

United We Stand? The Effects of a Couple-Coping Intervention on Adjustment to Early Stage Breast or Gynecological Cancer

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Cancer diagnosis affects the psychological well-being of both patients and their partners, and effective coping has been suggested to be a conjoint process of mutual support. Ninety-four married women with early stage cancer and their partners were randomly assigned to couples-based coping training (CanCOPE), individual coping training for the woman, or a medical education control. Couples' observed support communication and self-reported psychological distress, coping effort, and sexual adjustment were assessed at diagnosis, after cancer surgery, and at 6- and 12-month follow-ups. CanCOPE produced significant improvements in couples' supportive communication, reduced psychological distress and coping effort, and improved sexual adjustment. Training in couples rather than individual coping was more effective in facilitating adaptation to cancer.

Breast and gynecological cancers are among the most prevalent cancers in women worldwide (Landis, Murray, Bolden, & Wingo, 1998). Early stage disease accounts for the vast majority of diagnosed cancers in women, and psychological morbidity associated with early stage disease is of great public health significance (Seffrin, 2001). Although the vast majority of women treated for early stage disease survive, their cancer experiences pose considerable challenges (Cordova, Cunningham, Carlson, & Andrykowski, 2001a). Initial reaction to diagnosis can be intense, akin to an acute stress response (Green et al., 1998). Reactions often involve shock, impaired concentration, emotional numbness, insomnia and nightmares, heightened arousal, depression, anxiety, and intrusive thoughts about dying or cancer recurrence (Epping-Jordan et al., 1999; Johnson Vickberg, Bovbjerg, DuHamel, Currie, & Redd, 2000).

For most women, the severe initial distress reduces and their mood returns to normal levels 6 to 12 months after treatment

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(Coyne, Benazon, Gaba, Calzone, & Weber, 2000; Greimel & Freidl, 2000). However, up to 10 years after diagnosis of breast or gynecological cancer, about 20% of women suffer from significant depression or anxiety (Morasso et al., 2001; Zabora, Brintzenhofeszoc, Curbow, Hooker, & Piantadosi, 2001) and up to 20% of women meet criteria for posttraumatic stress disorder (Alter et al., 1996; Cordova, Studts, Hann, Jacobsen, & Andrykowski, 2000; Green et al., 2000). Moreover, breast and gynecological cancers occur in sites associated with femininity and sexuality. Many women describe feeling less attractive, sexually desirable, or feminine after cancer treatment (Carver et al., 1998), and approximately 30% report body image problems and sexual dysfunctions that remain for many years (Andersen, Anderson, & deProse, 1989; Yurek, Farrar, & Andersen, 2000).

Adjustment problems are common in the spouses of women diagnosed with cancer, with a high correlation between partners' level of distress (Ey, Compas, Epping-Jordan, & Worsham, 1998; Fang, Manne, & Pape, 2001; Northouse, Templin, & Mood, 2001). The most frequently reported concerns of partners focus on the survival of their spouse (Gotay, 1984), the best ways to be supportive (Kilpatrick, Kristjanson, Tataryn, & Fraser, 1998), and managing the demands of caregiving (Zahlis & Shands, 1991). A small proportion of partners experience long-term difficulties with anxiety and depression (Gilbar, 1999; Ptacek, Ptacek, & Dodge, 1994; Wellisch, Jamison, & Pasnau, 1978).

Influences on Adjustment to Early Stage Cancer

Coping

Good long-term adjustment is predicted by an active, rather than avoidant, coping style (Antoni et al., 2001; Carver, Meyer, & Antoni, 2000). During the acute crisis that often follows cancer diagnosis, people often use many coping strategies (Sorlie & Sexton, 2001), and the number of strategies used reflects total coping effort (Coyne & Racioppo, 2000). Coping effort usually decreases markedly across the first year after diagnosis (Carver et

al., 1993; Heim, Augustiny, Schaffner, & Valach, 1993; McCaul et al., 1999). Sustained high coping effort is associated with poor long-term adjustment to cancer (Coyne & Gottlieb, 1996; Parle & Maguire, 1995).

Developing realistic cognitions, and active coping with upsetting cognitions, predicts improved adjustment to a range of traumatic events (Berwin, 2001; Foa & Rothbaum, 1998; Redd et al., 2001). Negative cognitions about the cancer or the self (e.g., unrealistically negative views about prognosis) seem likely to promote poor adjustment. For example, holding negative sexual self-schema, characterized by a negative view of one's sexuality, predicts sexual difficulties in women with gynecological cancer (Andersen, Woods, & Copeland, 1997) and breast cancer (Yurek et al., 2000). In summary, adaptive coping to cancer seems to be characterized initially by active coping, challenging and processing negative cognitions, and a subsequent reduction in coping effort.

Social Support

Perceived social support is a well-established predictor of adjustment to cancer, and married women view partner support as the most crucial support (Ell, Nishimoto, Morvay, Mantell, & Hamovitch, 1989). Women's satisfaction with partners' support is a strong predictor of improved mood and quality of life (Helgeson & Cohen, 1996). Women report as helpful their partner expressing affection and empathically discussing concerns (Lichtman, Taylor, & Wood, 1988). Conversely, women view as unhelpful avoiding cancer-related discussion, withdrawing emotionally, minimizing the impact of the cancer, and criticizing how the woman is coping (Pistrang & Barker, 1995; Wortman & Dunkel-Schetter, 1987). According to a social-cognitive processing model (Lepore, Ragan, & Jones, 2000), partners' responses may be crucial in women's adaptation to cancer because they influence women's cognitive processing of their cancer experience. There is some evidence to support this assertion. Women with cancer who perceive their partners as critical or avoidant of cancer discussion are more upset by intrusive cancer-related thoughts than women who report low perceived spouse negativity (Lepore, 2001; Manne, 1999).

Although it is well documented that women's perceptions of partner support predict adjustment to cancer, this does not demonstrate that partner support causes better adjustment. Better patient adjustment might increase partner support, and patient distress may increase partners' withdrawal and negativity (Brady & Helgeson, 1999; Manne, Alferi, Taylor, & Dougherty, 1999). It has not been demonstrated that improved partner support enhances patient adjustment.

In couples, partners' individual responses to stress interact and social support is often mutual (Gignac & Gottlieb, 1997). In fact, many authors suggest that partner interactions are so crucial that, in essence, most couples are conjointly coping with major stresses (e.g., Coyne & Smith, 1991). Effective couple coping is suggested to develop through partners' empathic communication that develops emotional connection and shared realistic and positive appraisal of the stress (Cutrona, 1996; Lyons, Mickelson, Sullivan, & Coyne, 1998). In turn, this shared appraisal is argued to promote conjoint coping and mutual support (Coyne & Smith, 1994; DeLongis & O'Brien, 1990). A key index of couple coping is communication that conveys a shared view of the stress as "our

problem" and a communal approach to coping (Lyons et al., 1998; Shapiro, Gottman, & Carrere, 2000). There is some evidence that couple coping predicts adjustment to health crises. Couples' reported use of empathic communication is associated with better adjustment to a range of major health problems (Coyne & Smith, 1991; Manne & Zautra, 1990; Stephens & Clark, 1997), including cancer (Manne, Dougherty, Veach, & Kless, 1999; Skerrett, 1998). However, there has not yet been a study showing that enhancing couple coping improves adjustment.

Psychological Interventions to Promote Cancer Adjustment

There have been many trials of psychological interventions to promote better adjustment to cancer (see Andersen, 2002; Newell, Sanson-Fisher, & Savolainen, 2002, for reviews). Interventions typically include at least one of three components: psychoeducation, coping training, and social support enhancement (Fawzy & Fawzy, 1998; Schneiderman, Antoni, Saab, & Ironson, 2001). Psychoeducation usually provides information about the nature of the cancer, the treatment and likely side effects, and common psychological responses to cancer. Coping training usually teaches active coping skills, such as stress management and realistic cognitive appraisal of stress. Social support enhancement most often involves offering psychoeducation to groups of patients.

Twenty-three studies have evaluated interventions to promote better adjustment to early stage breast or gynecological cancers, and these studies have produced mixed results (Newell et al., 2002). Almost half of the studies report few, if any, significant sustained benefits of intervention on women's mood, coping, or social functioning (e.g., Allen et al., 2002; Bultz, Specia, Brasher, Geggie, & Page, 2000; Stanton et al., 2002), although other studies do report significant benefits (e.g., Antoni et al., 2001; Edgar, Rosberger, & Nowlis, 1992; Helgeson, Cohen, Schulz, & Yasko, 2000). Reviewers have noted that the reported significant effects on mood and coping have generally small effect sizes (Compas, Haaga, Keefe, Leitenberg, & Williams, 1998; Meyer & Mark, 1995). The effects of intervention on sexual and body image difficulties have been evaluated in only a few studies and again have been weak and inconsistent (e.g., Christensen, 1983; Greer et al., 1992; Helgeson, Cohen, Schulz, & Yasko, 1999). The results have led some reviewers to question the value of current interventions in improving adjustment to cancer (e.g., Newell et al., 2002).

The variable and weak effects of interventions may be due to the failure to address couple coping. As argued earlier, mutual partner support seems critical in adjustment to cancer, yet interventions promoting social support have relied on fellow patients to enhance social support (Helgeson & Cohen, 1996). Only four published intervention studies have involved the male partners of women with early stage cancer, and in only one of these studies was the couple seen together in ways likely to have influenced couple coping. In two of the studies, only the partners were seen (Bultz et al., 2000; Toseland, Blanchard, & McCallion, 1995), and in another study, only some of the spouses participated (Heinrich & Coscarelli-Schag, 1985). None of these studies specifically addressed body image or sexual functioning, which is vulnerable to impairment after cancer treatment (Andersen, 1999). No significant benefits of these interventions were found. In the fourth study (Christensen, 1983), conjoint couple communication training im-

proved women's mood and couples' sexual satisfaction after a mastectomy. However, body image was not assessed, and there was no follow-up assessment of the long-term effects of the intervention. Given the centrality of the couple relationship to sexuality, a couple-based intervention might be particularly effective in promoting better body image and sexual adjustment in women.

Aims of the Study

The aim in the current study was to evaluate the effects of couple-coping training on adjustment to cancer. Couples in which the woman had been diagnosed with early stage breast or gynecological cancer were randomly assigned to one of three treatment conditions: (a) medical information education (MI), (b) patient coping training (PC), or (c) couple-coping training (CanCOPE). On the basis of the belief that couple coping is important, we expected CanCOPE to be the most effective intervention. Specifically, we predicted that CanCOPE would enhance, relative to both PC and MI, couple-coping supportive communication (Hypothesis 1), would improve coping and reduce psychological distress (Hypothesis 2), and would promote better female body image and sexual adjustment (Hypothesis 3).

Method

Participants

Ninety-four couples were recruited from three hospital oncology clinics in metropolitan Brisbane, Australia. Criteria for inclusion in the study were as follows: (a) The woman was about to commence treatment for a primary (localized) breast or gynecological cancer and had no history of other cancers, (b) the couple was currently married or had been living in a committed relationship for at least a year, (c) the couple lived within 200 km of the city center to make intervention delivery feasible, (d) neither partner reported treatment for a psychological disorder in the past year, and (e) both partners were able to read and speak English.

Fifty-seven women were diagnosed with breast cancer and 37 with gynecological cancer. The majority of women with gynecological cancers had cervical cancer ($n = 21$), 9 women had uterine cancer, 6 women had endometrial cancer, and 1 woman was diagnosed with ovarian cancer. Of the women with breast cancer, 29 had Stage 1 cancer, 19 had Stage 2a cancer, and 9 had Stage 2b cancer (using the Tumor Node Metastasis classification scheme; Fleming et al., 1997). Thirty of the women with breast cancer (53%) underwent lumpectomy with axillary node dissection, and 25 (44%) received a radical mastectomy. One woman underwent bilateral lumpectomy, and 1 woman underwent a bilateral mastectomy. Of the women with gynecological cancers, 17 had Stage 1 cancer, 18 had Stage 2 cancer, and 2 had Stage 3 cancer (Fleming et al., 1997). All the women with gynecological cancers underwent a hysterectomy. For the entire sample, additional adjunctive treatment was received by 57% of women, consisting of radiation therapy ($n = 33$), chemotherapy ($n = 10$), or a combination of chemo- and radiation therapy ($n = 11$). Positive lymph node involvement was found in 26% of women ($n = 24$). At the time of diagnosis, 55% of the women had been through menopause and 22% were receiving hormone replacement therapy.

Couples were defined as sexually active if they reported the occurrence of intercourse at least once in the past year. Seventy-five (80%) couples were sexually active, although 29 of these couples reported no intercourse in the past month but attributed this abstinence to problems associated with the cancer. Cancer-related cessation of sex was reported in a significantly higher proportion of the women diagnosed with gynecological (21 out of

29, 72%) than with breast cancer (8 out of 46, 17%), $\chi^2(1, N = 75) = 22.71, p < .01$.

The mean age of women was 51 years ($SD = 9.8$) and of men was 53 years ($SD = 10.0$). Eight-six couples (91%) were married and eight couples (9%) were cohabitating. Couples had been married or cohabitating for a mean of 24 years ($SD = 13.0$). Almost all couples were Caucasian (98%), which is representative of the population the treating hospitals serve. Seventeen women and 17 men (18% of participants) had 10 years or less of education, 50 women (53%) and 39 men (43%) had completed high school, and only 16 women (17%) and 23 men (24%) had postsecondary (technical or university) education. The median annual family income was \$41,000, an amount comparable with the median annual household income for Australian families of \$38,000 (Australian Bureau of Statistics, 2002).

To describe the couples' relationships, we had each partner complete the Dyadic Adjustment Scale (DAS; Spanier, 1976) during the initial assessment. The DAS is a frequently used 32-item self-report inventory yielding a global relationship satisfaction score (Spanier, 1976). A two-way analysis of variance (ANOVA) of treatment condition by gender, with the latter as a within-subjects factor, showed that there was no difference in relationship satisfaction by treatment condition or gender. Mean DAS for women was 116.8 ($SD = 18.8$) and for men was 117.0 ($SD = 15.4$), which is similar to the normative data provided by Spanier (1976) for a community sample of maritally satisfied couples.

Measures

Couple communication. Couple communication was assessed during a 10-min discussion on the topic of "the effect of [patient's name] cancer on you as a couple, how you are both coping, and how you might support each other in the future." When this task was used to assess support communication in families in which someone has a severe psychiatric disorder, observed communication predicted future adjustment (Halford, Steindl, Varghese, & Schweitzer, 1999). Couples' discussions were videotaped using a portable camera on a tripod; the research assistant left the room while the discussion took place. These discussions were held three times: (a) after cancer diagnosis and before surgery or psychological intervention, (b) after surgery and psychological intervention, and (c) at a 6-month follow-up. After the discussion at preintervention, couples rated how similar their recorded communication was to their usual communication from 0 (*exactly the same*) through 1 (*some slight differences*) to 2 (*marked difference*). Couples also were asked whether, since the cancer diagnosis, they had a similar discussion about the effects of the cancer on them.

The videotapes were coded using a 30-s interval sampling procedure. Coders who were naive to the intervention condition classified the presence or absence of six behaviors in each 30-s interval: criticism, disagreement, withdrawal, warmth, validation, and couple coping in the woman and the man for each interval. The definitions for each of these behaviors are presented in Table 1. The derived scores are the percentage of intervals that contain each defined behavior. The criticism, disagreement, withdrawal, and validation codes are derived from the Rapid Katorgoriensystem fur Partnerschatliche Interaktion (Rapid Couple Interaction Coding System), which has been used to assess communication in problem solving and support discussions (e.g., Halford, Sanders, & Behrens, 2000; Halford et al., 1999). Warmth was a code intended to capture affect that conveys caring and support. Couple coping was intended to capture the active expression of the conjoint coping construct we described in the introduction. A second observer independently rated a random sample of one third of tapes. Interrater agreement on behavioral coding was satisfactory to high, with kappas of .69 for warmth, .72 for validation, .75 for couple coping, .82 for withdrawal, .90 for criticism, and 1.0 for disagreement.

Coping, psychological distress, sexual functioning, and body image. Self-report measures of coping, psychological distress, sexual functioning, and body image were assessed four times: (a) after the women were diagnosed but prior to their surgery or psychological intervention, (b) after the psychological intervention, and (c) at 6- and 12-month follow-ups.

Table 1
Definition of Couple Communication Codes

Observational code	Definition
Criticism	Expressions of dislike or disapproval or statements likely to demean the listener
Disagreement	Direct disagreement or "Yes, but" type disagreements
Withdrawal	Not tracking, not responding, turning away, statement of not wanting to discuss the issue
Warmth	Voice tone, facial expression, or body posture that convey warmth and caring (e.g., warm tone)
Validation	Demonstrations of acceptance of the other person by paraphrase, open-ended questions, positive feedback, or agreement with them by assent or direct agreement
Couple coping	Statements about coping, partner support, or the cancer experience in the context of the couple relationship (e.g., "We make a good team," "Our cancer scare has brought us closer," "We can get through this if we take it a step at a time," "We faced a steep learning curve trying to understand all the medical facts in a short time, but we did it")

Both partners completed the Revised Ways of Coping Questionnaire—Cancer Version (WOC-CA), which is a 44-item measure of the coping used by individuals in response to cancer (Dunkel-Schetter, Feinstein, Taylor, & Falke, 1992). Higher scores indicate greater coping effort (Coyne & Racioppo, 2000). The internal reliability of the scale was high, with Cronbach's alpha across the four assessment points ranging from .87 to .96.

Women and men completed two subscales from the Psychosocial Adjustment to Illness Scale—Self Report (PAIS-SR; L. P. Derogatis, 1986; L. R. Derogatis & Derogatis, 1990). The Psychological Distress subscale (seven items) assesses symptoms of anxiety and depression, and the Sexual Difficulties subscale (six items) assesses the occurrence of sexual difficulties attributed to diagnosis and treatments during the last week. Raw scores on both PAIS-SR subscales were converted to *T* scores on the basis of normative data from a mixed cancer sample (L. P. Derogatis, 1986). Across the four assessments, Cronbach's alpha for the Psychological Distress subscale ranged from .87 to .95 and for the Sexual Difficulties subscale ranged from .81 to .86.

Women completed the Impact of Event Scale (IES; Horowitz, Wimer, & Alvarez, 1979), which assesses intrusive negative thoughts (seven items) and avoidance of negative thoughts and behaviors (eight items) experienced in the past week. The IES has been used extensively to assess traumatic reactions to major stressful events, including cancer (Cordova et al., 1995). The internal consistency of both the subscales in the present study was high across the four administrations, with alpha ranging from .87 to .90 for Intrusion and from .80 to .91 for Avoidance.

The Sexual Self Schema Scale (SSS) for Women (Andersen & Cyrnowski, 1994) is a 50-item self-report measure of women's views about sexual aspects of themselves, with higher scores reflecting more positive sexual self-schema. The scale had high internal reliability across the four assessments in the current study, with alphas ranging from .78 to .82. The SSS shows convergent validity with other indices of sexual self-concept and predicts a wide range of sexual attitudes, behaviors, and cognitions in women with breast (Yurek et al., 2000) or gynecological cancers (Andersen et al., 1997). Women also completed the Self Image Scale (SIS), which is an 11-item self-report measure of body image adjustment designed specifically for use with women with cancer (Halford, Scott, & Smythe, 2001). The SIS has two scales: Self Acceptance, comprising six items that assess acceptance of appearance and sense of femininity (e.g., "I like the way I look undressed"), and Partner Acceptance, comprising five

items that assess women's perceptions of their partner's acceptance of their appearance (e.g., "I think my partner finds me attractive"). Women rate each statement from 1 (*strongly agree*) to 5 (*strongly disagree*). The SIS discriminates between healthy women and women newly diagnosed with breast or gynecological cancers (Halford et al., 2001). In the current study, intrascale reliabilities across the four assessments were high, with alphas ranging from .83 to .92 for Self Acceptance and from .82 to .91 for Partner Acceptance.

Women completed four subscales from the Brief Index of Sexual Functioning (BISF; Leiblum & Rosen, 2000). They rated the frequency in the past month that they experienced sexual thoughts and desire (eight items), arousal (nine items), and orgasm (nine items), with higher scores indicating greater sexual responsiveness. The four-item Sexual Intimacy subscale assessed the extent of change in their sexual interest, arousal, activity, and satisfaction. In addition, women rated their communication of sexual desire to their partner in the past month from 1 (*unable to communicate my desires or preferences*) to 5 (*always able to communicate my desires or preferences*). In the current sample, alphas across the four assessments ranged from .79 to .80 for the Desire subscale, .81 to .85 for the Arousal subscale, .62 to .75 for the Orgasm subscale, and .92 to .95 for the Sexual Intimacy subscale. The BISF scales discriminate between healthy and chronically ill women (Jones, 2002) and have been used to assess sexual health outcomes in women following surgery (Meston & Derogatis, 2002).

Client satisfaction questionnaire (CSQ). After intervention, women completed a CSQ, which was developed for the current study. Women rated their satisfaction with the service (e.g., "The service helped me improve my ability to cope with cancer;" seven items) and with the therapeutic relationship (e.g., "I felt able to express my concerns to my therapist;" six items). Scores for each item range from 1 to 5, giving maximum satisfaction scores for service of 35 and for therapist rapport of 30. The internal reliability of the service and therapist rapport scales were high ($\alpha = .85$ and $.86$, respectively).

Intervention

Following the initial assessments, couples were stratified by diagnostic group (breast or gynecological cancer) and randomly assigned to MI, PC, or CanCOPE. Three female registered psychologists served as therapists, with each therapist seeing equal numbers of patients in each condition. Each therapist had extensive experience working with women diagnosed with cancer (range = 3–15 years). A treatment manual was written for each condition, and all intervention sessions were audiotaped. Therapists met weekly with Jennifer L. Scott for supervision. A random selection of audiotapes was reviewed to monitor therapists' adherence to the treatment protocols and treatment integrity.

MI. MI was intended to provide high-quality education on all aspects of medical care but with no specific psychological intervention. Women in MI were given booklets that explained their particular cancer and its associated medical treatments, and they received five brief (maximum 15 min duration) telephone calls. The telephone calls were conducted prior to cancer surgery, 1 and 2 weeks postsurgery, and 6 and 9 months postsurgery. During calls, the therapist spoke only with the woman and focused on her understanding of her diagnosis and medical treatments and on seeking appropriate medical assistance for treatment side effects. Therapists did not provide specific psychological advice or coping skill training.

PC. PC integrated the provision of the medical information (as in MI) with coping education and supportive counseling. PC involved four 2-hr sessions that were held before surgery, after surgery, 1 week later, and at 6 months follow-up. Two 30-min telephone calls reviewed client progress 1 and 3 months postsurgery. All face-to-face sessions were conducted in women's homes. Women were educated about common psychological reactions to cancer diagnosis and treatment; taught how to adopt an active, problem-solving coping style; assisted to identify and challenge negative cancer-related cognitions; and taught coping strategies for managing com-

mon concerns associated with cancer treatment. Supportive counseling addressed enhancing self-confidence and body image satisfaction and managing the side effects of medical treatments. In the 6-month follow-up session, women explored the existential meaning of their cancer experience.

CanCOPE. CanCOPE was a couple-based intervention that covered similar content to PC. However, in CanCOPE, the focus was on helping the couple conjointly to cope with cancer and support each other. CanCOPE involved five 2-hr sessions and two 30-min telephone calls. All face-to-face sessions in CanCOPE were conjoint couple sessions held in the couples' homes. The timing of CanCOPE sessions was the same as the PC, plus one extra face-to-face session held 5 weeks after surgery to provide the additional time required to address both partners' needs. Both partners in CanCOPE received the same educational material, coping skills training, and supportive counseling as the women in PC. In addition, CanCOPE couples were taught supportive communication and partner support and received sexual counseling. Finally, couples were assisted to explore the existential meaning they attached to their experience of cancer.

Supportive communication involves teaching couples the speaker-listener skills of validation and self-disclosure of thoughts and feelings and empathic listening, whereby partners attend to the emotional significance or personal meaning of what is said by the speaker. Partner support entails partners identifying behaviors they can do, or say, to help each other to cope and learning how to accurately monitor and evaluate the effectiveness of their support attempts. Couples are also taught a shared thought-monitoring approach to help each other recognize and challenge negative thoughts about stressful cancer-related situations and practice more helpful thoughts. Couples address unhelpful relationship or self-schema, such as unrealistic expectations for support or misinterpretations of partner's support or coping behaviors, that may impair their provision of support or ability to benefit from support provided (Fiske & Haslam, 1996; Snyder, 1999). Finally, couples discuss their goals for resumption of a mutually satisfying sexual life. Problems are identified, such as alterations to women's sexual responsiveness or anatomy after medical treatments. Couples are provided with advice, reading, and specific instructions about sexual positions to help reduce pain during lovemaking. The sensate focus technique (Masters & Johnson, 1970; Spence, 1997) is suggested as a way to reintroduce intimacy into the relationship without producing anxiety or pain. Further details of the interventions can be found in Halford et al. (2001).

Procedure

A psychologist attended the cancer treatment clinics to provide eligible women with a brief explanation of the study and an information sheet. The next day, the psychologist called the women to arrange informed consent. If the woman agreed, a home visit appointment was made for the woman and her partner. One hundred three patients were approached and 97 couples (94%) agreed to participate. Data from 3 couples were subsequently excluded because postoperative pathology results indicated metastatic disease, giving a sample of 94 couples. The time between diagnosis and cancer surgery in Brisbane, Australia typically is 2 to 5 days. In the first appointment, informed consent to participate in the study was obtained and the assessments conducted. These assessments took approximately 2 hr and involved the couple completing a semi-structured interview, separately completing the self-report measures, and doing the communication task. Women allocated to the PC or CanCOPE conditions then received the first therapy session prior to their surgery. The second session was delivered 1 week after hospital discharge. The third therapy session was delivered 1 week later, when the majority of women were commencing either chemo- or radiation therapy. Most women (93%) had completed adjuvant treatments at the time of the 6-month therapy session. Postintervention and 6-month follow-up assessments were conducted in the couples' home. The 12-month follow-up assessment, which corresponded to around 13 months postdiagnosis, was completed through mail out of self-report measures.

Results

In 85 of the 94 couples recruited into the study, both partners completed the pre- and postintervention self-report assessments (90% of couples), 78 (83%) completed 6-month follow-up, and 66 (70%) completed 12-month follow-up. Eight men declined to provide data by 12-month follow-up, although their wives remained in the study. Thus, 74 women (79%) and 68 men (70%) provided self-report data at 12-month follow-up. Two 3×2 chi-square analyses showed there was no significant association between condition and dropping out of the study for either women or men. The BISF was completed at preintervention by 75 women who reported being sexually active preoperatively. Of these 75 sexually active women, 54 (72%) completed the BISF at posttreatment and 48 women (89%) at 12-month follow-up. The SSS measure was a late addition to the assessment protocol and was not administered to 21 women; 73 completed it at preintervention, and 59 (81%) women completed it at 12-month follow-up.

A series of one-way ANOVAs showed no significant differences between the conditions at preintervention in participants' age, income, years married, marital satisfaction, coping effort, psychological distress, sexual difficulties, observed communication, women's sexual self-schema, body image, sexual responsiveness, or sexual communication. A series of chi-square analyses of condition by cancer type (breast vs. gynecological cancers), disease stage, nodal status, preoperative sexual activity, and treatment modalities (surgery alone; surgery plus either radiotherapy or chemotherapy; surgery plus both radiotherapy and chemotherapy) showed there were no significant differences between conditions on these medical variables.

Observational Measures

Eighty-four of 94 couples completed the baseline communication task (89%). Eight couples declined videotaping, and two videotapes were inaudible. Couple's main stated reason for refusal was that they did not want to upset themselves or their partner. Sixty-eight couples completed the communication task at postintervention (81%) and 49 couples (58%) at 6-month follow-up. Seventeen couples at postintervention and 29 couples at 6-month follow-up provided self-report data but did not complete the communication task. Couple's main stated reasons for declining the communication task at postassessment or follow-up was either that they had nothing to discuss as they believed the cancer was now cured or that they were concerned they might upset each other. Two-way chi-square analyses showed no significant association between treatment condition and communication task completion.

Effects on Couple Communication

There were extremely low rates of criticism and disagreement across the three assessments, with zero occurrence in more than 90% of the participants. Given these low rates, no intervention effect was possible and no further analyses were done on these behaviors. The preintervention rates of male and female withdrawal, validation, warmth, and couple coping showed low ($r < .30$) correlation. We conducted separate three-way analyses of covariance (ANCOVAs) on each behavior of condition (MI, PC, CanCOPE) by gender (male, female) by time (postintervention and

6-month follow-up), with gender and time being within-subjects factors. Gender was included as a within-subjects factor to address the dependency between women's and men's scores (Kraemer & Jacklin, 1979). Individuals' preassessment scores were used as covariates in the analyses.

The communication raw means and standard deviations at pre-intervention and covariate-adjusted means at postintervention and follow-up are presented in Table 2. Couple coping had a significant main effect of condition, $F(2, 44) = 4.84, p < .05$, with CanCOPE couples engaging in significantly more couple coping ($M = 36.1, SD = 10.5$) than either PC ($M = 23.5, SD = 10.5$) or MI ($M = 23.2, SD = 10.5$) couples. The difference between CanCOPE and MI was a large effect size ($d = 1.23$). There was no significant main effect of time or gender. The only significant interaction was of Gender \times Time, $F(1, 44) = 4.71, p < .05$, with women decreasing slightly in couple coping from postintervention to 6-month follow-up and men not changing. Withdrawal had no significant main or interaction effects, but there was a trend for a Time \times Condition interaction, $F(2, 44) = 3.20, p = .05$. CanCOPE reduced withdrawal from postintervention to 6-month follow-up, $F(1, 44) = 4.64, p < .05$, and withdrawal increased slightly, though not significantly, in the MI and PC conditions.

Warmth had no significant main effects, and none of the interaction terms were significant. There was a trend for a Gender \times Condition interaction, $F(2, 44) = 3.03, p = .06$, with a trend for CanCOPE men to be more warm than men in the other conditions. Validation had no significant main effects, and none of the interaction terms were significant. Eighty couples reported at preintervention that their communication during the recorded conversation

was the same or very similar to their normal communication, and four couples (5%) reported it was markedly different. About half of the couples (49%) reported they had not had a prior similar conversation.

Coping, Psychological Distress, and Sexuality

Three-way ANCOVAs were conducted on the WOC-CA coping effort and PAIS-SR subscales of condition (MI, PC, CanCOPE) by gender and time (postintervention, 6-, and 12-month follow-up), with preintervention scores as covariates and gender and time as within-subjects factors. A two-way multivariate analysis of covariance (MANCOVA) was conducted on the IES scales, which only the women completed, of condition (MI, PC, CanCOPE) by time (postintervention, 6-, and 12-month follow-up), with preintervention scores as covariates and time as a within-subjects factor. Raw means and standard deviations at preintervention and covariate-adjusted means and standard deviations at postintervention and follow-up assessments are presented in Table 3.

On the WOC-CA, there were no significant main effects of gender, time, or condition, but there was a significant interaction of Condition \times Time, $F(4, 122) = 4.39, p < .01$. Coping effort declined more over time in CanCOPE than the other two conditions and was significantly lower in CanCOPE than the other conditions at 12-month follow-up, $F(2, 61) = 4.59, p < .05$. The difference between the CanCOPE and MI conditions at 12-month follow-up was a moderate effect size ($d = 0.64$). None of the remaining interaction effects was significant.

Table 2
Means (and Standard Deviations) of Couple Communication

Behavior	Gender	Medical information			Patient coping			CanCOPE		
		Pre	Post	6 months	Pre	Post	6 months	Pre	Post	6 months
Couple coping	F	24.7 (21.9)	23.5 (13.1)	21.7 (17.2)	23.8 (19.1)	27.7 (24.8)	18.2 (19.6)	32.2 (22.0)	36.8 (23.7)	38.7 (17.2)
	M	22.8 (17.2)	23.6 (14.9)	22.6 (21.0)	25.3 (17.8)	27.1 (23.4)	19.9 (19.4)	34.2 (10.1)	33.7 (15.2)	38.2 (20.6)
Validation	F	55.7 (30.0)	64.8 (22.2)	59.1 (26.7)	53.7 (23.6)	54.9 (19.1)	56.3 (30.6)	62.9 (23.1)	51.3 (17.9)	62.3 (25.1)
	M	51.0 (29.0)	57.6 (24.5)	65.1 (25.7)	61.0 (22.0)	62.6 (25.0)	57.5 (30.2)	58.6 (27.7)	62.3 (18.4)	62.8 (20.0)
Warmth	F	35.2 (44.3)	31.9 (41.9)	8.2 (17.8)	36.8 (41.6)	42.6 (42.7)	19.9 (33.2)	25.2 (31.1)	21.2 (36.5)	15.2 (33.0)
	M	29.2 (36.1)	34.5 (13.6)	13.6 (24.9)	48.6 (40.3)	42.8 (40.0)	15.0 (31.6)	35.6 (38.5)	37.1 (42.6)	32.1 (42.0)
Withdrawal	F	32.1 (37.7)	29.1 (27.1)	38.2 (34.5)	26.5 (31.5)	29.1 (28.9)	40.6 (34.5)	34.1 (31.3)	35.0 (31.3)	27.0 (25.2)
	M	32.5 (39.0)	39.3 (34.2)	40.7 (32.3)	36.2 (27.3)	33.1 (31.0)	32.1 (34.9)	41.1 (37.4)	36.8 (34.5)	17.7 (26.5)
Criticism	F	1.4 (5.0)	0.3 (1.3)	1.7 (4.8)	3.6 (7.5)	0.3 (1.1)	3.5 (11.4)	0.8 (2.4)	0.0 (0.0)	0.4 (1.3)
	M	2.0 (4.4)	1.3 (5.0)	3.1 (8.7)	0.8 (3.6)	0.5 (2.3)	2.1 (6.3)	1.5 (4.2)	2.1 (8.0)	1.8 (4.8)
Disagreement	F	4.4 (12.5)	4.2 (7.1)	11.6 (16.8)	6.4 (13.2)	7.4 (12.8)	9.1 (13.2)	4.8 (5.4)	3.5 (6.8)	7.5 (11.0)
	M	7.3 (8.1)	4.8 (10.6)	5.8 (7.1)	7.6 (13.4)	6.1 (11.6)	3.7 (7.4)	5.9 (7.4)	7.5 (12.3)	8.2 (13.1)

Note. Means at preintervention (Pre) are raw means and at all other times are means adjusted with preintervention means as covariates. CanCOPE = couples-based coping training; Post = postintervention; F = female; M = male.

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Table 3
Means (and Standard Deviations) of Coping, Psychological Distress, Sexuality, and Body Image

Measure	Gender	Medical information						Patient coping						CanCOPE			
		Pre	Post	6 months	12 months	Pre	Post	6 months	12 months	Pre	Post	6 months	12 months	Pre	Post	6 months	12 months
WOC-CA Coping Effort	F	104.2 (20.3)	98.0 (26.0)	85.7 (26.1)	82.0 (31.4)	100.0 (16.4)	86.1 (16.4)	85.7 (20.3)	82.2 (22.3)	97.4 (16.9)	82.0 (15.9)	72.8 (16.2)	65.7 (17.5)				
	M	88.9 (16.8)	76.9 (12.7)	74.8 (19.1)	74.3 (19.4)	80.9 (22.7)	73.5 (10.7)	75.5 (17.7)	73.9 (18.9)	81.7 (15.7)	79.1 (19.2)	68.3 (15.1)	62.6 (18.3)				
PAIS-SR Psychological Distress	F	54.1 (10.0)	49.7 (8.6)	43.7 (7.4)	44.9 (8.2)	54.9 (10.9)	51.8 (9.3)	49.5 (11.0)	47.6 (9.8)	58.4 (10.1)	47.5 (8.3)	48.7 (10.9)	43.3 (10.3)				
	M	52.9 (8.3)	48.0 (8.1)	46.7 (6.4)	45.4 (9.5)	52.4 (7.4)	49.4 (6.9)	48.4 (7.9)	46.5 (8.2)	53.6 (7.8)	45.0 (8.7)	42.5 (10.6)	44.4 (9.8)				
PAIS-SR Sexual Difficulties	F	51.1 (8.8)	56.1 (8.0)	49.0 (6.6)	47.9 (6.4)	51.0 (10.3)	53.3 (9.4)	47.5 (6.4)	49.0 (6.8)	50.1 (9.4)	50.0 (10.5)	48.9 (9.0)	50.0 (8.7)				
	M	47.8 (6.2)	49.3 (6.7)	47.6 (5.2)	48.3 (5.9)	46.7 (6.9)	49.1 (9.5)	47.0 (6.4)	47.1 (9.2)	47.0 (8.4)	48.9 (6.8)	47.7 (8.2)	47.9 (9.5)				
IES Intrusion	F	14.0 (8.8)	8.9 (8.8)	5.4 (5.5)	4.7 (6.2)	14.2 (7.8)	7.4 (6.6)	7.5 (7.0)	7.4 (8.4)	15.7 (9.4)	6.7 (7.4)	5.8 (6.6)	4.2 (6.2)				
	F	16.1 (9.5)	10.0 (8.6)	7.3 (9.0)	6.3 (9.6)	14.8 (11.0)	9.4 (8.5)	11.2 (12.0)	9.6 (12.1)	15.5 (9.4)	6.5 (7.4)	4.7 (5.7)	4.1 (7.1)				
SSS Sexual Self Schema	F	55.4 (14.3)	55.8 (11.0)	55.7 (12.2)	54.3 (11.2)	55.7 (14.3)	56.0 (12.0)	56.9 (15.8)	56.0 (14.0)	57.3 (13.5)	62.8 (12.2)	64.2 (12.6)	61.6 (14.5)				
	F	20.0 (4.7)	19.9 (4.4)	19.0 (5.4)	19.5 (5.0)	19.1 (4.8)	18.8 (3.9)	19.2 (4.7)	18.7 (4.7)	18.4 (5.0)	19.1 (4.9)	18.4 (5.0)	19.7 (6.3)				
SIS Partner Acceptance	F	19.5 (3.4)	19.6 (2.7)	19.1 (3.0)	19.6 (3.1)	19.7 (3.0)	19.5 (2.7)	19.3 (3.9)	18.0 (4.5)	19.7 (2.5)	20.4 (2.8)	20.1 (3.2)	20.3 (3.1)				
	F	3.1 (1.9)	2.4 (2.4)	3.6 (1.8)	3.9 (2.0)	3.7 (2.6)	2.7 (2.9)	3.6 (2.1)	3.6 (2.5)	4.2 (2.8)	4.0 (2.3)	4.0 (2.4)	3.8 (2.4)				
BISF Arousal	F	1.9 (1.4)	1.6 (1.6)	2.4 (1.3)	1.9 (1.2)	3.1 (1.6)	2.3 (2.2)	3.0 (1.6)	2.6 (1.5)	2.7 (2.5)	2.0 (2.0)	2.2 (1.4)	2.6 (1.9)				

Note. Means at preintervention (Pre) are raw means and at all other times are means adjusted with preintervention means as covariates. CanCOPE = couples-based coping training; Post = postintervention; WOC-CA = Ways of Coping Questionnaire—Cancer Version; F = female; M = male; PAIS-SR = Psychosocial Adjustment to Illness Scale—Self-Report; IES = Impact of Event Scale; SSS = Sexual Self Schema Scale for Women; SIS = Self-Image Scale; BISF = Brief Index of Sexual Functioning.

Psychological distress showed no main effect of time or gender, but there was a trend for a main effect of condition, $F(2, 61) = 2.84, p = .07$, with CanCOPE showing lower distress than the other conditions. There was a significant interaction of Gender \times Condition \times Time, $F(4, 122) = 3.64, p < .01$. At postintervention, CanCOPE women were significantly less psychologically distressed than women in the other conditions, $F(4, 61) = 3.37, p < .05$, although the effect size was small ($d = 0.22$), and CanCOPE showed less psychological distress at follow-up than the other conditions. There was a trend, $F(2, 61) = 2.51, p = .06$, for CanCOPE men to be less psychologically distressed at postintervention than men in the other conditions. On IES Avoidance, there was a significant main effect of condition, $F(2, 69) = 3.33, p < .05$, with CanCOPE women having less avoidance than the other two conditions and PC women having a higher mean than MI women. The effect size of the differences between the CanCOPE and MI women and between the PC and MI women were small ($d = 0.34$ and 0.39 , respectively). On IES Intrusion, there were no significant main or interaction effects.

Male and female reports of sexual problems on the PAIS-SR were moderately correlated ($r = .62, p < .01$). We analyzed effects just for those 54 couples classified as sexually active, as the measure focuses on difficulties experienced during sex. There were no significant main effects of condition, time, or gender. There was a significant interaction between gender and time, $F(2, 98) = 3.27, p < .05$, with women reporting significantly more sexual problems ($M = 53.1, SD = 7.4$) than men ($M = 49.1, SD = 6.8$). Women's sexual problems tended to decrease over time, whereas men's problems showed no change.

Only women completed measures related to femininity, body image, and sexual responsiveness. The SSS was analyzed with a two-way ANCOVA of condition (MI, PC, CanCOPE) by time (postintervention, 6-, and 12-month follow-up). Separate two-way MANCOVAs of condition (MI, PC, CanCOPE) by time (postintervention, 6-, and 12-month follow-up) were conducted on the SIS subscales, the four BISF subscales, and the sexual communication question. Preintervention scores were covariates, and time was a within-subjects factor. The raw means at preintervention and covariate-adjusted means at postintervention and follow-ups are presented in Table 3.

On the SSS, there was a significant main effect of condition, $F(2, 55) = 3.44, p < .05$. CanCOPE women had significantly more positive sexual self-schemas ($M = 62.6, SD = 8.6$) than women in either the PC ($M = 56.5, SD = 8.6$) or MI ($M = 55.6, SD = 8.6$) conditions. This was a large effect size ($d = 0.80$). There was no significant effect of time or interaction of Time \times Condition. Body image self-acceptance on the SIS had no significant main or interaction effects for time or condition. There was a main effect of condition on perceived partner acceptance on the SIS, $F(2, 69) = 3.94, p < .05$, with CanCOPE women having a more positive perceived partner acceptance of body image ($M = 20.29, SD = 1.77$) than either MI ($M = 19.5, SD = 1.78$) or PC ($M = 18.90, SD = 1.76$) women. The effect size of CanCOPE relative to MI was small to moderate ($d = 0.44$).

On the BISF Sexual Desire, Arousal, and Orgasm subscales, none of the main effects of time or condition or the interaction terms was significant. On the BISF Sexual Intimacy subscale, there were no significant effects of time or interactions of Time \times Condition. However, there was a main effect of condition, $F(2,$

$40) = 3.36, p < .05$. CanCOPE women reported significantly less decrease in sexual intimacy ($M = -1.21, SD = 2.50$) than women in either the PC ($M = -2.36, SD = 2.53$) or MI ($M = -3.53, SD = 2.55$) groups, with a large effect size of CanCOPE relative to MI ($d = 0.91$). The Sexual Communication subscale showed no significant effects of time or condition or interaction of Time \times Condition.

Client Satisfaction

Two one-way ANOVAs showed that there was no significant difference across conditions in participants' service content or therapist rapport satisfaction. Satisfaction with both service content ($M = 32.8, SD = 2.6$) and therapist rapport ($M = 28.2, SD = 1.6$) was very high and close to the maximum possible scores of 35 and 30, respectively.

Study Attrition

As there were no significant differences across conditions in rates of dropout from the study, differential attrition is unlikely to explain treatment effects. However, as attrition does have implications for the generalizability of the findings, we compared the 66 couples who completed all the self-report assessments (completers) with the 28 couples who did not (noncompleters). A series of chi-square tests showed no significant differences between completers and noncompleters for treatment modalities, cancer type, and disease stage. However, completing women were almost three times more likely to have positive lymph nodes (21 out of 66, 32%) than noncompleting women (3 out of 28, 11%), $\chi^2(1, N = 94) = 4.61, p < .05$. One-way ANOVAs showed completers and noncompleters did not differ significantly at preintervention on any of the self-report outcome measures or on the observed communication of couple coping or withdrawal. However, noncompleters showed significantly lower validation for both women, $F(1, 74) = 6.33, p < .05$, and men, $F(1, 74) = 4.92, p < .05$, and male noncompleters also showed significantly lower warmth than male completers, $F(1, 74) = 4.94, p < .05$. Noncompleters also were significantly less maritally satisfied for both women, $F(1, 92) = 6.51, p < .05$, and men, $F(1, 92) = 6.22, p < .05$.

Discussion

The results provided partial support for each of the hypotheses. Relative to MI and PC conditions, CanCOPE produced a large increase in observed couple-coping supportive communication (Hypothesis 1), reduced couples' coping effort, decreased women's psychological distress and avoidance of intrusive negative cognitions (Hypothesis 2), and improved women's sexual self-schema, intimacy with their partners, and perceptions of their partner's view of their body (Hypothesis 3). However, there were no differences between conditions in couples' expression of warmth, validation, or negativity or in women's levels of sexual responsiveness.

Effects of Intervention

The current study is the first of which we are aware to show that couple support in cancer patients can be changed by a psychological intervention. CanCOPE produced a large increase in observed

couple-coping statements and showed a trend to reduce withdrawal; these changes were maintained for at least 6 months. However, these findings need to be interpreted cautiously. There was substantial attrition from the communication task assessments, particularly by couples who initially showed low levels of warmth and validation, and we cannot know whether the communication of these couples improved with intervention.

Several studies show that female cancer patients view negative communication by their male partners as unsupportive (e.g., Pistrang & Barker, 1995). CanCOPE was intended to reduce such negative communication, but negativity was very rare in the current sample. This may be a function of the positive communication task selected for discussion (Gottman & Notarius, 2002), as higher rates of negative communication are observed when couples discuss conflict topics than when they discuss general relationship issues (Melby, Xiaojia, Conger, & Warner, 1995) or communicate support (Heyman, 2001). Prior research involving support discussion instructions similar to those used in the current study (Halford et al., 1999) also report low rates of negativity, and women with cancer do report low rates of male negativity (Manne, Alferi, et al., 1999; Manne & Glassman, 2000). Furthermore, older couples exhibit less communication negativity than younger couples (Carstensen, Gottman, & Levenson, 1995), and more than half the couples in the current sample were over 50 years of age. The observed low negativity in the current sample probably reflects typical behavior in support discussions. This interpretation was endorsed by the couples who reported that the observed communication was similar to their usual communication.

In the current sample, rates of observed withdrawal were high, substantially higher than rates in young engaged couples discussing relationship issues (Halford et al., 2000). Furthermore, at preintervention, nearly half the couples reported they had not previously discussed their coping with each other, which is consistent with patients' reports of considerable avoidance of cancer discussion (Henderson, Davison, Pennebaker, Gatchel, & Baum, 2002; Manne, Dougherty, et al., 1999). Anecdotally, couples in the current study reported that having the discussions was helpful. Given that women's reports of discussing emotional aspects of their experience predicts better adjustment to cancer (Cordova, Cunningham, Carlson, & Andrykowski, 2001b; Lichtman et al., 1988), prompting couples to engage in such discussion may, in itself, be a useful intervention.

CanCOPE replicated the modest benefits of intervention on psychological distress typically reported in prior research (Newell et al., 2002) but produced a large reduction in coping effort for women and their partners. The modest effects of CanCOPE on psychological distress are probably attributable to floor effects. Consistent with previous research (e.g., Andrykowski, Cordova, McGrath, Sloan, & Kenady, 2000; Baider, Koch, Esacson, & Kaplan De-Nour, 1998), in the current study there were moderate initial elevations in psychological distress; few participants showed levels of distress that could be considered psychiatric disorder. For example, at preintervention, only 28 (30%) women reported IES Intrusion scores or Avoidance scores above the cutoff score (20) suggestive of significant distress (Wenzel et al., 1999), which is a lower rate than is typically reported in previous studies (Cordova et al., 1995). Initial distress reduces substantially in most patients without psychological intervention (see Andersen, 2002), and in the current study, the extent of decline was even greater than

in previous studies (e.g., Wenzel et al., 1999). It is likely that some elements of the assessment, medical information, and professional support, which were common to all three conditions in the current study, contributed to low long-term distress. Women in all three conditions reported high consumer satisfaction with the support services provided.

The present study is the first to show that an intervention can enhance sexual self-schema, sexual intimacy, and women's perceptions of their partners' acceptance of their body. However, there was no effect on sexual dysfunction, though this is likely to be a floor effect. In contrast to previous research (e.g., Andersen et al., 1989; Ganz, Desmond, Belin, Meyerowitz, & Rowland, 1999), women in the current study reported low rates of sexual problems, rates that were comparable to healthy women (Mazer, Leiblum, & Rosen, 2000). The extent of cancer treatment predicts sexual dysfunction in women (Rowland et al., 2000), and, compared with previous studies (Ganz et al., 1999; Yurek et al., 2000), there was a smaller proportion of women in the current study that received chemotherapy or more extensive treatments (e.g., mastectomy or pelvic radiation).

Limitations of the Study

There are some noteworthy limitations to the current study. First, the sample size provided limited power to detect some intervention effects, and, for several outcomes, there were only trends for differences between conditions. The sample size of 30 participants per condition was comparable with most previous trials of psycho-oncology interventions and was the largest sample reported of male partners of women with cancer (Manne, 1998). However, 52 participants in each condition would be required to detect a moderate effect size at a power of 0.80 and $\alpha = .05$ (Cohen, 1992). Moreover, as fewer men than women remained in the study through to follow-up, this reduced power might explain why some CanCOPE effects that were significant for women were only trends for men. Furthermore, the 20% of couples who were sexually inactive before treatment further reduced the power to detect intervention effects on sexual dysfunction.

Any couple-based intervention for women with cancer has some significant limitations. First, many women do not have partners. Second, for some women, helpful partner support may be unlikely to be provided; it is known that maritally distressed women often do not consider their partners as a source of support (Julien & Markman, 1991). However, some elements of CanCOPE could be adapted for use with women and a support person other than a partner. For example, a family member or close friend could provide emotional support for women with low marital satisfaction.

Mechanism of Intervention Effects

Couple coping has been speculated to enhance long-term adjustment to a range of stresses, including cancer (e.g., Coyne & Smith, 1991; Lyons et al., 1998). Consistent with this concept, CanCOPE, which focused on enhancing couple coping, improved adjustment whereas PC, which focused on the woman's coping, showed no benefit. CanCOPE involved one more therapy session than PC. However, differential therapist contact between conditions is unlikely to explain the effects of CanCOPE, as the extra

therapist contact in PC relative to MI was not associated with better adjustment. In previous research, patient coping interventions similar to PC, but provided to groups of cancer patients, sometimes produced positive effects (Newell et al., 2002). It may be that medical education and/or group support were the effective ingredients. Alternatively, patient coping training may need to be reinforced within a context of social support, such as within a group of fellow patients or with a partner.

One possible mechanism of the CanCOPE effects is that spouses improved their support for each other in a manner that enhanced both partners' cognitive processing of their stressful cancer experiences. This explanation is consistent with the social-cognitive processing model of adjustment that proposes partners' responses facilitate cognitive and emotional adaptation to a traumatic situation (Lepore, 2001). However, there were multiple components to CanCOPE, and its effectiveness does not demonstrate which elements produced the intervention effect. In future studies, daily assessments of coping and support behaviors (e.g., Tennen, Affleck, Armeli, & Carney, 2000) could test whether these behaviors mediate couples' adaptation to cancer.

Generalizability of Findings

There was a high rate of acceptance by couples to participate (94%) in the current study, notably higher than the 40% to 78% agreement reported in previous psycho-oncology studies (Andersen, 2002; Manne, 1994). The high participation might be due to some combination of the timing, location, and format of the intervention offered. All three conditions involved receiving ongoing professional support from immediately after diagnosis. In most previous studies, support has been available to only some of the participants and is usually offered some considerable time after the crisis of diagnosis (Andersen, 2002). It was our impression that patients were highly receptive to offers of support at the time of diagnosis. In the current study, the sessions were conducted in people's homes, which made the intervention program easy to access. Finally, the individual or couple format offered in the current study might have wider appeal to potential participants than the group format usually offered.

The attrition from the study by women was lower than in previous studies with patients with early stage disease (Newell et al., 2002). Two countervailing factors seem to have influenced attrition. First, women who had positive nodal involvement were more likely to remain in the study; perhaps those women had greater ongoing concerns about their prognosis and wanted continuing support. However, couples with low relationship satisfaction were more likely to drop out from the study, and low relationship satisfaction is likely to be associated with poor partner support (Saitzyk, Floyd, & Kroll, 1997) and worse adjustment (Lewis & Hammond, 1992). This suggests that attempting to involve partners, even just in assessments, may be difficult with maritally distressed couples.

Couple coping has been argued to enhance adjustment to a wide range of health problems, and evaluating CanCOPE with a range of cancers warrants investigation. A close association between the site of a cancer, body image, and sexuality, such as exists with breast or gynecological cancers, might make a couple intervention particularly appropriate. For example, CanCOPE might be pertinent to men with prostate or testicular cancers and their partners,

as these forms of cancers have a strong association with sexuality (Gritz et al., 1989; Perez, Skinner, & Meyerowitz, 2002; Steginga et al., 2001). However, women and men do differ in their preference for modes of support from their partners during stress (Cutrona, 1996; Ptacek, Pierce, Ptacek, & Nogel, 1999), and the value of CanCOPE for men with cancer needs to be tested rather than assumed. Similarly, the suitability of CanCOPE for patients with terminal disease is unknown. Patients with advanced disease frequently report a heightened need for communication with their spouse (Walker, 1997) and desire for affection (Leiber, Plumb, Gerstenzang, & Holland, 1976). CanCOPE aims to foster couples' emotional closeness and may be appropriate. However, CanCOPE probably would need to be modified to address issues involving unfinished business, preparing for death, and spouses' grief at the anticipated loss of their union (Block, 2001; Spiegel, Stein, Earhart, & Diamond, 2000).

Implications for Supporting Cancer Patients

Overall, there were moderate to large effects of CanCOPE on increasing positive functioning (e.g., enhancing supportive communication). However, the effect size for reduction of distress was small. There are important implications of this pattern of findings for assisting cancer patients. First, several authors have noted that the rate of psychological disorder in patients with early stage cancers is quite low and that universal application of interventions to prevent psychological disorder is probably unnecessary (e.g., Newell et al., 2002). Provision of structured education and some professional support, similar to MI, would seem to be a minimum acceptable standard for quality routine care. A more intensive program like CanCOPE should be available selectively to those with substantial adjustment problems. Clearly, monitoring of patient and relative adjustment needs to be adequate to identify those who are severely distressed.

Second, the pattern of findings suggests interventions can enhance quality of life independent of effects on distress. Confronting a potentially life-threatening situation can produce positive outcomes, not just problems (e.g., Brennan, 2001; Folkman & Moskowitz, 2000; Katz, Flasher, Cacciapaglia, & Nelson, 2001). In women with cancer, overcoming adversity can increase their sense of meaning in life (Johnson Vickberg et al., 2000; Tomich & Helgeson, 2002), and talking about the cancer with loved ones is associated with posttraumatic growth and increased appreciation of close relationships (Cordova et al., 2001a). CanCOPE promoted this type of talking plus mutual support, which may explain the positive outcomes on quality of life.

Offering intensive programs like CanCOPE requires attention to managing the costs of service delivery. One option is to selectively target intensive interventions to those with severe distress. However, as has been highlighted in the psychological literature in recent years, promotion of positive states of psychological well-being is itself a worthy goal (Seligman & Csikszentmihalyi, 2000). The highest quality health care systems are likely to aspire to enhancement of quality of life. In ongoing work, we are evaluating a self-directed version of CanCOPE that involves a videotape, guidebook, and telephone calls, which makes CanCOPE available at a lower cost than the face-to-face version evaluated in this study.

The current results underscore the importance of couple coping as a source of support for partners in the face of a major life

challenge like cancer. CanCOPE assisted women with early stage cancer and their partners to conjointly cope with diagnosis and treatment. Couples learned supportive communication and had improved quality of life even while enduring traumatic experiences. However, there remain numerous challenges to translate this initial promise into a cost-effective model of psychological support for patients with cancer and those close to them.

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Call for Nominations

The Publications and Communications (P&C) Board has opened nominations for the editorships of *Clinician's Research Digest*, *Emotion*, *JEP: Learning, Memory, and Cognition*, *Professional Psychology: Research and Practice*, and *Psychology, Public Policy, and Law* for the years 2007-2012. Elizabeth M. Altmaier, PhD; Richard J. Davidson, PhD, and Klaus R. Scherer, PhD; Thomas O. Nelson, PhD; Mary Beth Kenkel, PhD; and Jane Goodman-Delahunty, PhD, respectively, are the incumbent editors.

Candidates should be members of APA and should be available to start receiving manuscripts in early 2006 to prepare for issues published in 2007. Please note that the P&C Board encourages participation by members of underrepresented groups in the publication process and would particularly welcome such nominees. Self-nominations also are encouraged.

Search chairs have been appointed as follows:

- *Clinician's Research Digest*: William C. Howell, PhD
- *Emotion*: David C. Funder, PhD
- *JEP: Learning, Memory, and Cognition*: Linda P. Spear, PhD, and Peter Ornstein, PhD
- *Professional Psychology*: Susan H. McDaniel, PhD, and J. Gilbert Benedict, PhD
- *Psychology, Public Policy, and Law*: Mark Appelbaum, PhD, and Gary R. VandenBos, PhD

Candidates should be nominated by accessing APA's EditorQuest site on the Web. Using your Web browser, go to <http://editorquest.apa.org>. On the Home menu on the left, find Guests. Next, click on the link "Submit a Nomination," enter your nominee's information, and click "Submit."

Prepared statements of one page or less in support of a nominee can also be submitted by e-mail to Karen Sellman, P&C Board Search Liaison, at ksellman@apa.org.

The deadline for accepting nominations is **December 10, 2004**, when reviews will begin.