventions in families with a cancer patient. *Am J Psychother* **32**: 561–571.
- Compas BE, Worsham NL, Epping-Jordan JE *et al.* 1994. When mom or dad has cancer: Markers of psychological distress in cancer patients, spouses and children. *Health Psychol* **13**: 507–515.
- Coyne JC, Wortman CB, Lehman DR. 1988. The other side of social support: Emotional overinvolvement and miscarried helping. In *Marshaling Social Support: Formats, Processes, and Effects*, Gottlieb BH (ed.). Sage: Newbury Park: 305–330.
- Cutrona C. 1996. *Social Support in Couples*. Sage: Thousand Oaks.
- Dakof GA, Taylor SE. 1990. Victims' perceptions of social support: What is helpful from whom? *J Pers Soc Psychol* **58**: 80–89.
- de Haes JCM, Olschewski M, Fayers P *et al.* 1996. *The Rotterdam Symptom Checklist (RSCL)*. Northern Centre for Health Care Research, University of Groningen, The Netherlands.
- Donnelly JM, Kornblith AB, Fleishman S *et al.* 2000. A pilot study of interpersonal psychotherapy by telephone with cancer patients and their partners. *Psycho-Oncology* **9**: 44–56.
- Dunkel-Schetter C. 1984. Social support and cancer: Findings based on patient interviews and their implications. *J Soc Issues* **40**: 77–98.
- Dunlap WP, Cortina JM, Vaslow JB, Burke MJ. 1996. Meta-analysis of experiments with matched groups or repeated measurement designs. *Psychol Methods* **1**: 170–177.
- Emmelkamp PGM, van Oppen P. 1993. Cognitive interventions in behavioral medicine. *Psychother Psychosom* **59**: 116–130.
- Fawzy FI, Fawzy NW, Arndt LA, Pasnau RO. 1995. Critical review of psychosocial interventions in cancer care. *Arch Gen Psychiat* **52**: 100–113.
- Hagedoorn M, Buunk BP, Kuijter RG, Wobbes T, Sanderman R. 2000. Couples dealing with cancer: Role and gender differences regarding psychological distress and quality of life. *Psycho-Oncology* **9**: 232–242.
- Hatfield E, Traupmann J, Sprecher S, Utne M, Hay J. 1984. Equity and intimate relations: Recent research. In *Compatible and Incompatible Relationships*, Ickes W (ed.). Springer-Verlag: New York: 91–118.
- Hegtvædt KA. 1990. The effects of relationship structure on emotional responses to inequity. *Soc Psychol Q* **53**: 214–228.
- Heinrich RL, Schag CC. 1985. Stress and activity management: Group treatment for cancer patients and spouses. *J Consult Clin Psychol* **53**: 439–446.
- Helgeson VS, Cohen S. 1996. Social support and adjustment to cancer: Reconciling descriptive, correlational, and intervention research. *Health Psychol* **15**: 135–148.
- Hoskins CN. 1995. Adjustment to breast cancer in couples. *Psychol Rep* **77**: 435–454.
- Keller M, Henrich G, Sellschopp A, Beutel M. 1996. Between distress and support: Spouses and cancer patients. In *Cancer and the Family*, Baider L, Cooper CL, Kaplan De-Nour A (eds). Wiley: Chichester: 187–223.
- Kuijter RG, Buunk BP, Ybema JF. 2001. Are equity concerns important in the intimate relationship when one partner of a couple has cancer? *Soc Psychol Q* **64**: 267–282.
- Kuijter RG, Buunk BP, Ybema JF, Wobbes T. 2002. The relation between perceived inequity, marital satisfaction, and emotions among couples facing cancer. *Br J Soc Psychol* **41**: 39–56.
- Meyer TJ, Mark MM. 1995. Effects of psychosocial interventions with adult cancer patients: A meta-analysis of randomized experiments. *Health Psychol* **14**: 101–108.

- Miller M, Cafasso L. 1992. Gender differences in caregiving: Fact or artifact? *Gerontologist* **32**: 498–507.
- Northouse LL, Templin T, Mood D, Oberst M. 1998. Couples' adjustment to breast cancer and benign breast disease: A longitudinal analysis. *Psycho-Oncology* **7**: 37–48.
- Radloff L. 1977. The CES-D scale: A self-report depression scale for research in the general population. *Appl Psychol Meas* **1**: 385–401.
- Thompson SC, Medvene LJ, Freedman D. 1995. Caregiving in the close relationships of cardiac patients: Exchange, power, and attributional perspectives on caregiver resentment. *Pers Relat* **2**: 125–142.
- Thompson SC, Pitts JS. 1992. In sickness and in health: Chronic illness, marriage, and spousal caregiving. In *Helping and Being Helped*, Spacapan S, Oskamp S (eds). Sage: Newbury Park; 115–151.
- Walsh-Burke K. 1992. Family communication and coping with cancer: Impact of the We Can weekend. *J Psychosoc Oncol* **10**: 63–81.
- Walster E, Walster GW, Berscheid E. 1978. *Equity: Theory and Research*. Allyn and Bacon: Boston.
- Weihs K, Reiss D. 1996. Family reorganization in response to cancer: A developmental perspective. In *Cancer and the Family*, Baider L, Cooper CL, Kaplan De-Nour A (eds). Wiley: Chichester; 3–31.
- Whitman HH, Gustafson JP. 1989. Group therapy for families facing a cancer crisis. *Oncol Nurs Forum* **16**: 539–543.
- Williamson GM, Schultz R. 1995. Caring for a family member with cancer: Past communal behavior and affective reactions. *J Appl Soc Psychol* **25**: 93–116.
- Ybema JF, Kuijer RG, Hagedoorn M, Buunk BP. 2002. Caregiver burnout among intimate partners of patients with a severe illness: An equity perspective. *Pers Relat* **9**: 73–88.
- Ybema JF, Kuijer RG, Buunk BP, de Jong GM, Sanderman R. 2001. Depression and perceptions of inequity among couples facing cancer. *Pers Soc Psychol Bull* **27**: 3–13.

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