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Close relationship and chronic illness: The interrelations between illness perceptions and
social support

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Abstract

The aims of this study were 1) to explore the degree of concordance/discordance between the illness perceptions of patients with a chronic illness and those of their partners, and 2) to examine the relationship between the concordance/discordance of couples' illness perceptions and social support exchange processes. In a cross-sectional study, 119 chronic patients and their partners completed questionnaires assessing their illness perceptions (IPQ-R) as well as the social support received by the patients and that provided by the partners (BSSS). The degree of concordance between the illness perceptions of patients and partners was assessed and related to received and provided social support. The concordance between patients' and partners' illness perceptions regarding the patient's chronic illness was quite high. In general, in couples with negative-concordant illness perceptions, more social support was received and provided than in couples with positive-concordant illness perceptions and in couples with discordant illness perceptions. Most of the differences between groups were found for informational social support. Findings indicate that the concordance of illness perceptions between patients and their partners is related to social support exchange processes. This demonstrates the importance of the involvement of patients' partners in the process of diagnosis, treatment, and rehabilitation.

Keywords: chronic illness, illness perceptions, social support, couples, concordance, similarity

Zusammenfassung

Das Anliegen der vorliegenden Studie war es, das Ausmaß an Konkordanz/Diskordanz zwischen den subjektiven Krankheitskonzepten von Patient(inn)en mit einer chronischen Erkrankung und ihren Partner(inn)en zu erfassen sowie die Zusammenhänge zwischen der Konkordanz/Diskordanz der dyadischen Krankheitskonzepte und dem Austausch sozialer Unterstützung zu untersuchen. In einem querschnittlichen Design wurden 119 chronisch kranke Personen und ihre Partner(inn)en befragt. Via Fragebogen wurden die subjektiven Krankheitskonzepte beider Personen (IPQ-R) sowie bei Patient(inn)en die erhaltene und bei Partner(inn)en die gegebene soziale Unterstützung erfasst. Für jedes Paar wurde die Konkordanz der Krankheitskonzepte berechnet und Zusammenhänge mit der erhaltenen und gegebenen sozialen Unterstützung analysiert. Die subjektiven Krankheitskonzepte der untersuchten Paare wiesen insgesamt ein hohes Maß an Konkordanz auf. Paare mit konkordanten negativen Krankheitskonzepten berichteten über mehr erhaltene und gegebene soziale Unterstützung als Paare mit konkordanten positiven oder diskordanten Krankheitskonzepten. Unterschiede zeigten sich insbesondere bei informationeller sozialer Unterstützung. Die Ergebnisse geben Hinweise auf Zusammenhänge zwischen der Konkordanz dyadischer Krankheitskonzepte und sozialen Unterstützungsprozessen. Dies wiederum verweist auf die Notwendigkeit, die Partner(inn)en chronisch Kranker bei der Diagnose, Behandlung und Rehabilitation einzubeziehen.

Schlüsselwörter: chronische Krankheit, dyadische Krankheitskonzepte, soziale Unterstützung, Paare, Konkordanz, Ähnlichkeit

Introduction

The significance of illness perceptions for coping with health threats and medical conditions has long been recognized in health psychological research (Filipp & Aymanns, 1997; Petrie & Weinman, 2012; Salewski, 2010). Illness perceptions have generally been considered within the framework of the common-sense model of self-regulation of health and illness (CSM; Diefenbach & Leventhal, 1996; Leventhal, Meyer, & Nerenz, 1980; Leventhal et al., 2012): Triggered by a diagnosis or by changes in their physical condition, individuals develop cognitive representations of their illness, including assumptions about its symptoms, temporal course, causes, controllability or curability, and consequences. At the same time, emotional representations that are based on – generally negative – feelings in response to the health threat are developed (Cameron & Jago, 2008). According to the CSM, cognitive and emotional representations influence the choice of coping strategies as well as the overall well-being of the individual. In a number of studies focusing on people suffering from various illnesses and in different contexts, it has been shown that illness perceptions are related to psychological adaptation (Evans & Norman, 2009; Marcos, Cantero, Escobar, & Acosta, 2007), well-being (Kaptein et al., 2006; Vollmann, Scharloo, Langguth, Kalkouskaya, & Salewski, 2014), and also to specific coping behaviors (Goldstein, Holland, Soteriou, & Mellers, 2005; Llewellyn, McGurk, & Weinman, 2007), especially in the case of chronic illness.

Chronic Illness in Close Relationships and Dyadic Illness Perceptions

In addition to the individual effects of illness perceptions, there is an increasing interest in a microsystemic perspective that examines the illness perceptions of people in long-term social relationships, such as families (Salewski, 2003; Sim & Matthews, 2013) and, most significantly, romantic dyads (Kaptein et al., 2007; Yorgason et al., 2010). Especially in the context of research on illness perceptions in romantic dyads, the idea that chronic illnesses affect not only the patients themselves but also the social network of the patients has been

taken into consideration. In long-term close relationships in which one partner is chronically ill, the illness often has an impact on both partners. This can be the result of changes in everyday life (e.g., a special diet), fears and concerns related to the illness, constraints impacting the relationship itself (e.g., financial losses due to reduced ability to work), or the stress related to caregiving. Accordingly, for both the patient and the healthy but nonetheless affected partner, a specific explanatory model of the illness (i.e., illness perceptions) must be developed, and each partner must cope with certain illness-related demands (Berg & Upchurch, 2007). Recent research has revealed some effects of such dyadic illness perceptions. Karademas and Giannousi (2013) found that both oncological patients' and their partners' perceptions of control and treatment showed complex interactions with both partners' well-being and adaptation. In a group of carers for patients with oesophageal cancer, carers' illness perceptions regarding the cancer and their coping attempts accounted for a considerable amount of the variance in carers' psychological distress (Dempster et al., 2011).

Patients' and partners' illness perceptions should not be understood as two independent cognitive-emotional representations, because they develop a specific dynamic as a result of their concordance (similarity) or discordance (dissimilarity). In a prospective study, Figueiras and Weinman (2003) investigated illness perceptions of couples in which one person had experienced a heart attack. They found that concordant perceptions (e.g., similar positive beliefs about cure/control and consequences) were positively associated with a range of recovery outcomes on the part of the patient. Sterba and colleagues (2008) report similar results among couples in which one partner was suffering from arthritis. Karademas, Zarogiannos, and Karamvakalis (2010) found that the concordance of dyadic illness perceptions was correlated with certain coping strategies, in particular palliative coping and wishful thinking. Benyamini, Gozlan and Kokia (2009) investigated relations between dyadic illness perceptions, distress and well-being in couples undergoing treatment for infertility. Among other results they found that discordant perceptions regarding controllability (low

perception of controllability in wife, high controllability in husband) was associated with highest distress in women, compared to couples who shared similar views on controllability of infertility, irrespective of the level of controllability. In line with these findings, in a study by Heijmans, de Ridder, and Bensing (1999), discordance in dyadic illness perceptions was associated with poorer patient adjustment (e.g., physical and social functioning). In some of the above studies, in addition to the degree of concordance or discordance, quality and direction were also considered. For example, Figueiras and Weinman (2003) determined for each illness perception dimension whether the dyadic illness perception was positive-concordant, negative-concordant, or discordant. High values for both partners on the dimensions of identity, chronic timeline, and consequences, as well as low values on the dimension of cure/control were regarded as *negative-concordant* perceptions; the opposite pattern was labeled *positive-concordant*. Positive-concordant perceptions were found to be especially predictive of good adaptation. Karademas and colleagues (2010) differentiated between 'similarly high', 'similarly low' and 'conflicting' perceptions, and identified divergent correlation patterns with specific coping strategies. Thus, considering the quality of concordance or discordance of dyadic illness perceptions seems to add valuable information, however, systematic relationships between concordance/discordance and adaptation to an illness have not yet been identified.

In summary, there is a great deal of evidence suggesting that dyadic illness perceptions are relevant in the context of chronic illness within close relationships, and that in particular the concordance or discordance of these perceptions (as well as their direction and quality) is related to well-being and adaptation. Thus far, however, the predominant focus has been on the well-being and the adaptation of the patients, whereas the healthy partners have received less intensive consideration. Also unclear is the degree of concordance or discordance of dyadic illness perceptions in general (i.e., not only with respect to one specific illness) in couples in which one person is chronically ill.

Social Support and Dyadic Illness Perceptions

One factor that may play an important role in the relationship between dyadic illness perceptions and well-being is social support. Social support aims to resolve onerous or difficult personal situations or at least to ameliorate them (e.g., Schwarzer, 2004). Generally, three different functions of social support are differentiated (see Helgeson, 2003). *Emotional support* includes the provision of comfort, warmth, and encouragement, as well as expressions of concern and affection. *Instrumental support* consists of practical assistance with necessary tasks, the provision of financial resources, or the procurement of required goods. *Informational support* refers to the transmission of relevant information and the provision of advice or instructions. Especially in the context of chronic illness, social support plays a significant role. Studies have shown that receiving social support from a partner positively affects the illness adaptation of patients (Manne, Pape, Taylor, & Dougherty, 1999; Schmaling & Sher, 2000; Vilchinsky et al., 2011).

There is some evidence indicating that illness perceptions and the willingness to provide social support may be related (Vollmann et al., 2010). For example, the illness perceptions of healthy individuals influence the kind of social support they would provide to people suffering from depression.

There is also preliminary evidence of the significance of dyadic illness perceptions in relation to social support and well-being. For example, in a study of older couples in which one partner suffered from arthritis, Martire and colleagues (2006) found that in couples with high concordance regarding the patient's intensity of pain, more emotional support was provided. In this study, in which the perspective of the partner was explicitly taken into account, the results also showed that when assessments of pain were concordant, partners were less stressed when they provided emotional support. A relationship between the concordance or discordance of dyadic illness perceptions and (overall) social support in couples in which one partner had a heart disease was also established by Benyamini,

Medalion, and Garfinkel (2007). Here, the researchers categorized dyadic illness perceptions on the basis of whether the healthy partner exhibited significantly higher or lower values on the illness perception dimensions than the patient. Among other findings, this study demonstrated that patients reported receiving more support when they perceived a shorter timeline and greater controllability than their partners. In addition, partners reported providing more support when they attributed more symptoms to the illness and perceived a longer timeline than the patients. Other than the research outlined above, studies that have explicitly examined the relationship between dyadic illness perceptions and the different facets of social support are highly uncommon.

The Present Study

The aim of the present study was to extend previous findings on dyadic illness perceptions and social support by 1) considering the perspective of both members of the dyad (in terms of the patient's received support and the partner's provided support) and 2) investigating whether the concordance or discordance of the partners with respect to their illness perceptions is related to the extent of social support exchange processes. Social support was differentiated according to three different functions (emotional, instrumental, and informational). Furthermore, the quality of the concordance was taken into account – that is, whether the partners had similar positive or negative illness perceptions.

The research questions were:

1) What is the overall concordance/discordance between the illness perceptions of patients and their partners?

2) What is the relationship between the concordance/discordance of these dyadic illness perceptions and the extent of social support exchange processes?

Methods

Procedure and Participants

The study took place in a variety of medical settings (doctors' offices, acute-care and

rehab clinics). Patients were contacted and informed about the study and its procedure. When both the patient and his or her partner indicated their willingness to participate, the couple received two sets of questionnaires with the instruction that they should be filled out independently. The completed questionnaires were either collected immediately after their completion or were returned by post. The inclusion criteria for participation in the study were an age of at least 18 for both partners, sufficient knowledge of German, and lack of cognitive impairment. The study was reviewed and approved by the Ethics Committee of the University of Applied Sciences Magdeburg-Stendal (AZ 4973-19).

Overall, 119 couples in which one partner was suffering from a chronic illness participated in the study. The sample skewed somewhat older ($M_{\text{patients}} = 55.3$, $SD = 13.7$ years and $M_{\text{partners}} = 56.5$, $SD = 13.1$ years). About two-thirds (67.2%) of the patients were women. Because only heterosexual couples participated in the study, the gender ratio was reversed for the sample of the partners. Among the patients, about half (50.4%) were employed or in education; among their partners, the share was slightly higher (54.6%). The average relationship duration was 29 years ($SD = 16.2$, *Range* 2-62). This relatively long average relationship duration resulted from the proportion of couples in very long-lasting relationships. Most of the couples (86.6%) were married. Among the patients, the three most common illnesses were malignant carcinoma (42.9%), mental and behavioral disorders (20.5%), and diseases of the musculoskeletal system and connective tissue (18.5%).

Measures

Illness perceptions of patients and their partners. Patients' illness perceptions were measured using the German version of the Illness Perception Questionnaire-Revised (IPQ-R; Gaab, Latanzia-Bunschoten, Sprott, & Ehlert, 2008; Glattacker, Bengel, & Jäckel, 2009; Moss-Morris et al., 2002). The IPQ-R consists of the following scales: illness identity (type and number of symptoms associated with the illness), timeline chronic vs. acute, timeline cyclical, consequences, personal control, treatment control, coherence (comprehensibility),

emotional representations (feelings evoked by the illness), and possible causes for the illness. In the present study, a factor analysis of the 18 causal items revealed two main factors, which we labeled "psychological attributions" (e.g., emotional state, stress, overwork, personality) and "risk factors" (e.g., alcohol, smoking, poor medical care, accident). Overall, the IPQ-R includes 50 items that (with the exception of the identity scale) are all answered on a five-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree".

Partners' illness perceptions of the patients' illnesses were measured using a partner IPQ-R version. For this instrument, the spouse version of the IPQ-R (Sterba & DeVellis, 2009) was translated from English into German. The content of certain items was then adapted so that the IPQ-R and the IPQ-R partner version were completely parallel in terms of the number of items, their content, and their formulation (e.g., Item 1 IPQ-R: "My illness will only last a short time." Item 1 IPQ-R partner: "My partner's illness will only last a short time.").

In the present study, Cronbach's alphas for the scales of the IPQ-R and the partner version of the IPQ-R were between .60 and .88, except for the IPQ-R subscale "timeline cyclical", which had a Cronbach's alpha of .47 and was therefore excluded from further analyses.

Social support. In the present study, patients' received social support and partners' provided social support were assessed by the Berlin Social Support Scales (BSSS; Schulz & Schwarzer, 2003). With respect to the previous week, patients indicated how much support they had received from their partner (e.g., "He/she showed me that he/she loves and accepts me."), while the partners indicated to what extent they had supported the patient (e.g., "I showed him/her how much I love and accept him/her."). In both versions of the questionnaire, emotional, instrumental, and informational social support were measured by means of 14 items. Patients also answered an additional item concerning their satisfaction with the received social support ("In general, I am very satisfied with the way my partner behaved."). The BSSS items were answered on a five-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree". In our sample, Cronbach's alphas for the subscales ranged

from .70 to .90; only the subscale "instrumental support" from the partner's perspective had a lower Cronbach's alpha, at .56.

Results

The intercorrelations of the variables for patients and partners as well as the correlations between the variables of patients and partners are presented in Table 1.

Overall Concordance/Discordance of Dyadic Illness Perceptions

In order to analyze the concordance/discordance of the dyadic illness perceptions of the couples, t-tests comparing the IPQ-R values of the patients with those of the partners were calculated. Significant differences between patients and partners were found on four scales. In terms of illness identity, patients perceived significantly more symptoms than the partners ($M_{patients} = 5.47$, $SD = 3.59$, $M_{partners} = 3.96$, $SD = 3.65$; $t(118) = 4.40$, $p < .001$). Patients also estimated the consequences of their illness as more serious ($M_{patients} = 3.20$, $SD = 0.83$, $M_{partners} = 3.04$, $SD = 0.86$; $t(108) = 2.02$, $p < .05$). With regard to the perception of personal control ($M_{patients} = 3.35$, $SD = 0.87$, $M_{partners} = 3.18$, $SD = 0.83$; $t(17) = 2.21$, $p < .05$) and the attribution of psychological causes for the illness ($M_{patient} = 2.72$, $SD = 0.94$, $M_{partner} = 2.42$, $SD = 0.83$; $t(104) = 4.28$, $p < .001$), patients also had significantly higher values than the partners.

In order to draw conclusions regarding the concordance/discordance of illness perceptions at the level of individual couples, the absolute difference between the perceptions of the two partners was calculated for each couple for each illness perception dimension. Table 2 shows the mean values of the absolute differences on the nine scales. For all illness perception dimensions (except for the scale "identity"), the mean difference between the partners was on average less than 1.00 (on a five-point rating scale), indicating a high overall concordance of illness perceptions within the couples in this sample. Also on the identity scale, the mean difference was rather low, since up to 14 symptoms could be named.

Relationship between Concordance/Discordance of Illness Perceptions and Social

Support

For the analysis of the relationship between the concordance/discordance of dyadic illness perceptions and social support processes, it was determined for each couple whether the partners were concordant or discordant with respect to the nine illness perception dimensions. This was based on the procedures described by Figueiras and Weinman (2003) and Marcos, Weinman, Cantero, and Vázquez (2009). First, for each IPQ-R dimension, the median of the entire sample was calculated, and it was determined whether each individual scored above or below the median. Second, on this basis, a new variable was created for each IPQ-R dimension that indicated whether the patient and the partner in a dyad reported equally positive perceptions (positive-concordant, PoCo), equally negative perceptions (negative-concordant, NeCo), or differing perceptions (discordant, DisCo). Positive perceptions were characterized by values above the median for personal control, treatment control, and coherence (reflecting stronger beliefs in the effectiveness of controlling the patient's illness by the patient's behavior and by medical treatment, and a higher extent of understanding the patient's illness), as well as values below the median for identity, chronic timeline, consequences, emotional representations, and the causal attributions (reflecting less symptoms attributed to the patient's illness, weaker beliefs in a long duration, a weaker perceived impact of the patient's illness on life, less negative feelings evoked by the patient's illness, and a limited number of possible illness causes). Negative perceptions exhibited the opposite pattern of values. Table 3 displays the number of couples with positive-concordant, discordant, and negative-concordant dyadic illness perceptions for each IPQ-R dimension.

Subsequently, analyses of variance (ANOVA) with post-hoc tests were calculated in order to assess whether the patients' received social support and the partners' provided social support differed between the three groups (positive- or negative-concordant, discordant; see Table 4). In Table 4, for the sake of clarity, only the significant differences between groups are shown. Overall, for couples with similar negative illness perceptions (NeCo), more social

support exchange processes were reported than among couples with similar positive illness perceptions (PoCo).

From the patients' perspective, more received social support was reported when patients and their partners perceived many illness-related symptoms, estimated personal control to be low, linked strong negative emotions to the illness, and attributed many psychological causes. Satisfaction with support (measured only in patients) was also significantly higher when both partners had negative perceptions regarding the dimensions "personal control" and "psychological attributions".

From the partners' perspective, similarly high values for consequences, psychological attributions, and attributions to risk factors and similarly low values for coherence were associated with more provided social support. Here again, couples with negative-concordant illness perceptions generally differed from those with positive-concordant perceptions. However, for the dimension "identity", the informational support provided among NeCo couples was also significantly higher than among DisCo couples; a similar discrepancy was observed for instrumental and emotional support along the dimension "psychological attribution". For this latter dimension, the only difference in terms of provided informational support was found between couples with discordant dyadic illness perceptions and those with negative-concordant perceptions.

Table 4 also indicates that among the functions of social support, informational support seems to be of relatively high importance, as seven of the 14 significant group differences relate to this function.

Discussion

Regarding the first research question, the analyses at the group level revealed several differences between the illness perceptions of patients and partners. Specifically, patients perceived more symptoms and more severe consequences, and they attributed their illness to psychological causes (e.g., emotional state, stress) to a greater extent than the partners did. At

the same time, however, they credited themselves with having more personal control over their illness than their partners did. Overall, the differences seem to relate to illness perception dimensions in which the individual experiences of patients are not always visible to those around them. It is likely that patients do not share every single symptom or every feared or actual consequence of their illnesses with their partners, such that the information known to the two partners differs. However, at the level of individual couples (i.e., when examining the illness perceptions within each couple), the dyadic illness perceptions were generally characterized by concordance rather than discordance. This is in line with other studies on dyadic illness perceptions that have also identified more similarity than dissimilarity within individual couples (Karademas et al., 2010; Sterba et al., 2008). This result suggests that couples who must deal with a chronic illness succeed to some degree in communicating about their respective perceptions of the illness, which is an essential precondition for the joint management of the illness (Kayser, Watson, & Andrade, 2007).

The second research question in the present study concerns the relationship between (positive or negative) concordance or discordance of illness perceptions and the received social support (from the perspective of the patient) and provided social support (from the perspective of the partner). Here, three results can be highlighted.

First, the analysis of our sample shows that negative-concordant couples (i.e., couples in which both partners had less favorable perceptions of the illness) consistently reported more social support than couples with positive-concordant and/or discordant perceptions. This is in agreement with previous research that has found that concordant dyadic illness perceptions are generally associated with positive (or less negative) adaptation (Olson, Berg, & Wiebe, 2008). However, in contrast to a number of other studies (e.g., Figueiras & Weinman, 2003; Heijmans, de Ridder, & Bensing, 1999; Sterba et al., 2008), the present results indicate that social support is more pronounced among couples with equally negative illness perceptions. The consistency of the results suggests that this is a stable pattern. One explanation might be

that among couples with a shared negative perception of the illness, more social support is considered necessary. This could actually motivate partners to provide more social support and increase the perception of received support on the part of patients. Interestingly, in the sample under study discordance was not associated with a pronounced lack of provided and received social support. Rather, couples with discordant views on the illness reported a similar amount of social support as concordant couples. This is in contrast to other studies (e.g. Benyamini et al., 2009; Figueiras & Weinman, 2003) that showed that discordance is in most cases correlated with worse adaptation. We can only assume that certain characteristics of the study sample like the relatively long duration of the relationships account for this result. Also, the results of the present study focus on social support and not on indicators of adaptation. For a deeper understanding of the relation between discordance and social support such variables should be included in future studies.

A second result that should be noted is that seven of the 14 significant group differences between negative-concordant, positive-concordant, and discordant couples relate to informational support. This is also an unexpected finding, as previous studies have suggested that from the perspective of patients, informational support is less important than emotional and instrumental support (e.g., Dakof & Taylor, 1990; Helgeson & Cohen, 1996). Even when taking into account the limitations of the "informational support" scale due to its relatively low reliability, this function of social support seems to be particularly closely related to the concordance of dyadic illness perceptions in the couples under investigation. Potentially, the characteristics of the sample could be significant here, as it consisted for the most part of couples who had to deal with a *chronic* illness in their daily lives for a long time. For such couples, emotional and instrumental support might not be perceived as such, whereas informational support – for example, communication about new treatment options – might perhaps be more salient and be reported accordingly. There is also the possibility that in our sample, other forms of support, especially invisible support (Bolger, Zuckerman, & Kessler,

2000), were more relevant; this should be explicitly addressed in future studies. Finally, it should be noted that the obtained pattern of the results does not provide any information about potential relationships between dyadic illness perceptions, social support, and adaptation (e.g., quality of life). This aspect will be considered in future publications.

Third, a notable feature of the results is that the significant differences in social support as a function of dyadic concordance/discordance were related to other illness perception dimensions among patients than among partners. Only for the dimension "psychological attributions" there an agreement between partners, otherwise, no such agreement was found. This result can be cautiously interpreted as indicating that despite overall similarities in illness perceptions, differences between partners may become evident when not only the dyadic illness perceptions but also their relationships with other variables are considered. This, in turn, substantiates efforts to involve the partners of chronically ill patients and their illness perceptions in research studies in order to achieve a comprehensive understanding of the struggle with chronic illness and to find effective approaches for psychological interventions that include both partners (Martire, Schulz, Helgeson, Small, & Saghafi, 2010).

Limitations

One major methodological limitation of the present study concerns the diversity of the sample with regard to the kind and the stage of illnesses which resulted from recruiting patients in different medical settings. Specific illness characteristics might have an impact on both dyadic illness perceptions as well as on social support processes. Unfortunately, subgroups of patients with the same illness in a comparable stage were too small to analyze separately. Based on the present general findings, future research should investigate more homogenous groups of patients in order to detect possible systematic differences. Further, only couples in which both partners were willing to complete the questionnaires participated in the study. Therefore, it can be assumed that the sample consisted of particularly motivated couples, and that the generalizability of the results is thereby limited. There is also no

information about whether couples actually filled out the questionnaires independently, as the instructions requested. The similarities between partners' illness perceptions could thus also be co-determined by some couples filling out their questionnaires with the goal of achieving the greatest possible consistency. Furthermore, the present study is cross-sectional. Because the interrelations between dyadic illness perceptions and social support are very probably complex, only a small part of the underlying processes can be represented here. There is also a lack of information on the current status of the patients' illnesses. This is significant in that the nature and extent of social support might depend on how much support is needed at a specific point in time. Moreover, in future studies, additional variables that may influence social support in close relationships should be included, such as personality variables (Dehle & Landers, 2005) and relationship satisfaction (Dunkel-Schetter & Skokan, 1990).

Conclusions

This study's analysis of couples in which one partner suffers from a chronic illness supports previous findings on the overall high concordance of dyadic illness perceptions. The differentiation into positive-concordant, discordant, and negative-concordant dyadic illness perceptions provided preliminary indications of a systematic relationship between negative-concordant dyadic illness perceptions and the amount of received and provided social support. This relationship was particularly evident in connection with informational social support. This result emphasizes that separate analyses of the various functions of social support may allow greater insight into the processes underlying the management of chronic illnesses. In general, the study results point to the relevance of studying not only the patients' perspective, but also to consider the partners' views on the illness in order to understand adaptive coping in couples dealing with a chronic illness and to develop effective interventions for this group.

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Table 1: Correlations between the variables ($N = 119$ patients; $N = 119$ partners)

	1	2	3	4	5	6	7	8	9	10	11	12
1 Identity	.46***	.13	.24*	-.09	-.09	.09	.32**	.19*	.01	.01	-.06	-.12
2 Timeline chronic	.02	.67***	.36***	-.06	-.36***	.18	.20*	-.06	.14	-.13	.03	-.08
3 Consequences	.36***	.25**	.55***	-.19*	-.36***	.05	.58***	.36***	.12	-.07	-.03	-.19*
4 Personal control	-.12	-.11	-.16	.54***	.46***	-.00	-.15	.13	.07	-.10	-.03	-.04
5 Treatment control	-.00	-.36***	-.17	.54***	.45***	.16	-.14	.04	-.11	-.05	-.10	-.06
6 Coherence	.07	.16	.07	.03	.03	.60***	.12	-.04	.27**	-.26**	-.16	-.26
7 Emotional representations	.43***	.20*	.55***	-.34***	-.17	-.04	.67***	.36***	.10	-.08	-.14	-.15
8 Psychological attributions	.42***	-.09	.45***	.07	.12	-.00	.39***	.69***	.23*	-.23*	-.29**	-.20*
9 Risk factors	.27**	-.20*	.18	-.27**	-.14	.19*	.22*	.12	.44***	-.16	.09	-.20*
10 Emotional support	-.05	-.03	-.05	-.15	-.10	-.10	-.09	-.28**	-.05	.52***	.64***	.70***
11 Instrumental support	-.10	.00	-.10	-.20*	-.16	-.02	-.16	-.35***	.04	.74***	.54***	.44***
12 Informational support	-.13	-.03	-.08	.07	-.01	-.06	-.23*	-.31**	.05	.64***	.54***	.33***
13 Satisfaction with support	-.06	-.05	-.15	-.19*	-.11	-.10	-.11	-.35***	.04	.83***	.68***	.51***

Note. Correlations below the diagonal refer to the patients. Correlations above the diagonal refer to the partners. Correlations in the diagonal

represent correlations between patients and partners. Emotional, instrumental and informational social support were measured as received

support in patients and as provided support in partners. Satisfaction with social support was only measured in patients.

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

Table 2: Absolute difference between patients and their partners for each illness perception dimension ($N = 119$ couples)

Illness perception dimension	M difference (SD)	minimum	maximum
Identity	2.86 (2.85)	.00	12.00
Timeline chronic	.40 (.47)	.00	2.40
Consequences	.62 (.53)	.00	2.50
Personal control	.62 (.56)	.00	3.00
Treatment control	.62 (.51)	.00	2.00
Coherence	.68 (.65)	.00	2.50
Emotional representations	.56 (.51)	.00	2.60
Psychological attributions	.56 (.53)	.00	2.29
Risk factors	.41 (.41)	.00	2.00

Note. Except for identity, all dimensions were measured on a scale ranging from 1 to 5.

Table 3: Number of couples with positive-concordant (PoCo), discordant (DisCo), and negative-concordant (NeCo) illness perceptions ($N = 119$ couples)

Illness perception dimension	PoCo	DisCo	NeCo
	<i>n</i>	<i>n</i>	<i>n</i>
Identity	51	34	34
Timeline chronic	54	19	35
Consequences	34	37	38
Personal control	34	32	42
Treatment control	26	37	43
Coherence	36	24	49
Emotional representations	38	23	47
Psychological attributions	38	21	34
Risk factors	29	39	39

Table 4: Social support in couples with positive-concordant (PoCo), discordant (DisCo), and negative-concordant (NeCo) illness perceptions ($N = 119$ couples)

Illness perception dimension	Received support (patients' perspective)			Provided support (partners' perspective)				
		PoCo <i>M (SD)</i>	DisCo <i>M (SD)</i>	NeCo <i>M (SD)</i>		DisCo <i>M (SD)</i>	NeCo <i>M (SD)</i>	
Identity	informational support $F(2,110) = 3.28, p < .05$	3.42 (1.13) ^a	3.80 (1.01) ^{ab}	3.99 (0.82) ^b				
Consequences					informational support $F(2,105) = 5.06, p < .01$	3.76 (0.60) ^a	3.70 (0.66) ^a	4.19 (0.78) ^b
Personal control	instrumental support $F(2,105) = 3.48, p < .05$	3.92 (0.99) ^a	4.02 (1.03) ^{ab}	4.46 (0.70) ^b				
	emotional support $F(2,105) = 3.17, p < .05$	4.18 (0.74) ^a	4.29 (0.76) ^{ab}	4.57 (0.53) ^b				
	satisfaction with support $F(2,105) = 3.39, p < .05$	4.17 (0.93) ^a	4.41 (0.84) ^{ab}	4.65 (0.54) ^b				
Coherence					informational support $F(2,105) = 4.85, p = .01$	3.66 (0.73) ^a	3.92 (0.67) ^{ab}	4.13 (0.64) ^b
					emotional support $F(2,105) = 5.57, p < .01$	4.14 (0.60) ^a	4.42 (0.46) ^{ab}	4.51 (0.47) ^b
Emotional representations	informational support $F(2,101) = 3.08, p = .05$	3.53 (1.06) ^a	3.67 (0.98) ^{ab}	4.08 (0.95) ^b				
Psychological attributions	instrumental support $F(2,90) = 4.87, p = .01$	3.85 (1.04) ^a	4.05 (0.82) ^{ab}	4.50 (0.80) ^b	instrumental support $F(2,90) = 7.47, p = .001$	3.65 (0.83) ^a	3.64 (0.94) ^a	4.29 (0.65) ^b
	informational support $F(2,86) = 8.56, p < .001$	3.23 (1.00) ^a	3.79 (0.97) ^{ab}	4.17 (0.84) ^b	informational support $F(2,89) = 4.34, p < .05$	3.69 (0.60) ^{ab}	3.52 (0.64) ^a	4.04 (0.79) ^b
	satisfaction with support $F(2,90) = 4.04, p < .05$	4.12 (1.04) ^a	4.48 (0.75) ^{ab}	4.66 (0.58) ^b	emotional support $F(2,90) = 3.61, p < .05$	4.17 (0.57) ^a	4.18 (0.60) ^a	4.49 (0.50) ^b
Risk factors					informational support	3.63 (0.63) ^a	3.83 (0.69) ^{ab}	4.18 (0.72) ^b

$F(2,103) = 5.41, p < .01$

emotional support 4.18 (0.48)^a 4.32 (0.58)^{ab} 4.52 (0.57)^b

$F(2,103) = 3.29, p < .05$

Note. Satisfaction with social support was only measured in patients. Means that do not share superscripts are significantly different.