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Planning helps, behavioral disengagement does not: coping and depression in the spouses of heart transplant candidates


Abstract: Objective: To describe the coping strategies used by the spouses of cardiac patients who are pursuing heart transplant and to determine whether coping strategies predict depression in these spouses.

Method: This is a cross-sectional design with 28 spouses (86% female) of cardiac patients who were being evaluated for heart transplant at a large medical center. Coping styles were measured using the COPE Inventory (Carver CS, Scheier MF, Weintraub JK, J Pers Soc Psychol 1989: 56: 267). Depression was assessed with the Center for Epidemiological Studies Depression Scale (Radloff LS, Appl Psychol Meas 1977: 1: 385).

Results: Spouses reported using adaptive coping strategies more than the less adaptive strategies. Increased levels of depression were positively correlated with ‘behavioral disengagement’ and negatively correlated with ‘planning’ coping strategies.

Conclusions: Most studies find that maladaptive coping styles are associated with psychological distress. Consistent with these findings, we found that behavioral disengagement was associated with increased levels of depression. However, in the present study the more adaptive coping strategy of planning was associated with lower levels of psychological distress. These findings suggest that in the spouses of heart transplant candidates, both maladaptive and adaptive coping strategies may serve as markers of the presence or absence of emotional distress and thus may help in identifying spouses who may benefit from psychological, social work, or nursing interventions.

Heart transplantation is now an acceptable procedure for patients under 65 with severe cardiomyopathy and functional limitations when maximal medical and surgical treatment is no longer effective (1). As of February 2005, over 36,000 heart transplants have been conducted in the US since 1988. Approximately 2000 patients undergo heart transplantation each year and approximately 3300 are currently wait-listed for heart transplant (2). The pre-transplant period can be one of extremely high stress for patients and their spouses. Heart transplant candidates may wait in the hospital for well over 1 yr. This wait, coupled with the need for intensive cardiac support, can compound the stress of the heart transplant process (3). Even for patients who are able to wait at home, there is significant stress associated with poor physical functioning, shortness of breath, fatigue, the stress of adhering to a strict medical and dietary regimen, waiting for an organ to be allocated and contending with death and dying issues. Several studies have indicated that one of the top rated stressors for heart transplant candidates is family worrying or worrying a family member (4, 5). The patients’ concerns are well founded; studies do indicate that
the spouses of patients awaiting heart transplant are indeed under a significant amount of stress (6).

The wait for heart transplant has increased over the past 10 yr. At the end of 2002, 48% of heart transplant candidates had waited more than 2 yr for their transplant, compared with 17% of candidates in 1993 (2). Collins et al. (6) found that the longer the wait for transplant, the more negative the impact on the spouse’s life. Bohachick et al. (7) reported that spouses of heart transplant candidates reported high levels of anxiety, depression, and worry.

The psychological functioning of the spouse is an important issue for the transplant team because spousal support has been shown to improve patient compliance after transplant (8) and in patients with other chronic illnesses such as multiple sclerosis (9) and diabetes (10). Moreover, studies have shown that having a heart transplant has a negative impact on the marital relationship 1–5 yr after transplant (11). If a supportive spouse is an important factor in patient compliance with the post-transplant medical regimen and research shows that marital relationships falter in the years following transplant, then it may be beneficial to identify spouses during the pre-transplant phase, who may be at risk for psychological distress. Toward this end, it would behove transplant team members (transplant coordinators, nurses, social workers, and psychologists) to be able to identify markers of spousal distress and depression and also any factors that might protect against depression. If markers can be identified, then interventions could be developed to alleviate spousal depression and ostensibly decrease the stress that these individuals endure during the lengthy transplant process.

One factor that might be helpful in identifying individuals at risk for psychological distress is coping. The psychological construct of coping has been studied extensively in other medical populations and has more recently been applied in the field of transplant psychology. Coping can be defined as cognitive and behavioral efforts to manage stressors (12). Coping strategies have been labeled active (e.g. planning) or passive (e.g. denial), emotion-focused (e.g. acceptance) or problem-focused (e.g. seeking support for information). Theoretically, in situations where active coping efforts yield good outcomes, planning, taking action and making the best of the situation might be considered adaptive, while denial, disengaging, or giving up might be considered maladaptive. Patients with end-stage heart failure who are awaiting transplant probably rely on a combination of active coping efforts (e.g. making clinic appointments, pursuing transplant evaluation, quitting harmful lifestyle habits, and staying healthy) as well as emotion-focused efforts such as acceptance and interpreting the situation in a more favorable light.

Previous research has demonstrated that some types of emotion-focused coping such as denial, avoidance, venting of emotions and disengagement are related to increased depression and distress in multiple chronically ill samples (13–16). Preliminary evidence suggests that passive emotion-focused coping (i.e. avoidance) may be related to morbidity and mortality rates. Murberg and Bru (17) found that behavioral disengagement (i.e. avoidant-like coping) was related to higher mortality rates in patients with congestive heart failure. Taken together, these studies illustrate an important relationship between coping style and depression.

In a sample of lung transplant candidates, we found that patients reported using positive coping strategies (e.g. positive reinterpretation, and acceptance) more frequently than they used maladaptive coping strategies (e.g. denial, and disengagement); however, the maladaptive coping strategies were the strongest unique predictors of depression, anxiety, and disability (18). Results indicated that behavioral and mental disengagement, focusing on and venting emotions and suppressing competing activities, were the best predictors of distress and disability among lung transplant candidates. These findings raise the question of whether coping strategies may also be helpful in identifying spouses of transplant patients at risk for depression.

Thus far in the heart transplant literature, studies have assessed stress (6) or psychological distress (7) in spouses. Other studies have assessed coping in spouses (6, 19), but no study has assessed the relationship between coping and depression.

For the present study we chose to assess the relationship between four coping strategies (two generally considered adaptive and two generally considered less adaptive) and depression. We chose ‘behavioral disengagement’ because we found it was a strong predictor of depression in lung transplant candidates (18) and ‘denial’ because it was a strong predictor of depression in heart transplant candidates (20). We chose the adaptive coping strategy of ‘positive growth’ and ‘reinterpretation’ because we found that it was significantly associated with trait anxiety in a group of lung transplant candidates (21). We chose planning because several studies have suggested a positive relationship between planning and psychological functioning (22–24) and given that the spouses in the present study were in the early stages of the heart transplant process we theorized that the
coping strategy of planning might be especially important.

The present study had two goals. Our first goal was to describe the coping styles used by the spouses of patients with end-stage heart disease pursuing heart transplant. Our second goal was to determine which coping styles best predict spousal depression.

Method

Description and procedures

This study was approved by the University of North Carolina Institutional Review Board. All spouses of inpatients being evaluated for their candidacy for heart transplantation were approached to participate in the project. A research assistant who was not a member of the heart transplant team recruited participants. Participants were asked to complete the informed consent form and psychological questionnaires at the time of their spouses’ initial evaluation.

Participants

Twenty-eight participants (86% female) who were the spouses of individuals diagnosed with end-stage heart disease and who were undergoing an inpatient evaluation for heart transplant at a large southeastern medical center were asked to participate. Demographic characteristics of this sample can be found in Table 1.

Psychometric measures

Depression. The Center for Epidemiological Studies Depression Scale (CES-D) is a widely used self-report measure of depression. It was developed as a measure of current level of depressive symptoms with an emphasis on the depressed mood component of depression. It has high internal consistency and adequate test–retest reliability (25). Foelker and Shewchuk (26) found the CES-D to be unbiased by an individual’s somatic complaints.

Coping style. The COPE Inventory (see Table 2) is composed of five scales that measure problem-focused coping (active coping, planning, suppression of competing activities, restraint coping, seeking, and instrumental support), five scales that measure emotion-focused coping (seeking emotional support, positive reinterpretation, acceptance, denial, and turning to religion) and three scales that measure less useful coping responses (focusing on and venting of emotions, behavioral disengagement, and mental disengagement) (27). The COPE Inventory can be used as a measure of dispositional coping or as a situational measure of coping with a specific stressful event. In the present study a situational version was used in which participants were asked to respond to items based on their immediate coping responses to stress.

Table 1. Sample demographics and CES-D (n = 28)

<table>
<thead>
<tr>
<th>Variable</th>
<th>% (n)</th>
<th>Mean (SD) (observed range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender, % female</td>
<td>85.7  (24)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>47.8 (6.37) (39–61)</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>57.1 (16)</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>25.0 (7)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>17.9 (5)</td>
<td></td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>100 (28)</td>
<td></td>
</tr>
<tr>
<td>Spouse’s medical diagnosis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dilated cardiomyopathies</td>
<td>36 (10)</td>
<td></td>
</tr>
<tr>
<td>Ischemic cardiomyopathies</td>
<td>64 (18)</td>
<td></td>
</tr>
<tr>
<td>CES-D</td>
<td>14.5 (7.7) (3–29)</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Definitions and items from the COPE questionnaire

COPE subscales

Positive reinterpretation and growth
Making the best of the situation by growing from it, or viewing it in a more favorable light
Subscale items
• ‘I try to grow as a person as a result of the experience’
• ‘I try to see it in a different light, to make it seem more positive’
• ‘I look for something good in what is happening’
• ‘I learn something from the experience’

Planning
Thinking about how to confront the stressor, planning one’s active coping efforts
Subscale items
• ‘I think about how I might best handle the problem’
• ‘I make a plan of action’
• ‘I try to come up with a strategy about what to do’
• ‘I think hard about what steps to take’

Behavioral disengagement
Giving up, or withdrawing effort from, the attempt to attain the goal with which the stressor is interfering
Subscale items
• ‘I admit to myself that I can’t deal with it and quit trying’
• ‘I just give up trying to reach my goal’
• ‘I give up the attempt to get what I want’
• ‘I reduce the amount of effort I’m putting into solving the problem’

Denial
An attempt to reject the reality of the stressful event
Subscale items
• ‘I pretend that it hasn’t really happened’
• ‘I say to myself, “this isn’t real”’
• ‘I refuse to believe that it has happened’
• ‘I act as though it hasn’t even happened’
on how they were coping with their heart condition. Scores on each subscale range from 4 to 16, with higher scores indicating greater use of that coping strategy. The psychometric properties of the COPE are well established and have been found to be satisfactory (27). In this study, because we had to limit the number of variables evaluated given our sample size, we chose to include two coping styles reputed to be ‘maladaptive’ (i.e. behavioral disengagement, and denial) and two of coping styles reputed to be ‘adaptive’ (i.e. positive growth/reinterpretation, and planning).

Statistical analyses

Mean and standard deviations for all variables were assessed to determine the frequency with which participants endorsed particular coping styles and depressive symptoms (see Table 1). Next, spouses were divided into groups (depressed and non-depressed) using the CES-D. Consistent with clinical cutoffs (25), spouses with scores 16 and above were placed in the ‘depressed’ group and scores below 16 were placed in the ‘non-depressed’ group. Then one-way ANOVAs were utilized to see if groups differed on demographic or coping variables.

Results

Descriptive characteristics

Descriptive statistics for demographic variables are presented in Table 1. Of the four COPE subscales, positive reinterpretation and planning were the most frequently reported coping styles, while the less useful coping strategies of behavioral disengagement and denial were utilized the least. Correlation analyses between each of the COPE subscales revealed no significant associations, with the exception of positive reinterpretation and planning ($r = 0.582, p = 0.001$).

On the CES-D, depression scores ranged from 3 to 29 (see Table 1). The overall mean score was 14.5 (SD = 7.7), which is slightly below the cutoff for clinically significant depression (≥16). Half of the sample ($n = 14$) reported clinically significant depression while the other half reported no clinically significant depression or subthreshold depression ($n = 14$).

Relationship between demographic variables and depression

Depression was not correlated with age ($r = 0.03$). One-way ANOVAs revealed no significant group differences for gender [$F(1,28) = 0.006, p = 0.939$], marital status [$F(2,28) = 0.634, p = 0.433$], medical diagnosis [$F(3,28) = 0.363, p = 0.560$], or race [$F(2,28) = 1.914, p = 0.178$]. Depression was not related to any of the demographic variables assessed in this study.

Group differences on coping

In order to determine whether group differences exist between depressed and non-depressed spouses, two groups were formed based on CES-D scores. Consistent with clinical cutoffs (25), spouses with scores 16 and above were placed in the ‘depressed’ group and those with scores below 16 were placed in the ‘non-depressed’ group. Independent sample t-tests revealed no significant differences between groups on any demographic variables. However, depressed spouses differed from non-depressed spouses on two coping subscales. Depressed spouses scored significantly higher on behavioral disengagement ($t(1,28) = 2.55; p = 0.018$) and scored significantly lower on planning ($t(1,28) = -2.775; p = 0.011$) than their non-depressed counterparts. No significant group differences were found on measures of positive reinterpretation and growth ($t(1,28) = -1.711; p = 0.099$) or denial [$t(1,28) = 0.674; p = 0.506$] (see Table 3).

Discussion

The present study is one of the only studies to explore the relationship between coping strategies and depression in a sample of spouses of heart transplant candidates. It expands and generalizes some fairly consistent findings that exist in the coping literature with other populations. The main findings from this study are as follows: (i) Spouses reported using the adaptive coping strategies (planning, positive reinterpretation, and growth) more than the maladaptive coping strategies (behavioral disengagement, and denial) to cope with their spouses’ pending heart transplant.
Coping and depression in the spouses of heart transplant candidates

(ii) Half of the spouses reported clinically significant depression scores on the CES-D. (iii) No demographic variables were significantly associated with depression. (iv) Behavioral disengagement appeared to be a risk factor for depression, while planning seemed to serve as a protective factor against depression.

Consistent with previous findings in a lung transplant sample (18), we found that the spouses of heart transplant candidates endorsed more frequent use of adaptive coping strategies rather than maladaptive strategies. Positive reinterpretation and planning were the most frequently reported coping styles, while the less useful coping strategies of behavioral disengagement and denial were utilized the least. Given that spouses completed the coping measure at the time of spouses’ transplant evaluation, it makes sense that spouses were trying to make the best of the situation and planning their active coping events, rather than giving up or attempting to deny the reality of the situation. Our findings may be an accurate portrayal of spousal coping; however, it is also plausible that social desirability impacted spouses’ report of coping styles. Spouses may have tried to present themselves in the best possible light during the evaluation process. It is possible that spouses do, in fact, engage in maladaptive coping at a more frequent rate than they were willing to report.

Higher levels of depression were associated with higher use of behavioral disengagement to cope with their spouse’s heart condition. Spouses who endorsed a higher use of behavioral disengagement agreed with statements such as ‘I admit to myself that I can’t deal with it and quit trying.’ This ‘giving up’ coping strategy could serve as a red flag to the transplant team who could identify spouses at risk for depression. A follow-up study to assess whether spousal coping strategies impact the level of psychological distress (depression) in heart transplant patients would be intriguing and potentially of help to the transplant team and the patients and their families.

It is interesting that planning, an almost opposite manner of coping, was associated with a decreased level of depression in spouses. Spouses who endorsed a higher use of planning agreed with statements such as, ‘I make a plan of action’ or ‘I try hard to come up with a strategy about what to do.’ It may be that planning gives the spouse the perception of control, despite the uncontrollable nature of waiting for a transplant. An alternative hypothesis is that we may be tapping an underlying personality construct such as optimism. Optimists tend to be more resilient against depression and they tend to use more active coping strategies such as planning (28, 29). The current research was conducted at the time of initial heart transplant evaluation. It might be productive for future research to follow spouses longitudinally to see whether this coping strategy is maintained as the wait for transplant drags on and whether it maintains its negative relationship with depression.

This study is limited by its cross-sectional design. Because all factors were measured at the same time point, we cannot draw inferences about the causal link between coping and depression. Behavioral disengagement may lead to more depression, or increased depression may lead to increased negative coping. Similarly, using planning as a coping strategy may lead to increased feelings of control and less depression. Alternatively, those spouses who are depressed may be less likely to use planning, perhaps because of low energy or a sense of hopelessness. Through larger sample size and a longitudinal design, these relationships could eventually be elucidated.

In conclusion, the findings of this study indicate that the use of both negative (i.e. behavioral disengagement) and positive (i.e. planning) coping styles are predictive of depression in the spouses of heart transplant patients. If markers of emotional distress can be reliably identified and if these markers are malleable, then psychological, social work, or nursing interventions before transplant may decrease psychological distress and improve quality of life of the spouse. The spouses’ psychological functioning may play a mediating role in the heart patients’ level of functioning and overall quality of life. Identification during the pre-transplant evaluation of those spouses who cope using maladaptive strategies would be the first step in the process of assessment and intervention. Psychotherapy for spouses as their significant others await transplant may be beneficial. Spouses identified as poor copers could work on cognitive restructuring and replace maladaptive coping tendencies with more functional coping strategies. A psychological intervention study of this nature has yet to be conducted, but it is plausible that pre-transplant coping skills training and cognitive therapy may have lasting effects and help spouses and patients cope better after the transplant as well.

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References


