

## **Enhancing Couple Coping and Adjustment to Cancer**

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# **Enhancing Couple Coping and Adjustment to Cancer**

**Jennifer L. Scott, B.A., Grad. Dip. Psych., M.C.P.**

A thesis submitted in fulfilment of the requirements for the Degree of Doctor of Philosophy within the School of Applied Psychology, Griffith University.

April, 2003.

## **Dedication**

To Edward (Dar) Coulter (1905-1998)

who inspired me with his passionate regard for academia.

And my parents

Audrey Barbara Scott (nee Coulter) & Eric Smith Scott

whose love, encouragement and faith, sustains and fortifies me.

**Abstract**

Cancer diagnosis and treatment affects the psychological wellbeing of both patients and their partners. Couples who adapt well to their cancer experience are said to engage in “couple-coping”, a process of conjoint coping and mutual support that forges a shared approach to managing the stressors they encounter. However, most psycho-oncology interventions focus on assisting the patients alone to cope with cancer. Little is known about how to help couples develop a unified stand against cancer, or whether couples who cope as a team are more successful in re-claiming their lives after cancer than patients who wage a solo battle.

The present study examined the efficacy of promoting couple coping compared to enhancing the patients’ coping alone. Ninety-four married women with early stage cancer and their partners were randomly assigned to couple-based coping and support 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. Relative to the other conditions, CanCOPE produced significant improvements in couples’ supportive communication, reduced psychological distress and coping effort, and improved sexual adjustment. Training in couple coping rather than individual coping was more effective in facilitating adaptation to cancer. The findings have practical implications for the delivery of psychological support services to women with cancer, as well as broader theoretical implications for the way models of stress and coping have traditionally been conceptualised.

## **Declaration of Originality**

The present thesis describes original research undertaken by the author. No part has been submitted for a degree at this or any other tertiary institution.

Jennifer L Scott

## **Publications and Awards**

The content of the 'CanCOPE' intervention, described in Chapter Four, is reported in a book chapter entitled, 'Helping each other through the night: Couples and coping with cancer' Halford, W.K., Scott, J.L., & Smythe, (2000). In: K.R. Schmaling & T.G. Sher (eds) The Psychology of Couples and Illness. Washington D.C: American Psychological Association. The results reported in chapter four were presented by the author at the 23<sup>rd</sup> National Conference of the Australian Association for Cognitive and Behavioural Therapy, Melbourne, Australia (2000); 6th World Congress of Behavioral and Cognitive Therapies, Acapulco, Mexico (1998); 4th International Congress of Psycho-Oncology, Hamburg, Germany (1998); and the 31st Annual Convention for the Association for Advancement of Behavior Therapy, Miami, Florida, USA (1997).

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“Do you realise we’re floating in space... that everyone you know someday will die, and instead of saying all of your goodbyes, let them know you realise that life goes fast, it’s hard to make the good things last, you realise the sun don’t go down, it’s just an illusion caused by the world spinning round”

Do You Realise *The Flaming Lips (2002)*; *Yoshimi Battles the Pink Robots* [CD]

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## Chapter 1

### The nature of breast and gynaecological cancers and their treatments

“When you hear those words ‘you have cancer’, all you want to do is run!”

(Carol, diagnosed with breast cancer and ‘CanCOPE’ project participant)

“I feel ashamed because my first thought was for myself and  
how would I cope without her?”

(Mark, participant in ‘CanCOPE’, talking about his reactions  
to his wife’s diagnosis)

“For human beings are alone, and lonely, in apprehending the simple,  
awesome fact of death”

(*Weekend Australian*, Phillip Adams, 2002)

Advances made in the early detection and treatment of cancers that occurred during the later half of the 20<sup>th</sup> Century have meant that many patients diagnosed with cancer today will be cured, and many other patients will survive for a long time with their disease (Landis, Murray, Bolden, & Wingo, 1998). Consequently, health care providers regard many types of cancers as chronic illnesses. However, in the popular parlance of many countries throughout the world, cancer is referred to as a “death sentence”, a “silent killer” and a “deadly enemy”, and media reports about cancer research frequently make reference to new discoveries in the “war” or “fight against cancer”. Thus, in many cultures, societal views of cancer remain fearful and negative (Holland, 1998). Furthermore, the decade of the 1980s saw increasing

recognition by health professionals that patients could be physically and psychologically injured by ‘friendly fire’ from aggressive multi-modal treatment regimes used as artillery in the war against cancer. Thus, the diagnosis and treatment of cancer remains a significant psychological challenge for most patients and the people closest to them (Derogatis et al., 1983; Mendelsohn, 1990; Pettingale, Burgess, & Greer, 1988).

Cancer survivors in committed relationships who adjust well to cancer diagnosis and treatments say they do not fight their war against cancer alone, and that their partners are their greatest allies (Bloom, 1996; Ell, Nishimoto, Morvay, Mantell, & Hamovitch, 1989; Jamison, Wellisch, & Pasnau, 1978). Many spouses say they look to the patients for inspiration and support. Couples who adapt well to their cancer experiences are suggested to engage in ‘couple-coping’, a process of conjoint coping and mutual support that forms a shared approach to managing the stressors they face. However, most psychological support services focus on assisting the patients alone to cope with cancer. Little is known about how to help couples make a unified stand against cancer, or whether couples that cope as a team are more successful in reclaiming their lives after cancer than patients who wage a solo battle.

This thesis describes a controlled trial evaluation of the efficacy of a couple-coping intervention designed to help couples, in which a female partner has been diagnosed with early stage breast or gynaecological cancer, cope and support each other. This chapter describes the nature of breast and gynaecological cancers and their treatments, and provides an overview of the common psychological and sexual sequela experienced by women and their partners confronting diagnosis and treatments. Variables that predict long-term adjustment in women and their partners, such as medical and psychosocial factors, are discussed in Chapter two. Chapter

three provides a summary of the efficacy of psychological interventions conducted to date with women diagnosed with early stage cancers. Chapter four presents the results of the randomised controlled trial evaluation of a couple-based psychological intervention for women with early stage breast or gynaecological cancers, and the significance of the findings and implications for future research are discussed.

### **1.1 The Nature of Cancer**

Cancer is a general term given to over two hundred diseases characterised by disorders of cell growth involving unrestrained, indiscriminate and chaotic cell production. These mutated cell masses invade and destroy surrounding tissues and potentially can metastasise (i.e., spread), via the blood or lymphatic system, to seed the growth of new cancers in other parts of the body (Holland, 1998). Common symptoms associated with metastatic disease include anorexia, fever, fatigue and pain, and the most common frequent sites of metastases involve lymph nodes, brain, skeleton, lung, and liver. Eventually many cancer cells lose their biologic function but are still dependent upon the body for nutritional supply (Lenhard & Osteen, 2001). Thus, cancer is essentially ‘a parasite formed from the patient's own tissues’ (Wingate & Wingate, 1988 p.91).

Once histology or cytology results confirm cancer diagnosis, the stage of disease is established, a convention that divides cancer cases into classifications that inform treatment selection, facilitate research comparing treatment efficacy, and provide prognostic estimates of survival (Lenhard & Osteen, 2001). The most commonly used nomenclature is the TNM system that classifies cancers according to the size of the primary tumor (T), the extent of disease involvement in the lymph nodes (N), or distant metastases (M) (Fleming et al., 1997; Lenhard & Osteen, 2001; Sobin & Fleming, 1997). On the basis of these TNM markers most types of malignancies are

classified into one of four possible stages. Stage I or Stage II cancers are considered early stage or localised diseases as the tumors are relatively small in size, and there are no apparent signs of lymph node involvement or disease metastases (spread). Stage III and IV cancers are regarded as later stage diseases as they involve tumors of larger size, and there is evidence of lymph node involvement and/or disease metastases. Early stage cancers are associated with higher survival rates than later stage cancers. In addition to TNM markers, other relevant prognostic indicators include the grade of the cancer cells, based upon their degree of differentiation from normal cells, and estimates of their rate of cell growth (Pfeifer & Wick, 2001). Poorly differentiated cancer cells are often associated with worse outcome than well-differentiated cancer cells (Isaacs, Stearns, & Hayes, 2001).

Five-year survivorship figure is the percent of patients with a particular disease stage who are alive 5 years after cancer diagnosis (Garfinkel, 1995). Prognosis conventionally has been related to 5-year survivorship, though 10 and 15-year survival rates are becoming more widely used as an index of long-term survival for some types of cancers, particularly breast cancers (Henderson, 1995). The chance of recurrence of a cancer declines between 5 and 15 years after initial diagnosis and disease free survival over this extended period approximates cancer “cure”.

The five-year survival rate for many types of localised cancers is in the order of 92%, but drops markedly to rates below 45% for later stage diseases (Wingo, Parkin, & Eyre, 2001). In breast cancers, a strong prognostic predictor is the number of positive (i.e., cancer involved) lymph nodes. Each positive lymph node is associated with a decrement in survival time. The 10-year survival rate in patients with no positive lymph nodes ranges from 65% to 70%. In contrast, 10-year survival rates in patients found to have four to nine positive nodes drops to 28%, and drops again to

18% in patients with more than 10 positive lymph nodes. Gynaecological cancers include cancers of the ovary, uterine corpus, cervix, fallopian tube, vagina, and vulva. The survival rates for gynaecological cancers range from almost 100% for carcinoma of the cervix in situ, which is likely to be discovered at an early stage through routine screening procedures, to 39% for ovarian cancer, which frequently is only detected once it has progressed to an advanced stage (Fields, Jones, Thomas, & Runowicz, 2001).

## **1.2 Epidemiology**

Breast cancer is the most common cancer of women worldwide, with an estimated 796,000 women diagnosed in 1998, accounting for 21% of all new cases of female cancers (Parkin, Pisani, & Ferlay, 1999). Incidence rates are high in most developed countries, with the highest and second highest rates of new cases in the world found in North America and Australia / New Zealand, respectively. In both these regions, breast cancer is the leading site of female cancers (Parkin et al., 1999). In 2001, an estimated 192,200 American women will be diagnosed with breast cancer (Greenlee, Hill-Harmon, Murray, & Thun, 2001). In Australia, 10,096 women were diagnosed with breast cancer in 1997 (Australian Institute of Health and Welfare, 1997).

Gynaecological cancers are also common cancers in women worldwide. Cervix cancer is ranked the third most common form of female cancer globally, and ovarian and uterine cancers are ranked 6<sup>th</sup> and 7<sup>th</sup>, respectively (Parkin et al., 1999). An estimated 679,000 women worldwide were diagnosed with cancers of the cervix, ovary or uterus in 1998. Incidence rates for uterine and ovarian cancers are high in developed countries. America has the highest incidence rate for uterine cancer, and the third highest incidence of ovarian cancer, in the world. In contrast, the highest

incidence rates for cervix cancer are in developing countries. In 2001 an estimated 80,300 American women will be diagnosed with gynaecological cancers (Greenlee et al., 2001). In 1997 in Australia, 3,643 women were diagnosed with gynaecological cancers (Australian Institute of Health and Welfare, 2000).

The good prognosis of many cancers does not mean that mortality from cancers is infrequent. Cancers are second only to heart disease as the major cause of death in American and Australian women (Commonwealth Department of Human Services & Health, 1994; Murphy, Lawrence, & Lenhard, 1995). Current trends suggest cancers may soon be the leading cause of death, as the percentage of deaths related to heart disease (33.5% of all mortality) has been decreasing over the last three decades, while cancer mortality has risen to account for 23.5% of all deaths (Murphy et al., 1995). The major reason for this increase has been the rise in the incidence of lung cancer, a disease associated with particularly poor 5-year survivorship prognosis (Parkin et al., 1999).

In 1998, an estimated 314,000 women worldwide died from breast cancer, and 333,000 women died from cervix, uterine or ovarian cancers (Parkin et al., 1999). In 2001, an estimated 40,200 American women will die from breast cancer and 26,300 will die from gynaecological cancers (Greenlee et al., 2001). Approximately 3,694 Australian women died from breast or gynaecological cancers in 1999 (Australian Bureau of Statistics, 2002).

### **1.3 Treatment of Cancers**

There are four principal forms of cancer treatments: surgery, radiation therapy, medical oncology, and immunotherapy, and their use in isolation or in combination are indicated by diagnostic and staging results (Murphy et al., 1995; Yaeger & Brady, 2001). Treatments may be used with the intent to cure, increase survival time,

or to palliate the symptoms associated with advanced stage disease. Surgery aims to resect or remove the mass, and is also used as a palliative tool to relieve pain in cases of recurrent and advanced stage diseases. Radiation therapy aims to shrink tumour size or eradicate cells through exposure to doses of radioactive substances. Medical oncology encompasses systemic forms of treatment such as chemotherapy (administration of cytotoxic drugs) and hormonal agents to reduce the size of tumour(s), or kill cancerous cells. Immunotherapy involves the strategic use of agents such as cytokines, and other biologic response modifiers, designed to stimulate or augment the biological responsiveness of the person's immune system to the tumour, thereby disrupting the tumour-host relationship (Herberman, 2001; Murphy et al., 1995).

Iatrogenic effects vary across cancer treatments. With the exception of fatigue, surgery and radiation therapy tend to produce symptoms restricted to the region receiving treatment, such as pain at the site of a post-operative wound, or red and tender skin reactions on the body at the site where radiation is delivered (Habal, Giuliano, & Morton, 2001). Most chemotherapeutic agents influence cancer cells through their direct interference with DNA synthesis or function, and are often associated with more toxic effects on patients' general health than other forms of treatment (Cooper & Cooper, 2001). Chemotherapy may cause diffuse damage to normal tissue and the central nervous system, as well as suppression of the immune system, leading to symptoms such as vertigo, ataxia, hair loss, alterations in renal and reproductive functions, and impairment to mood, cognition and memory (Holland, 1998). The development of better analgesics and antiemetics in the last two decades has improved the management of nausea and vomiting produced by chemotherapeutic compounds (Cooper & Cooper, 2001). Treatments for breast and

gynaecological cancers may also anatomically change reproductive organs (Beemer, Hopkins, & Morley, 1988), or damage their physiological functioning, giving rise to side effects such as induced early menopause, infertility, vaginal dryness, pain during intercourse, reduced sexual desire, and changed orgasmic capacity (Andersen, 1985, 1993; Glanz & Lerman, 1992).

## **1.4 Adapting to Breast and Gynaecological Cancers**

### **1.4.1 Initial Psychosocial Responses to Diagnosis and the Early Phase of Treatments**

Although the majority of women with breast and gynaecological cancers will survive, the diagnosis and treatments pose considerable challenges for the women and their partners (Ganz, 2000; Greimel & Freidl, 2000; Koopman et al., 2001; Mendelsohn, 1990; Meyerowitz, 1980). The psychosocial sequela experienced by women with these cancers are well documented, and are similar to that seen in patients diagnosed with other cancers (Derogatis et al., 1983; Weisman & Worden, 1976). Initial reactions to diagnosis and the initiation of cancer treatments can be intense, akin to an acute stress response (Green et al., 1998; Koopman et al., 2001), and involve shock, impaired concentration, emotional numbness, insomnia and nightmares, restlessness and heightened arousal, and increased levels of depression and anxiety (Andersen, Anderson, & deProse, 1989b; Derogatis et al., 1983; Ell et al., 1989; Epping-Jordon et al., 1999; Meyerowitz, 1980; Nordin, Berglund, Glimelius, & Sjoden, 2001).

Some women worry about the effect of treatment on their physical functioning (Frost et al., 2000; Steginga, Occhipinti, Wilson, & Dunn, 1998), and possible threat to finances through treatment costs and lost earnings (Moyer, 1997; Psychological Aspects of Breast Cancer Study Group, 1987; Spencer et al., 1999). Other common

psychological reactions include uncertainty about prognosis (Carver, Meyer, & Antoni, 2000; Peters-Golden, 1982), intrusive and negative thoughts about dying or cancer recurrence (Ganz, Coscarelli Shag, Polinsky, Heinrich, & Flack, 1987; Johnson Vickberg, Bovbjerg, DuHamel, Currie, & Redd, 2000; Spencer et al., 1999) or disfigurement and loss of attractiveness, femininity and sexuality (Andersen, 1999; Andersen, Woods, & Copeland, 1997; Cyranowski, Aarestad, & Andersen, 1999; Yurek, Farrar, & Andersen, 2000), and attempts to avoid cancer reminders (Ell et al., 1989; Epping-Jordon et al., 1999). Interpersonal concerns also are frequently reported by women with these cancers, and relate to worry about the adjustment of loved ones (Zemore & Shepel, 1989), communication difficulties with family members and friends (Ganz, Coscarelli Shag, & Cheng, 1990), and fear of becoming a burden to family and friends (D'Errico, Galassi, Schanberg, & Ware, 1999). Women who suffer more severe reactions show substantial deterioration in their role functioning within their family and work place, especially while undergoing cancer treatments (Psychological Aspects of Breast Cancer Study Group, 1987).

Emotional distress and adjustment problems often are also present in the partners of women diagnosed with cancer (Andersen, Anderson, & deProse, 1989a; Keller, Henrich, Sellschopp, & Beutel, 1996; Omme-Ponten, Holmberg, & Sjoden, 1994). The most frequently reported concerns for partners focus on the survival of their spouse (Northouse, 1996), feeling excluded from medical consultations and decision making processes (Ialos, 1997), concern about the best ways to support and communicate with their spouse (Kilpatrick, Kristjanson, Tataryn, & Fraser, 1998; Samms, 1999), difficulty managing increased daily activities associated with care giving (Nijboer et al., 1998; Northouse, 1994; Zalis & Shands, 1991), and problems managing their own emotional reactions (Ialos, 1997). There is a high concordance

between patients and partners' psychological adjustment (Baider et al., 1996; Ey, Compas, Epping-Jordan, & Worsham, 1998; Fang, Manne, & Pape, 2001). That is, in couples where the woman experiences severe psychological distress, the partner also tends to cope poorly and be highly distressed (Keller et al., 1996; Kurtz, Kurtz, Given, & Given, 1995; Northouse, Templin, & Mood, 2001; Northouse, Templin, Mood, & Oberst, 1998; Ptacek, Ptacek, & Dodge, 1994).

#### **1.4.2 Body Image, Sexual Functioning and Intimate Relationships**

Sexual health problems are common in women with breast and gynaecological cancers (Andersen & van der Does, 1994; Moyer, 1997; Schover, 1991; Steginga et al., 1998), primarily because the cancers are in sites associated psychologically with femininity and sexuality (Andersen, 1985, 1993; Glanz & Lerman, 1992). Moreover, treatments sometimes impede the functioning of organs involved in sexual responsiveness (Andersen, 1985, 1993; Schover, Fife, & Gershenson, 1989; Schover & Jensen, 1988; von Eschenbach & Schover, 1984; Weijmar Schultz, Bransfield, Van de Wiel, & Bouma, 1992).

High rates of sexual dysfunction are common in patients undergoing treatment for early stage disease (Andersen & van der Does, 1994). Depending upon the method of assessment used, up to 80% of women with gynaecological cancers (Andersen, 1993, 1986; Andersen et al., 1989a; Andersen et al., 1997), suffer from sexual dysfunctions during treatment, and up to 58% of women undergoing treatment for breast cancer report problems in sexual functioning (Maguire, 1978; Maguire et al., 1978; Morris, Greer, & White, 1977). Sexual problems may occur across all phases of the sexual response cycle (Andersen & Hacker, 1983), often involving decreases or impairment to sexual interest (Andersen & Green, 2001), sexual drive and satisfaction (Schover et al., 1989), orgasm (Seibel, Freeman, &

Graves, 1980), and frequency of intercourse (Andersen, 1985; Andersen et al., 1989a). Some women may also experience pain during intercourse (Andersen, 1987; Andersen et al., 1989a; Schover et al., 1989).

Diagnosis and treatments also affect women's sense of femininity and body image. Some women have difficulties accepting their appearance, or looking at post-operative scars. Several studies report that women often avoid undressing in front of partners, or feel less attractive or feminine (Andersen & Jochimsen, 1985; Andersen et al., 1997; Rowland et al., 2000; Schain & Edwards, 1983). However, a large number of studies have not assessed body image difficulties separately from sexual functioning, making it difficult to estimate the prevalence and severity of body-image problems.

## **1.5 Post-treatment Adjustment in Women and Partners**

### **1.5.1 Recovery of Psychological and Social Functioning**

Despite the considerable acute distress experienced by many women in response to cancer, for most women, the severe initial distress reduces and their mood gradually returns to premorbid levels 6- to 12-months after cancer treatment (Buick et al., 2000; Coyne, Benazon, Gaba, Calzone, & Weber, 2000; Glanz & Lerman, 1992; Rowland et al., 2000; Zemore & Shepel, 1989). However, there is considerable variability in the course of psychological recovery and a significant minority of women have major long-term problems. One to ten years after diagnosis of breast or gynaecological cancer between 20 to 25% of women suffer from depression or anxiety (Andersen, 1993; Cordova et al., 1995; Fallowfield, Baum, & Maguire, 1986; Irvine, Brown, Crooks, Roberts, & Browne, 1991; Vinokur, Threatt, Caplan, & Zimmerman, 1989), and 5% to 22% of women meet criteria for PTSD (Alter et al., 1996; Andrykowski, Cordova, Studts, & Miller, 1998; Cordova et al.,

1995; Cordova, Studts, Hann, Jacobsen, & Andrykowski, 2000; Green et al., 2000; Mundy et al., 2000; Tjemslund, Soreide, & Malt, 1998). A small proportion of partners also experience long-term adjustment difficulties and show elevated levels of anxiety and depression (Gilbar, 1999; Ptacek et al., 1994; Wellisch, Jamison, & Pasnau, 1978) or heightened arousal (Baider et al., 1996; Zuhlis & Shands, 1991), although the prevalence of PTSD in partners is not known.

Recovery in women's social and vocational role functioning also is variable, although conclusions about rates of return to work and social activities need to be considered cautiously as there have been few prospective studies examining this domain of quality of life. Rates of return to work roles and social activities reportedly range from 30% to 90% (Spelten, 2002), depending upon whether studies employ standardised measures of disease, treatment and work related factors. A recent comprehensive review of the literature in this area suggests that the mean rate of work non-return is high, with over one-third of women unable to resume their pre-morbid vocation (Spelten, 2002). Obstacles to recovery of pre-morbid role function involve discomfort in disclosing the cancer diagnosis to colleagues, management of fatigue and treatment related side effects such as pain or restricted mobility (Andrykowski, Curran, & Lightner, 1998), uncertainty about the optimal timing for resumption of activities, and changes to career goals (Satariano, 1996). Women's concerns regarding the threat to their financial security posed by unemployment or reduced income can be exacerbated by difficulty attaining medical and life insurance following cancer diagnosis, a problem commonly encountered by cancer survivors (Ehrmann-Feldman, 1987; Greaves-Otte et al., 1991).

### **1.5.2. Adjusting To Physical Appearance And Sexual Functioning**

Approximately 30% of women with breast or gynaecological cancer report problems with body image, feelings of loss of femininity, and sexual dysfunction that persist for many years (Andersen et al., 1989a; Schover et al., 1989; Wohlberg, Romsaas, Tanner, & Malec, 1989). Sexual functioning often remains impaired even if there has been resolution of depression and anxiety problems (Andersen et al., 1989a).

Many women also report difficulties adjusting to changes in sexual relations with partners (Andersen, 1993; von Eschenbach & Schover, 1984). However, only two studies have assessed male partners' reports of their own sexual functioning (Carter & Carter, 1993; Wellisch et al., 1978), and the results have been inconsistent. One study, involving 20 male partners of women diagnosed with breast cancer, assessed men's reports of sexual difficulties occurring approximately 2 years after their wives' diagnosis and found levels of sexual problems were low (Carter & Carter, 1993). However, a second study, also involving the partners (31 men) of women diagnosed approximately 2 years earlier with breast cancer, found almost one-quarter of men reported reduced satisfaction with their sexual life (Wellisch et al., 1978). This disparity in findings may be due to differences in the way sexual functioning was assessed in these studies. Carter and Carter (1993) used a standardised questionnaire that measured global sexual difficulties. In contrast, Wellisch and colleagues (1978) used qualitative methods to assess men's perceptions of changes to their sexual relationship with their partner.

Two studies, both involving the partners of women diagnosed with breast cancer, examined men's responses to their wives' post-operative surgical scars (Samms, 1999; Zahlis & Shands, 1991) and stated that a small number of men

reported difficulty adjusting to their wives' post-operative appearance. However, these studies did not report the proportions of men experiencing such problems. One study, that assessed females' perceptions of their partner's sexual functioning, found that approximately 30% of women reported sexual dysfunctions developing in their partners (Andersen et al., 1989a). No studies have examined sexual adjustment in the partners of women diagnosed with gynaecological cancers. Furthermore, the incidence and aetiology of self-reported sexual dysfunctions occurring in the partners of women with cancer is not known.

### **1.5.3. Existential Issues In Cancer Survivors**

Confronting a potentially life-threatening illness such as cancer often leads people to re-evaluate important life priorities (Halldorsdottir & Hamrin, 1996; Halstead & Fernsler, 1994; Pensiero, 1995). Some researchers have used the term "existential plight" to describe the predicament faced by patients when their very existence is endangered (Weisman & Worden, 1976). This experience may be transient for some, whereas for other survivors the experience of cancer can elicit a considerable range of emotional changes, including uncertainty, vulnerability, isolation, discomfort and redefinition (Halldorsdottir & Hamrin, 1996). The process of redefinition involves a re-evaluation of roles and goals, as well as changes in priorities, such as the need to be at peace in one-self, and to have the presence and support of family, friends and health professionals (Halldorsdottir & Hamrin, 1996).

Perhaps patients find the re-evaluation process daunting because it confronts them on a fundamental level, challenging the very essence of their personal identity (Little, 2002). Many patients struggle to integrate their cancer experiences and come to terms with life after cancer (Redd et al., 2001), and report asking themselves the question "who am I now ?" A common dilemma seems to be determining how much

they align themselves with the label 'cancer survivor', and the degree that their cancer diagnosis defines their new self-identity (Little, 2002).

The partners of people with cancer also experience existential difficulties. Findings from some studies suggest these problems can contribute to reductions in marital satisfaction or perceived emotional closeness with partners (Friedman, 1988; Skerrett, 1998). However, other studies find that couples report that their life is better after cancer and relationship satisfaction is either unchanged (Lichtman, Taylor, & Wood, 1988), or improved (Carter & Carter, 1994; Carter & Carter, 1993; Carter, Carter, & Siliunas, 1993; Carter, Carter, Siliunas, & LeCann, 1991; Ptacek et al., 1994). Researchers have speculated that couples who report positive outcomes have been able to successfully manage the impact of the cancer diagnosis on their own sense of self, and re-negotiate changes to goals they held as a couple prior to the diagnosis by developing a shared vision of their life together after cancer (Persson, 1998; Sormanti & Kayser, 2000; Sormanti, Kayser, & Strainchamps, 1997). However, no empirical controlled studies have examined the existential impact of cancer on couples, and how changes to a person's view of themselves and their intimate relationship might effect martial quality and long-term individual adjustment (Manne, 1998).

In summary, breast and gynaecological cancers are common cancers in women (Parkin et al., 1999). Although many women with early stage disease are cured, diagnosis and treatment are difficult experiences for most women and their partners (Ganz et al., 1990). Many women and their partners report upsetting intrusive thoughts, mood disturbance, worries about prognosis and the adjustment of loved ones, and disruption to role functioning (Northouse et al., 2001). While mood and role functioning improve in many women, approximately 20% of women suffer on-

going mood problems or PTSD (Andrykowski, Cordova et al., 1998). Less is known about the long-term adjustment of partners, particularly rates of PTSD. In addition, diagnosis and treatments have a significant impact on couples' sexual relationship, and women report problems with body image and sexual difficulties that persist even though their mood improves (Andersen et al., 1989a; Ganz, Rowland, Desmond, Meyerowitz, & Wyatt, 1998).

## Chapter 2

### Predictors of Long-term Adjustment

“For human nature is such that grief and pain...do not add up as a whole in our consciousness, but hide, the lesser behind the greater...and if the most immediate cause of stress comes to an end, you are grievously amazed to see that another one lies behind; and in reality a whole series of others”

*(If This Is A Man; Primo Levi, 1987 p.79)*

“Maybe the truest difference between people is exactly this:  
how they see why they are here”

*(Number 9 Dream; David Mitchell, 2001 p.180)*

As described in Chapter 1, advances in screening have increased rates of detection of early stage cancers. In conjunction with improvements in both curative and palliative treatments, this has meant that more patients now are cured, or live for longer periods with cancer than 10 or 15 years ago. With time, most patients also recover psychologically from their cancer experiences (Coyne, Benazon, Gaba, Calzone, & Weber, 2000). However, a group of cancer patients have long-term problems in mood, and their quality of life is substantially impaired after cancer diagnoses and treatment. What are the factors that determine who becomes overwhelmed by their grief and pain? The identification of markers of vulnerability of patients at high risk for later adjustment difficulties has two potential advantages. First, the identification of high-risk patients could allow targeting of psychological support to assist those patients. Given the constraints on health care costs, delivering

potentially expensive psychological interventions to patients in most need is an important focus for psycho-oncology research. Second, if variables predictive of psychological adjustment problems can be elucidated, then interventions can seek to modify those risk factors. For example, if unrealistic negative thoughts about prognosis increase distress, cognitive therapy might be used to challenge those negative cognitions. In this chapter, the existing research on predictors of psychological adjustment to cancer is reviewed, and their implications for intervention to assist cancer patients and their families are discussed.

## **2.1 Risk Indicators**

Predictors of long-term adjustment after cancer can be classified into two categories: static risk indicators and dynamic risk factors. Static risk indicators are useful in identifying people at high risk for psychological and sexual adjustment problems, but by their nature, are not amenable to change. Dynamic risk factors are variables that might be amenable to change with psychological interventions.

A key risk indicator for poor adjustment is having advanced stage or recurrent disease (Frost et al., 2000; Hilton, 1989; Hoskins et al., 1996; Nordin, Berglund, Glimelius, & Sjoden, 2001; Psychological Aspects of Breast Cancer Study Group, 1987; Zabora, Brintzenhofesoc, Curbow, Hooker, & Piantadosi, 2001). The poor adjustment probably is attributable to the need to undergo intensive, invasive treatments that are associated with debilitating side effects (Greimel & Freidl, 2000; Harrison & Maguire, 1994; Nissen et al., 2001), high levels of pain experienced with disease progression, and the knowledge that long-term survival may be unlikely (Andersen, 1993). However, severe psychological distress often occurs in early stage breast and gynaecological cancers (Kornblith, 1998; Zabora et al., 2001). Given the

high prevalence of early stage cancers, psychological adjustment to early stage disease is a major public health challenge.

Young age, low income, and low educational attainment also are associated with high distress (Carver, Meyer, & Antoni, 2000; Cordova et al., 1995; Epping-Jordon et al., 1999; Given et al., 1993; Green et al., 2000; Wenzel et al., 1999), and sexual difficulties in women and their partners (Spencer et al., 1999). However, together these risk indicators account for modest proportions of the variance in long-term psychological and sexual health outcomes (Kornblith, 1998; Stanton, Danoff-Burg, Sworowski et al., 2002; Zabora et al., 2001). Thus, these indicators have limited utility for the identification of patients at high risk for poor adjustment.

## **2.2 Risk Factors**

### **2.2.1 Ineffective Coping**

One of the best-established dynamic risk factors that predicts long-term cancer adjustment is coping. Good long-term adjustment is predicted by use of active coping strategies (Antoni et al., 2001; Dunkel-Schetter, Feinstein, Taylor, & Falke, 1992; Glanz & Lerman, 1992; Osowiecki & Compas, 1998; Stanton et al., 2000; Stanton & Snider, 1993; Taylor, Lichtman, & Wood, 1984; Timko & Janoff-Bulman, 1985). Active coping includes patients confronting problems, seeking information about their disease and treatment, and what they can do to help themselves. In contrast, use of avoidant coping such as disengagement from finding solutions to problems, giving up, and appraisals of helplessness each predict high distress (Bloom, 1982; Carver et al., 2000; McCaul et al., 1999; Parle, Jones, & Maguire, 1996).

While active coping is generally useful, cancer diagnosis and treatment pose multiple challenges that change over time, and good adjustment involves use of a range of coping strategies (Epping-Jordon et al., 1999; Glanz & Lerman, 1992; Heim,

Augustiny, Schaffner, & Valach, 1993; Parle et al., 1996). For example, when undergoing a medical procedure that entails pain or unpleasant side effects, cognitive avoidance or distraction can reduce anxiety and promote positive affect (Manne, et al., 1994). In contrast, when faced with a difficult choice regarding treatment options, or when negative thoughts repeatedly intrude, cognitive avoidance or distraction probably is unhelpful.

Carver and Scheier's (1982; 1988; 1990) self-regulatory model of coping considers coping as a process, as opposed to a trait. From this perspective, for patients to adapt successfully with the changing difficulties encountered across the course of their illness, they must pursue solutions to their problems, rather than persistently avoid them, and be able to actively regulate their own coping. Effective coping self-regulation requires that the person be adept in implementing a variety of coping methods when necessary, select coping strategies according to the demands of the challenges faced (Carver, Scheier, & Pozo, 1992; Scheier & Carver, 2001), accurately appraise the effectiveness of their coping attempts, and modify unsuccessful coping efforts accordingly.

Although Carver and Scheier's (1982; 1988; 1990) full model has not been tested with cancer patients, there is some evidence to support the role of key aspects of the model in the prediction of patients' disease adjustment. Women diagnosed with breast cancer who possess a variety of coping skills and who regulate the utilisation of these strategies to meet the demands encountered, have less mood disturbance than patients with restricted or predominately avoidant coping repertoires (Astin et al., 1999; Carver et al., 1993; Gotay, 1984; Grassi & Molinari, 1988; McCaul et al., 1999; Stanton & Snider, 1993). Failure to attempt to solve problems (Parle et al., 1996), low coping self-efficacy (Merluzzi & Martinez Sanchez, 1997),

and negative biases in appraisals of coping efforts, all predict poor long-term adjustment in patients (Parle et al., 1996; Parle & Maguire, 1995).

People seem to use all the coping strategies that are available to them during the acute crisis phase following their diagnosis with cancer (Sorlie & Sexton, 2001). The demand to marshal coping resources at this time is understandable, given that many women describe the time of diagnosis as the most stressful phase of their cancer experience (Green et al., 1998). The number of coping strategies used reflects total coping effort (Coyne & Racioppo, 2000; Gottlieb, 1997), and coping effort subsequently decreases markedly across the first 12 months following diagnosis (Carver et al., 1993; Heim et al., 1993; McCaul et al., 1999; Morris, Greer, & White, 1977). Several authors suggest that reduction in the reported amount of coping occurs because patients begin to emotionally process the trauma and learn ways to assimilate the stressful experience into their lives. The trauma loses its salience as a threatening stimulus and coping becomes less conscious and effortful (Compas, Connor, Osowiecki, & Welch, 1997; Coyne & Racioppo, 2000; Osowiecki & Compas, 1998). Sustained high coping effort predicts poor long-term adjustment to cancer (Coyne & Gottlieb, 1996; Parle & Maguire, 1995).

Cognitions associated with stressful events play a pivotal role in coping (Berwin, 2001; Creamer, Burgess, Buckingham, & Pattison, 1993; Ehlers & Clark, 2000; Foa & Rothbaum, 1998; Redd et al., 2001). Developing realistic, helpful cognition, and active cognitive processing of intrusive and upsetting cognition associated with trauma, predicts improved adjustment to a range of traumatic events (Berwin, 2001; Ehlers & Clark, 2000; Foa & Rothbaum, 1998). Conversely, attempting to avoid or suppress negative thoughts about traumatic events is ineffective and predicts poor adjustment (Aymanns, Filipp, & Kluer, 1995; Clark, 2001; Compas et al., 1997; Foa,

Ehlers, Clark, Tolin, & Orsillo, 1999; Foa & Riggs, 1995; Harvey & Bryant, 1999; Holeva, Tarrrier, & Wells, 2001; Terry & Hynes, 1998).

Avoidance and suppression of negative, upsetting cancer-related cognition, or negative cognitive appraisals of helplessness or self-blame, are associated with high initial distress in response to cancer diagnosis (Primo et al., 2000), and greater fear of recurrence (Stanton et al., 2000). Moreover, these cognitive patterns predict poor long-term recovery of mood and social functioning in women (Andrykowski, Cordova, Mc Grath, Sloan, & Kenady, 2000; Bloom & Spiegel, 1984; Carver et al., 2000; Carver et al., 1993; Epping-Jordon et al., 1999; Fawzy et al., 1990; McCaul et al., 1999; Nordin et al., 2001; Parle et al., 1996; Telch & Telch, 1986) and their partners (Northouse, Templin, & Mood, 2001). Conversely, appraising stressful events in a positive way that engenders acceptance of the reality of the situation, or optimism about the future, or creates a sense of meaning and purpose, predicts improved adjustment (Lepore & Ituarte, 1999; Lepore, Ragan, & Jones, 2000; Scheier & Carver, 2001; Stanton, Danoff-Burg, & Huggins, 2002).

Cognitive appraisals can be quite specific to particular areas of functioning and influence that area. For example, negative sexual self-schema are characterised by inhibition about sexual and emotional expression, and a negative view of one's sexuality. Holding negative sexual self-schema after cancer surgery predicts body image and sexual difficulties in women with gynaecological (Andersen, Woods, & Copeland, 1997) and breast cancer (Yurek, 1998; Yurek, Farrar, & Andersen, 2000).

In summary, adaptive coping with cancer diagnosis and treatment is characterised by initially high levels of active coping, and challenging and processing negative intrusive cognition and appraisals. This is followed by a

subsequent reduction in coping effort, which in turn is associated with better adjustment.

### **2.2.2 Social Support**

Social support is consistently linked to a wide range of physical and mental health outcomes. There is no consensus amongst theorists about the precise definition of social support (Hogan, Linden, & Najarian, 2002). However, most researchers concur that social support involves structural aspects (e.g., number of social ties or amount of resources provided) and functional components (e.g., nature or type of support provision) (Cohen & Syme, 1985).

There are three main functional aspects of social support commonly considered in the social support literature (Blanchard, Albrecht, Ruckdeschel, Grant, & Hemmick, 1995). The first is emotional support, which is support that conveys a sense of acceptance, esteem, caring or concern. Informational support is the communication of opinion or fact used to guide or advise. Practical or instrumental support is the provision of tangible materials or practical assistance, such as transportation or money. Researchers also distinguish between perceived and enacted support. Perceived support is the recipient's subjective appraisals of the availability or provision of support. Enacted support is the actual support behaviours or actions that occur (Cohen, 1988; Lakey & Lutz, 1996).

Perceived social support is a well-established predictor of adjustment to cancer (Helgeson & Cohen, 1996; Neuling & Winefield, 1988; Wortman, 1984), and women in committed relationships view support from their partner as the most important source of social support (Harrison & Maguire, 1994; Pistrang & Barker, 1995; Smith, Redman, Burns, & Sagert, 1985). Satisfaction with the partner's support predicts good psychological adjustment to cancer (Bloom, 1996; K. Ell, Nishimoto, Morvay,

Mantell, & Hamovitch, 1989; K. O. Ell, 1988; Jamison, Wellisch, & Pasnau, 1978; Lichtman, Taylor, & Wood, 1988; Northouse, 1988; Smith et al., 1985; Spencer, Carver, & Price, 1998; Zemore & Shepel, 1989).

Patients rate emotional support as the most helpful form of partner support (Blanchard et al., 1995; Dunkel-Schetter, 1984; Manne, 1994; Martin, Davis, Baron, Suls, & Blanchard, 1994; Neuling & Winefield, 1988; Rose, 1990). Emotional support is often conveyed through communication (Badr, Acitelli, Duck, & Carl, 2001) and involves patients' perceptions of partners' expressions of concern, affection and caring, willingness to listen to worries and discuss important issues (Lichtman et al., 1988; Sormanti & Kayser, 2000; Taylor, Falke, Shoptaw, & Lichtman, 1986). Satisfaction with emotional support is associated with reduced depression and anxiety, and better quality of life (Helgeson & Cohen, 1996; Peters-Golden, 1982). The woman's report of the frequency of emotional support behaviors is correlated with positive mood (Alferi, Carver, Antoni, Weiss, & Duran, 2001; Mesters et al., 1997; Primomo, Yates, & Woods, 1990; Vinokur, Threatt, Vinokur-Kaplan, & Satariano, 1990), positive self-esteem, and good physical and role functioning (Brady & Helgeson, 1999; Mesters et al., 1997; Roberts, 1994; Vess, Moreland, & Schwebel, 1985a, 1985b).

Behaviours rated by women as unhelpful involve partners' disengagement, emotional withdrawal, trivialisation of concerns, minimisation of the impact of cancer on the women's lives, and criticism of how the woman is coping (Dakof & Taylor, 1990; Pistrang & Barker, 1999; Wortman, 1987; Lichtman, 1988). Avoidance of cancer-related discussion is common (Henderson, Davison, Pennebaker, Gatchel, & Baum, 2002), and predicts worse long-term adjustment in women and their partners (Manne, Dougherty, Veach, & Kless, 1999).

Partners' responses may be fundamental to women's long-term psychological and sexual adjustment. Partners' responses seem to facilitate women's cognitive processing of their experiences of cancer. Talking about a traumatic experience even for a few minutes, especially with someone who validates the speaker's experience, is associated with reduced intrusive thoughts (Lutgendorf & Antoni, 1999) and enhanced adaptation to stress (Kennedy-Moore, 2001; Lepore et al., 2000). In cancer patients, talking about the cancer to someone who is perceived to respond in an open and non-critical manner is associated with reduced frequency of intrusive and avoidant thoughts (Cordova, Cunningham, Carlson, & Andrykowski, 2001; Lewis et al., 2001; Manne, 1999), less distress generated by intrusive images, and better psychological adjustment (Cordova et al., 2001; Lepore & Helgeson, 1998; Manne, Dougherty et al., 1999).

Partners' responses also seem to facilitate women's acceptance of surgery and their post-operative appearance. In close relationships, a partner's perceived acceptance plays a significant role in shaping a person's self-image (Drigotas, Rusbult, Wiesequist, & Whitton, 1999). In women with cancer, beliefs about their attractiveness to their partners following cancer surgery predict women's long-term psychological well being, as well as their satisfaction with their appearance and treatment choices (Stanton et al., 1998). However, the role of partners' responses in women's recovery of sexual intimacy and functioning has not been explored.

Relatively few studies have investigated instrumental or informational support. Results from a small number of studies suggest that women also desire instrumental support from partners (Manne, Taylor, Dougherty, & Kemeny, 1997), such as partners' taking on additional household responsibilities while the women undergo and recover from treatments (Rose, 1990), or providing transportation to and from

treatment sessions. These types of instrumental support are rated as helpful (Martin et al., 1994; Neuling & Winefield, 1988; Rose, 1990; Smith et al., 1985). In contrast, women are more likely to seek information from health professionals, and report higher satisfaction with information about their diagnosis and treatment when it is provided by professionals rather than by partners (Neuling & Winefield, 1988). In summary, women primarily seek emotional and instrumental support from their partners.

#### **2.2.2.1 Methodological Problems with Assessment of Social Support**

Although it is well established that women's perceptions of partners' support predict women's psychological adjustment to cancer, it cannot be assumed that women's sense of feeling supported results from particular support behaviors enacted by their partner (Cutrona, 1986; Lakey & Lutz, 1996). Studies frequently find that perceived support shows a stronger relationship with adjustment than enacted support (Bolger, Zuckerman, & Kessler, 2000; Lepore, 1998) Women's psychological adjustment predicts their perceptions of partners' support (Beach, Fincham, Katz, & Bradbury, 1996; Schul & Vinokur, 2000), and hence it is possible that adjustment is determining perceived social support rather than the reverse.

Perceived support reflects, at least in part, the psychological state of patients and their satisfaction with the relationship with their support provider. For example, women who are depressed are more critical of support attempts by others (Wortman, 1984), and are negatively biased in their recall of support transactions (Lakey & Cassady, 1990; Lakey, Moineau, & Drew, 1992; Pierce, Sarason, Sarason, Joseph, & Henderson, 1996). Cancer patients' low self-esteem (Roberts, 1994; Tempelaar et al., 1989) and poor coping self-efficacy (Aymanns et al., 1995) also predict low social support satisfaction independently from reported enacted support behaviors. Low

self-esteem also accounts for a significant amount of the association between psychological distress and support satisfaction (Roberts, 1994). Relationship satisfaction also influences individuals' interpretations of the support behaviors performed by significant others. Relationship dissatisfaction is associated with critical judgments of partner-enacted support (Acitelli, 1996; Acitelli & Antonucci, 1994; Beach et al., 1996; Pierce et al., 1996; Sarason, Sarason, & Pierce, 1994; Steinberg & Gottlieb, 1994).

Partner support often has been assessed by self- and partner-report. However, spouses are unreliable observers of support provision (Coriell & Cohen, 1995). Spouses disagree on the occurrence of about 30% to 50% of the partner behaviours that occur between them (Bolger, DeLongis, Kessler, & Wethington, 1990). Maritally distressed couples are particularly poor observers of events in the marriage (Christensen & Nies, 1980), especially when behaviours are subtle or interactional in nature (Sillars & Scott, 1983). This low reliability is not just overlooking minor events. Even when partners focus their reports on a small number of relationship events that partners rate as highly salient in their relationship, there still is low reliability in reporting of relationship interaction (Johnson & O'Leary, 1996).

It might be questioned if support behaviours that are not noticed are important. However, although some support sometimes goes unnoticed by partners, it may still be associated with partners' improved adjustment to a particular stressor (Bolger et al., 2000; Pasch, Bradbury, & Davila, 1997). For example, in a study by Bolger, et al. (2000) partners kept daily diaries of support provision and receipt during the period when one partner studied for their final exams in law. The researchers found many instances when a partner said they provided support but the law examinee said they did not receive it. Yet, these instances of unnoticed support were shown to predict

better adjustment in the examinee. One explanation for this finding is that some forms of helpful support transactions between spouses are not captured by self-report measures of perceived social support (Bolger et al., 2000).

Thus, there is a major limitation of the literature relating perceived social support to adjustment; people's reports of support behaviours are unreliable. Consequently, the prediction of better adjustment by social support may be an artefact of an association with other variables. For example, the finding that depression predicts perceived social support, and perceived social support predicts later depression, may mean no more than current depression predicts later depression. Observational studies of couples' actual support would help clarify those support behaviours that are helpful. Only if observed support predicts better outcome would it seem logical to target increasing specific behaviours to assist cancer patients.

### **2.3 Observational Studies of Social Support**

Table 1 summarises 17 studies that have observed support behaviours, and assessed what participants rate as helpful; or that have examined factors that influence the provision and nature of supportive interactions. Pasch and Bradbury (1998) defined support interactions as those occurring when the topic of discussion is a stress or issue that affects one of the partners. They distinguished this from conflict discussions about issues in the partners' relationship with each other, and showed support and conflict communication are somewhat separate from each other. Consequently, the current review does not include studies that focused solely on partners' communication during discussions about marital problems (for a review of this substantial body of literature see Gottman & Notarius, (2000), intimacy (Halford,

Table 2.1

Summary of Observational Studies of Support Communication

Study	Participants & Procedure				Influences on support satisfaction and behaviours						Outcomes	
	<i>N</i> Dyads	Dyad type	Assigned Roles	Obs. Method	Helpful	Unhelpful	Mood	Relationship Sat. or quality	Stressor controllability or severity	Support reciprocity	Post- Interact.	Relationship
	<u>M</u> Age (years)	Relationship length ( <u>M</u> years)	Problem Type	Coding System			Gender	or Length				
Barbee & Yankeelov (1992)	120 (NS)	Dating (NS)	Yes Mood induction	Covert Video (NS) ICCS	ES, IS	WD, CR NG	+					10mth post
Carels & Baucom (1999)	61 (42)	Marital (15)	Yes NS	Video (10min x 2) SSBC	EST	0	0	+				Martial sat.
Collins & Feeney (2000)	93 (19)	Dating (2)	Yes NS	Video (10min) ICCS	ES, IS	CR, WD NG		+	+	+		Mood

Table 2.1 Summary of Observational Studies of Support Communication (continued)

Study	Participants & Procedure				Influences on support satisfaction and behaviours						Outcomes	
	<i>N</i> Dyads	Dyad type	Assigned Roles	Obs. Method (Duration)	Helpful	Unhelpful	Mood	Relationship Sat. or quality	Stressor controllability or severity	Support reciprocity	Post- Interact.	Relationship
	<u>M</u> Age (years)	Relationship length ( <u>M</u> years)	Problem Type	Coding System			Gender	or Length				
Cutrona (1996; 1994, 1992)	100 (27)	Marital (3)	Yes Personal problems	Video (10min x 2) SSBC	ES, IS EST	0	+	+	+			
Cutrona, Hessling & Suhr (1997)	93 (27)	Marital (4)	Yes NS	Video (10min x 2) SSBC	ES, IS EST	CR, WD NG	+	+		+		
Cutrona & Suhr (1990, 1992)	30 (28)	Marital (3)	Yes Personal problems	Video (10min x 2) SSBC	ES, IS EST	0	+	+				

Table 2.1 Summary of Observational Studies of Support Communication (continued)

Study	Participants & Procedure				Influences on support satisfaction and behaviours						Outcomes	
	<i>N</i> Dyads	Dyad type	Assigned Roles	Obs. Method (Duration)	Helpful	Unhelpful	Mood	Relationship Sat. or quality	Stressor controllability or severity	Support reciprocity	Post- Interact.	Relationship
	<u>M</u> Age (years)	Relationship length ( <u>M</u> years)	Problem Type	Coding System			Gender	or Length				
Gulley (1993)	40  (NS)	Friends & Dating  (NS)	Yes  Personal problems	Video Transcripts  (NS) ICCS	ES, IS	WD, CR NG				+		
Holtzworth- Munroe et al. (1997)	100  M(35) F(33)	Marital  (6)	Yes  Personal changes	Video (8min x2) SSICS + SSBARS				+				
Pasch et al., (1997, 1998)	55  M(25) F(24)	Marital  (< 0.5)	Yes  Personal changes	Audio (10min x 2) VTCS + SACS + SSICS			+	+		+		2 years Post

Table 2.1 Summary of Observational Studies of Support Communication (continued)

Study	Participants & Procedure				Influences on support satisfaction and behaviours						Outcomes	
	<i>N</i> Dyads	Dyad type	Assigned Roles	Obs. Method (Duration)	Helpful	Unhelpful	Mood	Relationship Sat. or quality	Stressor controllability or severity	Support reciprocity	Post- Interact.	Relationship
	<u>M</u> Age (years)	Relationship length ( <u>M</u> years)	Problem Type	Coding System			Gender	or Length				
Pistrang et al. (2001)	18  F(32) M(34)	Marital  (2)	Yes  NS Expect 1 <sup>st</sup> child	Audio  (2hrs) Qualitative themes	ES	CR, WD NG						
Romano et al. (1995, 1992)	50  (40)	Pain patient & spouse  (13)	No  Physical activities	Video (NS) LIFE	ES, IS					+	Physical disability	
Saitzyk, Floyd & Kroll (1997)	56  M(40) F(38)	Marital  (14)	Yes  Personal problems	Video (8min x 2) SASB				+		+		

Table 2.1 Summary of Observational Studies of Support Communication (continued)

Study	Participants & Procedure				Influences on support satisfaction and behaviours						Outcomes	
	<i>N</i> Dyads	Dyad type	Assigned Roles	Obs. Method (Duration)	Helpful	Unhelpful	Mood	Relationship Sat. or quality	Stressor controllability or severity	Support reciprocity	Post-Interact.	Relationship
	<u>M</u> Age (years)	Relationship length ( <u>M</u> years)	Problem Type	Coding System			Gender	or Length				
Simpson et al. (1992)	83 M(20) F(19)	Dating (2)	Yes Mood induction	Covert Video (5min) Themes + affect	ES	WD, NG	+					
Yankeelov et al. (1995)	56 (22)	Dating (1)	Yes Medical concern	Covert Video (5min) ICCS	ES, IS	WD		+			+	

Table 2.1 Summary of Observational Studies of Support Communication (continued)

*Note.* Obs., observation; Sat., satisfaction; Interact., interaction; NS., not specified; ICCS., Interactive Coping Coding System: Barbee (1990), Barbee & Cunningham (1995); SSBC., Social Support Behavior Coding: Suhr (1990), Cutrona & Suhr (1992); VTCS., Verbal Tactics Coding Scheme: Sillars (1982); SACS., Specific Affect Coding System: Gottman (1994); SSICS., Social Support Interaction Coding System: Bradbury & Pasch (1994); SSBARS., Social Support Behavior/Affect Rating System: Holtzworth-Munroe et al . (1997); SASB., Structural Analysis of Social Behavior: Humphrey & Benjamin (1989); LIFE, Living in Family Environments: Hops et al (1990), Romano et al (1991); ES., emotional support; IS., instrumental support; EST., esteem support; CR., criticise; WD., withdraw or avoid; NG., negate or dismiss.

Osgarby, & Kelly, 1996), or relationship reminiscences (Halford & Sanders, 1990). The current review is also restricted to studies of romantic or intimate partners, as support that occurs within a couples' relationship is the focus of interest. On the basis of these criteria, an often-cited study by Carter, Carter & Siliunas (1993), conducted with fourteen couples where the women had completed treatments for early stage breast cancer, was excluded. Couples were videotaped being interviewed by a health professional about the impact of cancer diagnosis on their marital adjustment, and their general views on marriage. This study is unique in observational research as it examined communication processes in couples adapting to a major life crisis. However, the purpose of the observation procedure was to examine patterns of general marital communication that occurred incidentally between partners during the interview, not couples' support behaviours.

Relevant studies were located through searches of computerised databases, Medline, PsycINFO, Science Direct, Proquest, Ovid, and Healthplan, using the search terms support, social support, support behaviour(s), support communication, communication of caring/empathy/affection, communication research, support interactions, support skills, AND observational studies, communication tasks, laboratory observations. The references from papers located through these database searches were also examined for additional relevant papers. Finally, references were identified through citations from pertinent book chapters (Andersen & Guerrero, 1998; Barbee, 1990; Barbee & Cunningham, 1995; Barbee, Derlega, Sherburne, & Grimshaw, 1998; Barbee, Rowatt, & Cunningham, 1998; Burleson, 1990, 1994; Burleson & Goldsmith, 1998; Burleson & Kunkel, 1997; Cunningham & Barbee, 2000; Cutrona, 1986, 1996; Cutrona, Suhr, & MacFarlane, 1990; Duck, West, &

Acitelli, 1997; Pierce et al., 1996; Sarason, Sarason, & Gurung, 1997; Sarason et al., 1994).

#### **2.4 Perceived Helpfulness of Specific Behaviours**

Observed behaviour has related to support in two different ways: the observed behaviours have been rated by someone (the recipient or someone else) for perceived helpfulness, or the behaviours have been used to predict some outcome criterion. The studies relating ratings of observed behaviours have produced a number of findings consistent with self-report assessments of social support. Specifically, several studies show that recipients rate partners' behaviours that convey interest, caring, and a willingness to discuss the problem, such as maintaining eye contact, asking questions to clarify the recipient's concerns, and expressing feelings of respect, affection and empathy, as the most helpful (Cutrona, Hessling, & Suhr, 1997; Cutrona & Suhr, 1992, 1994; Gulley, 1993; Pistrang, Picciotto, & Barber, 2001). These behaviours are the same ones rated in self-report assessments as conveying emotional support, and being helpful (Lichtman et al., 1988; Taylor et al., 1986). Behaviours deemed unhelpful by recipients are dismissive, critical or argumentative, or indicate a reticence to discuss the problem, such as avoiding eye contact or changing the topic (Barbee & Yankeelov, 1992; Cutrona et al., 1997; Cutrona & Suhr, 1992; Pistrang et al., 2001).

Negative mood moderates perceptions of supportiveness of particular behaviours. As noted earlier, it is well established that negative mood is associated with self-reports of low social support (e.g., Lakey & Cassady, 1990). When asked to rate partner helpfulness immediately after an interaction, negative mood predicts ratings of lower supportiveness (Cutrona et al., 1997). However, when asked to rate supportiveness of behaviours after each conversational turn, mood did not moderate recipient ratings of

the helpfulness of each behaviour (Carels & Baucom, 1999). Mood-related biases in perception of partner behaviour are most evident when asked to make delayed or global ratings (Halford, Keefer, & Osgarby, 2002). Hence, the Cutrona et al (1997) observed bias may be missing from Carels and Baucom's (1999) study as the latter had recipients rate specific behaviours immediately after they occurred.

Providers' ratings of the helpfulness of support behaviours are sometimes incongruent with recipients' and observers' ratings, especially for negative behaviours (Mickelson, Helgeson, & Weiner, 1995). For example, a criticism of how the patient is coping might be seen as supportive and providing corrective feedback by the partner, but the patient may experience this behaviour as unhelpful. This finding is also consistent with prior self-report research indicating that sometimes providers are unaware that the support they give does not achieve its desired effect (Bolger, Foster, Vinokur, & Ng, 1996).

## **2.5 Influences on Patterns of Observed Support Behaviours**

The support partners provide each other is influenced by a range of factors, including the manner in which help is sought, the partner's mood, appraisals of the problem and the partner's coping, relationship satisfaction and relationship length, history of support interactions, and general comfort with relationship intimacy (Collins & Feeney, 2000; Pasch et al., 1997; Simpson, Rholes, & Nelligan, 1992). Partners in a positive mood respond more to signs of distress in the recipient, treat the problem as more important, and provide more emotional support, than do partners with negative mood (Cutrona et al., 1997; Pasch et al., 1997; Yankeelov, Barbee, Cunningham, & Druen, 1995). Spouses are more likely to provide advice, information and encouragement when they appraise the stressor as controllable (Cutrona & Suhr, 1992). Conversely, they are more critical and less likely to provide

support when they blame the recipient for their problem (Barbee & Yankeelov, 1992). Emotional support is rated as valuable by recipients across a range of problems, irrespective of problem controllability or severity (Cutrona & Suhr, 1992), but they seek more emotional support for problems they regard as severe or less controllable (Collins & Feeney, 2000).

The chronicity of a problem that one is seeking assistance for influences the effectiveness of some helpee behaviours for mobilising support. In a study by (Yankeelov et al., 1995) the problem discussed by a romantic dyad was manipulated, by randomly informing participants that they had a minor, non-life threatening medical problem, and partners' social interactions were covertly observed. Nonverbal behaviours, such as crying or sighing, elicited avoidant responses from partners, while asking directly for support produced more active support provision from partners, such as offers of assistance, provision of advice, and empathy. In contrast, in a study by Romano et al. (1995) involving chronic pain patients, patients' non-verbal pain behaviours led to considerate and empathic inquiries by partners about the patient's pain levels. However, there was marked difference between these two studies in the seriousness of the stressor, and this could also account for the disparity in findings.

Partners reciprocate the amount and type of social support they receive (Pasch et al., 1997), especially emotional support (Cutrona et al., 1997). Specifically, partners tend to reciprocate the level of their partners' emotional support (Collins & Feeney, 2000), and negative affect and behaviours (Cutrona & Suhr, 1994; Pasch et al., 1997). This reciprocity is similar to that which has been observed when couples are discussing conflict issues (Feeney, Noller, & Roberts, 1998; Gottman & Notarius, 2000). Thus, the quality of support that has occurred in the past between partners is an important

predictor of the quality of support they are likely to provide to one another during future stressful situations.

Quantitative and qualitative aspects of relationships are also strongly associated with the nature of partners' social support transactions. Couples in long-term happy relationships are more likely to have discussed the problem prior to the laboratory task than couples in new or distressed relationships (Collins & Feeney, 2000). Satisfied couples are more positive and less negative in their support transactions, and appear to be more responsive to each other's support needs than distressed couples (Pasch & Bradbury, 1998). For example, partners in satisfied relationships rate their spouses' problems as more important, show more sympathy and caring towards their partner, and are more likely to view partners' problems as shared concerns, than less satisfied couples (Collins & Feeney, 2000; Cutrona & Suhr, 1994). Maritally distressed spouses have difficulty giving and receiving support, and are more critical and dismissive, and less cooperative during support transactions, than spouses in satisfied relationships (Saitzyk, Floyd, & Kroll, 1997). Marital satisfaction (Collins & Feeney, 2000), and spouses' perceptions of partners' supportiveness towards them in the past (Cutrona, 1996), both influence recipients' satisfaction with helpfulness of partners' support during current interactions, although they are more strongly associated with males' rating of support satisfaction than women's helpfulness ratings (Carels & Baucom, 1999).

In addition to satisfaction with the relationship, partners' relationship functioning may influence the quality of support that partners provide to each other. For example, couples in violent relationships are less supportive of each other's personal concerns than couples in non-violent relationships (Holtzworth-Munroe, Stuart, Sandin, Smutzler, & McLaughlin, 1997). Compared to men and women in

non-violent relationships, violent men show greater negativity and upset towards their wife when they discuss her personal problems, and conversely, their wives show poorer listening skills when discussing the male's concerns (Holtzworth-Munroe et al., 1997).

Finally, the results from two studies (Collins & Feeney, 2000; Simpson et al., 1992) suggest that partners' attachment style is an important predictor of the support they give and receive. People who are generally avoidant of closeness in relationships are more indirect in their support-seeking attempts, and seek less support from their partners, than individuals who desire intimacy in relationships (Collins & Feeney, 2000; Simpson et al., 1992). Furthermore, partners who are less comfortable with intimacy in relationships are less supportive of their partners during problem discussions, provide less overall support, and engage in more negative behaviours, than partners who are more comfortable with intimacy in relationships (Collins & Feeney, 2000; Simpson et al., 1992).

## **2.6 Consequences of Observed Support Behaviours**

Identifying which support behaviours are perceived as helpful is a useful first step in assessing what constitutes supportive behaviour. However, it cannot be assumed that behaviours rated as supportive necessarily enhance psychological adjustment, or that behaviours that are rated as unhelpful need necessarily be associated with poorer outcome. It is conceivable that some behaviours perceived as helpful by a patient, may actually not assist long-term psychological adjustment. For example, in the studies conducted by Romano et al (1992; 1995) with chronic pain patients and their spouses, they assessed solicitation of reports of pain by the patients through spouse questions such as: "Are you ok?" and "Can you manage to do this?" Spouses' solicitous responses often evoked reports of pain. These reports of pain by

the patient were often followed by supportive comments by the spouse like “Well sit down and take it easy”, or “You poor thing, let me get you a cup of tea”. The pattern of responsiveness looks very much like the chronic pain trap described by Fordyce (1976; 1988), in which inadvertent prompting and reinforcement of pain behaviour exacerbated chronic pain. Consistent with this interpretation, in Romano et al (1992; 1995) high rates of solicitous responses were associated with greater reported pain and disability by the patients. The solicitous responses conceivably might have been seen as sympathetic and supportive by the patient, yet the effect on patients’ psychological adjustment to pain was negative.

Three studies have examined the association of observed partners’ support behaviours on psychological outcomes. Provision of emotional support was associated with improvements in recipients’ immediate post-interaction mood (Collins & Feeney, 2000). Partners’ failure to cheer up recipients during interactions, and negation predicts the dissolution of relationships at 10 months follow-up in dating couples (Barbee & Yankeelov, 1992). One study has examined the differential impact of partners’ marital conflict management skills compared to their supportive communication skills for long term relationship functioning (Pasch & Bradbury, 1998). Wives’ negative support behaviours during discussion of husbands’ problems predicted long-term marital difficulties. Husbands’ communication during support discussions was not significantly related to long-term marital outcomes. The finding that negative support behaviours showed a stronger association with long-term relationship outcomes than positive support behaviours may have been due to the coding system employed in this study. Couples’ interactions were audio-taped, rather than videotaped. This meant that important nonverbal aspects of the communication

of emotional support, such as comforting through touch, found in other studies to predict support satisfaction and post-interaction mood, were not assessed.

In summary, supportive communication that conveys caring and emotional support is associated with high satisfaction, and helpfulness ratings, and predicts immediate state dependent mood. Negativity in support predicts poor long-term relationship outcomes. What is not known is whether these observed support behaviours assist partners beyond the interaction, and aid their coping and adjustment to a significant health problem. Further, there has not been a study to date showing that enhancing couples' supportive communication improves long-term psychological adjustment.

## **2.7 Implications of Observational Findings for Partner Support in Cancer**

There is a consistent finding across self-report and observation studies that empathy and emotional support are valued. A caveat to this conclusion is that existing observational studies have been conducted with younger adults. Cancer is predominantly a disease of middle and older age, and the applicability of these findings to older couples is unclear. For example, during marital conflict, older couples show less responsive listening behaviours (Pasupathi, Cartensen, Levenson, & Gottman, 1999) and empathy (Thomas, Fletcher, & Lange, 1997); but also less negativity than younger couples (Pasupathi et al., 1999). However, emotional support has been found to be important even when dealing with relatively minor stressors (e.g., Carels & Baucom, 1999; Pasch & Bradbury, 1998). A diagnosis of cancer is likely to be a more severe psychological stress, engendering greater emotional reactions from both partners, as the diagnosis poses a threat to one partner's life, and has more far-reaching implications for the couple's future (Saitzyk et al., 1997). Thus emotional support is likely to be important.

A second consideration when generalising results from observational studies to couples supportive discussions about cancer is that in laboratory observations, the discussions are initiated as a consequence of experimental procedure. Partners may not have engaged in discussions about the stressor without the intervention of the experimenter. As described previously in this chapter, evidence from self-report studies show that avoidance of initiating discussions about the cancer is a key problem. Experimental observations that have demand characteristics that force interaction cannot assess avoidance of discussion, which might be a critical element of ineffective couple communication (Heyman, 2001).

In summary, across self-report and observational studies there is a consistent finding that emotional support is valued, and provision of such support predicts better short term mood, and long term relationship satisfaction. Moreover, both self-report and observational research has identified particular behaviours that are seen by recipients as constituting emotional support. However, the providers of social support do not always recognise actions of their own that are not perceived as supportive, particularly negative behaviours. These negative behaviours predict poor long-term couple relationship satisfaction. A major limitation of all the existing research is that it is based on correlation, but it does seem likely that enhancing social support by a partner could enhance long-term adjustment to cancer.

## **2.8 Couple Coping**

Partner social support in coping with cancer is probably best conceptualised as an interactive process of mutual support between partners, or couple coping. As (Mickelson, Lyons, Sullivan, & Coyne, 2001) and others point out, much literature on social support seems implicitly to conceptualise support as unidirectional, rather than the couple coping perspective of interactive mutual support (Coyne & Smith,

1991, 1994; Revenson, 1994). The value of support is usually assessed from the perspective of the recipient (Pierce, Sarason, & Sarason, 1990). Moreover, in observational research one person is usually designated the helper, and the other person to be supported (e.g., Pasch & Bradbury, 1998). Yet, as noted earlier, the level and types of support occurring with long-term relationships is a process of mutual partner influence. Many patients report concern about the effects of their cancer on loved ones, and report seeking to support those loved ones while also seeking support from those same people (D'Errico, Galassi, Schanberg, & Ware, 1999).

There are a number of lines of evidence to suggest that, for a person in a committed relationship who is coping with a severe illness, a major influence on their adjustment is mutual support with their partner. In fact, numerous authors have suggested that partner interaction is so crucial in coping with major crises that, in essence, the couple is conjointly coping with the stress (Barbee & Cunningham, 1995; Hobfoll, 1998; O'Brien & DeLongis, 1996; Pierce et al., 1996; Rigazio-DiGilio, 2000; Zautra, Hoffman, & Reich, 1997). Couple coping can be thought of as a process of interaction and mutual support that leads to the co-construction of modes of thinking about and responding to the crisis, and to each other. Effective couple coping has been described as characterised by a shared, positive view of coping focused on active coping and mutual support (Coyne & Smith, 1991; DeLongis & O'Brien, 1990).

Couple coping does not ignore individuals' wellbeing. Rather, partners engaged in couple coping are purported to be collectivist or communal in their approach to coping (Mickelson et al., 2001). Their communication of support is sophisticated in that they not only acknowledge and validate each others' feeling, but also tend to view a stressful situation as "our" problem, and share the burden and responsibility for managing the problem in a way that balances both individual and relationship needs

(Barbee & Cunningham, 1995; Coyne & Smith, 1991; Cutrona, 1996; DeLongis & O'Brien, 1990; Lyons, Mickelson, Sullivan, & Coyne, 1998; Lyons & Sullivan, 1998).

The following section presents the available evidence for the existence of couple coping, and analyses the implications for assisting cancer patients and their partners.

One line of evidence for the existence of couple coping is that there is a strong concordance of mood and adjustment between partners. Manne and colleagues (1994; 1998; 1999) propose that partners who are concordant in their levels of high distress are most at risk for long-term adjustment difficulties. There are numerous mechanisms by which partner's mood and adjustment influence each other. There may be a discussion in which the mood is discussed, and empathy for the plight of the partner might lead to a transfer of mood and emotions between partners (Levenson & Ruef, 1997). Alternatively, contagion of mood between partners may occur, without recipients necessarily having empathy as a goal, nor knowledge of the source of their mood (Neumann & Strack, 2000). In other words, just observing a spouse's negative mood might alter the partner's mood.

Certain emotions increase a person's potential to attend and respond to threat cues, indicate their levels of adjustment to others, and can alert a partner or other members of a support network to a person's need for support (Keltner, 1998). In essence, negative affect is a stimulus to a social network, and a partner in particular, to offer support. Taylor et al. (2000) argues this tendency to "tend and befriend" those in duress, and to seek such support when stressed, is strongly developed in women, and has strong evolutionary significance. Effective support would result when the distress is noticed and responded to helpfully. However, in some instances the response to distress may not be supportive or helpful. A women diagnosed with cancer who is highly distressed may trigger distress in her spouse that leads him to become

increasingly withdrawn or critical during discussions about the cancer. This response is most likely to occur if he attributes her distress to inappropriate behaviour on her part, such as poor coping (Cutrona & Suhr, 1992). His negative behaviours may contribute to a worsening of mood in the woman. She may also reciprocate her partner's negativity during interactions thereby contributing to her partner's worsening mood. Furthermore her deteriorating emotional state may impede her ability to correctly interpret the emotions of her partner, as negative mood has been shown to have this effect (Kirchler, 1989).

It is not necessary to invoke an interactional process between the partners' coping to simply explain correlated mood or coping. It is possible that partners might be independently reacting to the same stressful events, and their similar moods and coping reflect the impact of the stress. However, when confronted with the same stress spouses do influence each other. In studies of depression, common stressful life events can result in increased depression in both partners (Westman & Vinokur, 1998). However, this often leads to negative couple interaction, which in turn is associated with increased depression (Westman & Vinokur, 1998). Furthermore, there are robust findings that frequent interactions with a depressed partner can lead to negative support behaviours, such as criticism of the depressed person during interactions (Segrin, 1998; Whisman & Uebelacker, 1999). Thus, a cycle is established that can exacerbate depression and maladaptive coping in both partners (Coyne, Thompson, & Palmer, 2002).

Partners' responses to stress are interactive. Support discussions often involve mutual discussion of coping, and there is a reciprocal influence between individuals in how they cope with stresses (Coyne & Smith, 1991, 1994; Gignac & Gottlieb, 1997; Hobfoll, Camerson, Chapman, & Gallagher, 1996; Pierce et al., 1996;

Revenson, 1994; Zautra et al., 1997). Thus, in a couple the two partners interact in ways that influences each other's mood and methods of coping.

## **2.9 Individual Coping and Mutual Support Processes are Interconnected**

There is an interconnection between individual coping and mutual support processes within couples (Coyne & DeLongis, 1986; Dunkel-Schetter, Folkman, & Lazarus, 1987; Hobfoll, 1998; Hobfoll et al., 1996). For example, in couples coping with cancer, healthy spouses' appraisals of both their own coping and the coping of the diagnosed partner, influences the types of support they report offering to their partner (Kuijer, Ybema, Buunk, Thijs-Boer, & Sanderman, 2000). The type of support partners provide, in turn, affects the coping behaviors employed by patients (Manne, Alferi, Taylor, & Dougherty, 1999; Manne, Dougherty et al., 1999; Manne & Glassman, 2000). Moreover, patients' coping behaviors may signal their support preferences, and serve to mobilize or discourage support from partners (Aymanns et al., 1995; Dunkel-Schetter et al., 1987). The coping behaviours employed by the partners of women with breast cancer, such as the use of denial or optimism as cognitive strategies predicts both spouses' distress (Hannum, Giese-Davis, Harding, & Hatfield, 1991). In fact, individual coping and support processes appear so intertwined that some coping researchers have concluded that the ability to mobilize the desired type and amount of support from significant others is a coping skill (Kennedy-Moore, 2001; Stanton et al., 2000). Thus, couples who are satisfied with the support they give and receive may be skilled in communicating their support needs to each other (Duck, 2002) and mutually shape the nature of their support processes in a positive way that enhances both partners' adjustment to cancer.

Exactly how effective couple coping develops is not clear. However, it has been suggested that partners' empathic and supportive communication develops a sense of

unity and emotional connection, shared cognitive appraisal of the stressor and their coping, and agreement about ways to support each other in adjusting to the shared stress (Coyne & Smith, 1991; Cutrona et al., 1997; DeLongis & O'Brien, 1990; Gottlieb & Wagner, 1991; Lyons et al., 1998; Lyons & Sullivan, 1998; Lyons, Sullivan, Ritvo, & Coyne, 1995; Revenson, 1994; Sarason et al., 1997). There is some evidence to support this proposition. Couples' articulation of a positive shared view of joint coping ("we-ness") predicts long-term relationship satisfaction (Buehlman, Gottman, & Katz, 1992), and marital satisfaction in women when confronted with the challenge of becoming a parent (Shapiro, Gottman, & Carrere, 2000). Moreover, couples' reported use of supportive, empathic, and couple-focused communication, a key marker of couple coping, is associated with better adjustment in to a range of major health problems (Coyne & Smith, 1991; Manne & Zautra, 1989, 1990; Stephens & Clark, 1997), including cancer (Manne, Dougherty et al., 1999). Finally, better marital adjustment following breast cancer diagnosis and treatments is associated with couples' definition of the experience as "our problem" and attachment of a mutually constructed meaning to their experience (Skerrett, 1998).

All of the findings on couple coping are based upon individuals' perceptions of the nature of their interactions with their partners. As mentioned previously, partners' perceptions may be inaccurate as variables such as personality, mood, and relationship satisfaction influence subjects' recall and interpretation of support transactions (Coriell & Cohen, 1995; Helgeson, 1993; Lakey & Cassady, 1990; Sarason, Levine, Basham, & Sarason, 1983). Further, the association between perceived couple coping and adjustment does not demonstrate that couple coping causes better adjustment, as all the studies are cross-sectional (Harrison & Maguire, 1994; Helgeson & Cohen, 1996). It is possible that the relationship between couple coping and adjustment is an

artefact of association with a third variable, such as individual coping (Helgeson & Cohen, 1996).

The well-established relationship between adjustment and social support may operate in the opposite direction than that normally proposed. Better adjustment in the patient may lead to more supportive interactions with the partner (Lepore & Ituarte, 1999), while greater patient distress might increase partners' withdrawal, criticism and negativity (Bolger et al., 1996; Brady & Helgeson, 1999; Manne, Alfieri, Taylor, & Dougherty, 1999; Revenson, 1994). In order to demonstrate a causal impact of partner support on adjustment to cancer, it is necessary to intervene to increase support, and show that improved partner support enhances patient adjustment. Observational studies of couples' supportive behaviors as they attempt to manage a stressful situation in their lives would provide a more precise picture of the interaction patterns associated with individual adjustment and relationship well-being (Manne, 1998).

Finally, the quality of the relationship in which support transactions occur influences the availability and quality of the support behaviours (Duck, 2002). Specifically, when couples are dissatisfied with their relationship the partners have difficulty interpreting the affect and intentions of their partners (Guthrie & Noller, 1988; Noller & Ruzzene, 1991). In contrast, satisfied couples express more positive behaviours such as approval, caring, and empathy (Birchler, Clopton, & Adams, 1984; Noller, 1982). Overall, distressed couples are less accurate than non-distressed couples in their interpretations of each other's affect, intentions, and behaviours (Noller & Ruzzene, 1991).

Poor communication, inaccurate perceptions of the partner, a low sense of emotional connection or "we-ness", and lack of effective support predict

deterioration in relationship satisfaction (Buehlman et al., 1992; Carrere, Buehlman, Coan, Gottman, & Ruckstuhl, 2000; Pasch & Bradbury, 1998). However, this does not mean that it is a simple unidirectional relationship of ineffective support eroding relationship satisfaction. It also has been found that deteriorating relationship satisfaction predicts deteriorating couple communication (Noller & Ruzzene, 1991). Thus, there seems to be a reciprocal influence between relationship satisfaction and ineffective communication and mutual support.

In summary, descriptive studies provide a profile of women at risk for long-term adjustment problems when confronted with breast or gynaecological cancers. Women at high risk are those with a limited and avoidant coping style, especially in response to upsetting and intrusive cancer cognitions, and who have low satisfaction with partner support, particularly emotional support. In addition, couples' conjoint coping and support seem crucial to long-term adjustment, and interventions that promote couple coping seem the most likely to reduce the psychological morbidity associated with breast or gynaecological cancers. Given the centrality of the couple relationship to sexuality, a couple coping intervention might also be particularly effective in promoting better body image and sexual adjustment in women.

## Chapter 3

### Psychological Interventions

“All you have to decide is what to do with the time you are given”

Gandalf the Grey Wizard: *The Lord of the Rings: The Fellowship of the Ring*,

(Motion Picture 2001)

“Well she’s my best mate really, and when she hurts, I hurt.

I just want to know how to help her”

(Colin, CanCOPE participant, talking about his desire to support  
his wife through their cancer experience)

This chapter is a review of the effects of psychological interventions to enhance psychological adjustment of women diagnosed with early stage breast or gynaecological cancer. The review excludes studies that primarily aim to increase women’s knowledge of disease or treatments, or improve their adjustment to treatments, manage physical symptoms such as pain, or enhance their immune function and prolong survival. Although such interventions may indirectly improve broader aspects of women’s psychological adjustment, the focus of this review is on studies that specifically aim to enhance psychological adjustment. Studies focusing on assisting women diagnosed with advanced stage disease, or assisting women receiving palliative care also are excluded. Instead, this review focuses on those studies that endeavour to assist women who have a reasonable expectation of cure.

The review includes studies that randomly assign participants to conditions, and compare one or more psychological intervention conditions with a control condition. Quasi-experimental non-equivalent control group studies that assign participants to only one condition at a time are also included, provided the studies involved at least pre- and post-intervention assessments, and that all participants were drawn from the same recruitment setting. Such quasi-experimental studies have higher interpretability than post-test only designs because comparability between conditions prior to intervention can be examined. On the basis of these criteria, three often-cited studies (Bloom, Ross, & Burnell, 1978; Capone, Good, Westie, & Jacobson, 1980; McArdle et al., 1996) are excluded from the discussion. Although the study by Capone et al. (1980) is described in some reviews of psycho-oncology interventions as a non-equivalent control group study (Andersen, 1992; Trijsburg, van Knippenberg, & Rijpma, 1992), and in other reviews as a randomised control trial (Fawzy, Fawzy, Arndt, & Pasnau, 1995), the authors did not collect pre-intervention data from control group participants. The studies by Bloom, Ross and Burnell (1978), and McArdle et al (1996) are also excluded for similar reasons. Although recent meta-analytic and literature reviews (Andersen, 2002; Sheard & Maguire, 1999) describe these studies as employing control group designs, the investigators did not collect pre-intervention data (Newell, Sanson-Fisher, & Savolainen, 2002).

### **3.1 Search Strategy**

Multiple search strategies were used to maximize the probability of locating as many relevant articles as possible. First, the computersied databases, Medline, Psyclit, Science Direct, Proquest, Ovid and Healthplan, were searched using the search terms cancer, neoplasm, carcinoma, oncology AND psychological therapy, psychotherapy, counseling, group support, peer groups, relaxation, imagery, coping

skills training, cognitive therapy or psychosocial support. Second, the references from relevant papers located through database searchers were examined for additional potential papers. Third, references were identified through citations from meta-analytic and review papers, and relevant book chapters (Andersen, 1992, 2002; Andersen & Green, 2001; Baum & Andersen, 2001; Baum & Posluszny, 2001; Chambless & Ollendick, 2001; Compas, Haaga, Keefe, Leitenberg, & Williams, 1998; Devine & Westlake, 1995; Edelman, Craig, & Kidman, 2000; Fawzy & Fawzy, 1998a, 1998b; Fawzy, Fawzy, & Canada, 2001; Jacobsen & Hann, 1998; Meyer & Mark, 1995; Newell et al., 2002; Owen, Klapow, Hicken, & Tucker, 2001; Paulus, 2001; Schneiderman, Antoni, Saab, & Ironson, 2001; Sheard & Maguire, 1999; Spira, 1998; Spira & Spiegel, 1993; Tapper, 1999; Trijsburg et al., 1992).

### **3.2 Description of Intervention Studies**

Table 3.1 shows a summary of 28 randomised or quasi-experimental studies that evaluated the efficacy of psychological interventions for adjustment in cancer patients. Women with breast or gynaecological cancers have been the exclusive focus of 12 studies, and have been included in nine studies involving samples with heterogeneous cancer diagnoses. However, only two of the nine studies reported intervention effects for women with breast or gynaecological cancer separately from the results for participants diagnosed with other types of cancers (Edgar, Rosberger, & Nowlis, 1992; Gordon et al., 1980). In another two studies, the interventions were delivered solely to male partners. However, they are directly relevant to women with breast cancer because the women's psychological functioning was as an outcome measure.

Table 3.1

Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers.

Study	Participants & Design				Treatment		Outcomes				
	<i>N</i> Diagnosis  (% breast / gynae)	<i>N</i> Cond.	Timing	F/up End point	Sessions  Frequency, No., length (Duration)	Format  Components	Coping	Mood	Body image and/or Sexual adjust.	Inter- personal /social	Main effect of time
Randomised – breast or gynaecological cancers only											
Allen et al. (2002)	164 breast	1 C 1 INT	?mth PD (prior to 1 <sup>st</sup> chemo- therapy)	8mth	2 x 2hr + 4 x ?min ph calls (12wk)	Patient ± support person ED + PS		x	0	0	#
Antoni et al. (2001)	136 breast	1 MI 1 INT	≤ 2mth PS	9mth	10 x 2hrs (10wk)	Peer group CogR + CS + RT + ES	x	x			#
Cain et al. (1986)	59 gynae	1 SC 2 INT	1mth PD	6mth	8 x 2hr (8wk)	1. Patient-only Ed + ES  2. Peer group Ed + ES		+	+	+	#

Table 3.1 Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers (Continued)

Study	Participants & Design				Treatment		Outcomes				
	<i>N</i> Diagnosis  (% breast / gynae)	<i>N</i> Cond.	Timing	F/up End point	Sessions  Frequency, No., length (Duration)	Format  Components	Coping	Mood	Body image and/or Sexual adjust.	Inter- personal /social	Main effect of time
Christensen (1983)	20 breast	1 C 1 INT	2-3mth PS	1wk	4 x ? (4wk)	Patient + Spouse ED + ES + SexC	0	+	+	0	
Davis (1986)	25 breast	1 C 2 INT	6wk PD	8mth	10 x 45min (8wk)	Patient-only 1. B 2. CogR		0 +			#
Helgeson et al. (1999; '00; '01b)	312 breast	1 C 3 INT	4mth PS	3yr	8 x 45-1¼min (8wk)	Peer group 1. ED + CI + RT 2. ES	x 0	+	+	x 0	x 0
Marchioro et al. (1996)	36 breast	1 C 1 INT	3mth PD	9mth	? x 50min (NS)	Patient ± family member CogR + ES			+		#
Maunsell et al. (1996)	250 breast	1 SC 1 INT	21days PS	12mth	12 x ? NS	Patient-only ED + ES			0		0 #

Table 3.1 Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers (Continued)

Study	Participants & Design				Treatment		Outcomes				
	<i>N</i> Diagnosis  (% breast / gynae)	<i>N</i> Cond.	Timing	F/up End point	Sessions  Frequency, No., length (Duration)	Format  Components	Coping	Mood	Body image and/or Sexual adjust.	Inter- personal /social	Main effect of time
Richardson et al. (1997)	47 breast	1 C 2 INT	19mth PD	1wk	6 x 1hr (6wk)	Peer group 1. ES 2. RT	+	0		0	#
Stanton et al. (2002)	60 breast	1 C 2 INT	7mth PD	3mth	4 x 20min (3wk)	Patient-only Write thoughts & feelings 1. Deep 2. Positive	0	0			#
Randomised – partners of women with breast cancer only											
Bultz et al. (2000)	34 breast	1 SC 1 INT	≤ 12mth PD	3mth	6 x 2hr (6 wk)	Partner-only group ED + ES		0		0	#

Table 3.1 Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers (Continued)

Study	Participants & Design				Treatment		Outcomes				
	<i>N</i> Diagnosis  (% breast / gynae)	<i>N</i> Cond.	Timing	F/up End point	Sessions  Frequency, No., length (Duration)	Format  Components	Coping	Mood	Body image and/or Sexual adjust.	Inter- personal /social	Main effect of time
Quasi-experimental – breast and/or gynaecological cancers only											
Houts (1986)	32 gynae	1 SC 1 INT	≤ 2years PD	3mth	3 ph. calls x ?min (12wk)	Patient-only ED + ES		0			#
Maguire et al. (1980; '83; '85)	152 breast	1 SC 1 INT	? PD (in hospital)	18mth	NS	Patient-only ED + ES		+	+	+	#
Randomised – mixed diagnoses and stages; includes breast and/or gynaecological cancers											
Berglund et al. (1994)	199 mixed (80 breast, 7 gynae)	1 SC 1 INT	? PD (2mth PT)	3mth	11 x 2hrs (7wk)	Peer group ED + RT + ES		0	0	0	#

**Table 3.1 Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers (Continued)**

Study	Participants & Design				Treatment		Outcomes				
	N Diagnosis  (% breast / gynae)	N Cond.	Timing	F/up End point	Sessions  Frequency, No., length (Duration)	Format  Components	Coping	Mood	Body image and/or Sexual adjust.	Inter- personal /social	Main effect of time
Cunningham & Tocco (1989)	53 mixed (47 breast, 2 gynae)	1 MI 1 INT	? PD	3wk	6 x 2hr (6wk)	Peer group ED + CS + RT + ES		+			#
Edgar et al (1992)	205 mixed (48 breast)	0 C 2 INT	PD 1. 3mth 2. 7mth	12mth	5 x 1hr (NS)	Patient-only ED + Psy + CS + RT 1. Early 2. Late	0 x	0 +			#
Forester et al. (1985)	100 mixed (30 gynae)	1 SC 1 INT	? PD (on radio- therapy)	1mth	10 x 30min (10wk)	Patient-only ES		+			#
Greer & Moorey et al. (1992; '94)	137 mixed (60 breast, 14 gynae)	1 SC 1 INT	4–12wk PD	12mth	6 x 1hr (8wk)	Patient ± Spouse ED + CogR + CS + RT	x	+	0	0	#

**Table 3.1 Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers (Continued)**

Study	Participants & Design				Treatment		Outcomes				
	<i>N</i> Diagnosis  (% breast / gynae)	<i>N</i> Cond.	Timing	F/up End point	Sessions  Frequency, No., length (Duration)	Format  Components	Coping	Mood	Body image and/or Sexual adjust.	Inter- personal /social	Main effect of time
Telch & Telch (1986)	41 mixed (36 breast, 5 gynae)	1 C 2 INT	? PD	6wk	6 x 1½hr (6wk)	Peer group 1. ED + CS + RT + CogR 2. ED + ES	+	+		+	
Randomised – partners of patients with mixed diagnoses and stages; includes partners of women with breast cancer											
Toseland et al. (1995, '96)	78 mixed (43 breast)	1 SC 1 INT	? PD	6mth	6 x 1hr (NS)	Partner-only ED + CS + ES	0	0		0	#

Table 3.1 Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers (Continued)

Study	Participants & Design				Treatment		Outcomes				
	<i>N</i> Diagnosis  (% breast / gynae)	<i>N</i> Cond.	Timing	F/up End point	Sessions  Frequency, No., length (Duration)	Format  Components	Coping	Mood	Body image and/or Sexual adjust.	Inter- personal /social	Main effect of time
Quasi-experimental – mixed diagnoses and stages includes breast and/or gynaecological cancers											
Gordon et al. (1980)	308 mixed (71 breast)	1 C 1 INT	? PD (in hospital)	6mth	13 x 20min (6mth)	Patient-only ED + ES + RT		x	0	+	#
Heinrich & Coscarelli- Schag (1985)	51 mixed + 25 spouses (27 breast)	1 SC 1 INT	2 yr PD	2mtSh	6 x 2hr (6wk)	Peer group ± spouse ED + CS + CogR + RT	0	0		0	#
Worden & Weisman (1984)	117 mixed (? Breast. ? gynae)	1 SC 2 INT	≤ 6mth PD	6mth	4 x ? (6wk)	Patient-only 1. ED + ES 2. ED + CogR + CS + RT	+	+		+	+

Table 3.1 Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers (Continued)

Study	Participants & Design				Treatment		Outcomes				
	<i>N</i> Diagnosis  (% breast / gynae)	<i>N</i> Cond.	Timing	F/up End point	Sessions  Frequency, No., length (Duration)	Format  Components	Coping	Mood	Body image and/or Sexual adjust.	Inter- personal /social	Main effect of time
Quasi-experimental – mixed diagnoses and stages includes breast and/or gynaecological cancers											
Baider et al. (2001)	90 colon, stomach, melanoma NHL + ns	1 C 1 INT	4mth PD	6mth	6 x 1hr (6wk)	Peer group RT		0			
Evans & Connis (1995)	72 lung, bladder, prostate, head/neck (35 female)	1 C 2 INT	12wk PD (during radio- therapy)	6mth	8 x 1hr (8wk)	Peer group 1. ED + CogR + CS 2. ED + ES + Psy	0 0	x +		0 0	#
Fawzy et al. (1990)	66 Melanoma (53 female)	1 C 1 INT	1mth PS	6mth	6 x 1½hrs (6wk)	Peer group ED + CS + RT + ES	+	+			

Table 3.1 Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers (Continued)

Study	Participants & Design				Treatment		Outcomes				
	<i>N</i> Diagnosis  (% breast / gynae)	<i>N</i> Cond.	Timing	F/up End point	Sessions  Frequency, No., length (Duration)	Format  Components	Coping	Mood	Body image and/or Sexual adjust.	Inter- personal /social	Main effect of time
Jacobs et al. (1983)	81 Hodgkin's (34 female)	1 SC 2 INT	? PD (≤ 2yr PT)	3mth	1. NS  2. 8 x 1½hrs (8wk)	1. Patient Only ED + ES  2. Peer group ED + ES		+		0	#
Johnson (1982)	52 mixed (? female)	1 SC 1 INT	< 12mth PD	4wk	8 x 1½hr (4wk)	Peer group ED + ES		+			

*Note.* Gynae, gynaecological cancers; NHL, non-Hodgkin's lymphoma; INT, intervention; SC, standard-care control; C, no-treatment control; MI, minimal intervention control; PD, post-diagnosis; PS, post-surgery; PT, post-radiotherapy and/or chemotherapy treatment(s); NS, not specified; ED, disease/treatment education, with or without coping information.

Table 3.1 Summary of Control-Trial Evaluations of Interventions to Improve Psychosocial Adjustment in Women with Early Stage Cancers (Continued)

*Note* (continued). B, Biofeedback; PS, Problem solving skills training; CS, coping skills training, CogR, cognitive restructuring; RT, relaxation training in range of exercises; ES, emotional support such as psychotherapy and or ventilation; +, significant differences between intervention and control; X, significant difference between conditions at initial follow-up, but not maintained to final assessment; 0, no significant difference between intervention and control condition; blank spaces indicate outcomes not measured; #, indicates control group patients improved across follow-ups; ?, indicates not specified.

Finally, five studies have been conducted with women diagnosed with other types of early stage cancers (Baider, Peretz, Hadani, & Koch, 2001; Evans & Connis, 1995; Fawzy et al., 1990; Jacobs, Ross, Walker, & Stockdale, 1983; Johnson, 1982). The types of cancer diagnoses of the female participants in these five studies were colon, stomach, non-Hodgkin's lymphoma (Baider et al., 2001), melanoma (Baider et al., 2001; Fawzy et al., 1990), lung, bladder, head and neck (Evans & Connis, 1995), and Hodgkin's lymphoma (Jacobs et al., 1983). In the study by Johnson (1982), the researcher did not specify the cancer diagnoses of the participants. There are commonalities across cancer diagnoses in some aspects of women's psychological reactions to their cancer experience, particularly their levels of reported distress (Lansky et al., 1985; Silberfarb, Mauer, & Crouthmel, 1980), cancer related worry, and body image difficulties (D'Errico, Galassi, Schanberg, & Ware, 1999). Thus, some of the results from these five studies may generalise to women with early stage breast and gynaecological cancers.

### **3.2.1 Patient Sample**

Knowledge about the efficacy of psychological interventions for women with early stage cancers is almost exclusively derived from studies that involved women with breast cancer. Women diagnosed with early stage breast cancers have been the sole focus of 11 studies and constitute from 30% (Cunningham & Tocco, 1989; Heinrich & Coscarelli-Schag, 1985; Telch & Telch, 1986) to 60% of the samples in nine studies that involved heterogeneous cancer samples (Berglund, Boland, Gustafsson, & Sjoden, 1994; Gordon et al., 1980; Greer et al., 1992; Moorey et al., 1994). In contrast, women with early stage gynaecological cancers have been the sole focus of only two trials of psychological intervention, and in studies that involved heterogeneous cancer samples they usually accounted for less than 15% of

the samples (Berglund et al., 1994; Cunningham & Tocco, 1989; Greer et al., 1992; Telch & Telch, 1986).

The studies included in Table 3.1 focused either on newly diagnosed patients recruited during the first year following their diagnosis, or on patients described as cancer survivors. Although the stated intent in all these interventions was to assist patients with reasonable expectations of cure, only one third of studies were conducted solely with patients diagnosed with stage I or II diseases (see Table 3.2). In the remaining studies the proportion of patients with advanced disease ranged from less than 10% of the sample (Allen et al., 2002), to approximately one half of the sample (Edgar et al., 1992). However, some studies did not report patients' staging classifications, particularly the pioneering studies conducted during the 1980s. These studies tended to report broad descriptions of disease status, such as "non-metastatic", "local" or "curative", or patients' estimated survivorship duration, such as "survival expectancy greater than one year".

Five studies involved selected or targeted interventions, meaning therapy was provided only to patients identified as experiencing elevated levels of distress (Evans & Connis, 1995; Greer et al., 1992; Maunsell, Brisson, Deschenes, & Frasure-Smith, 1996; Telch & Telch, 1986; Worden & Weisman, 1984). Two of these studies utilised experimenter-derived instruments to identify patients with elevated levels of global distress (Telch & Telch, 1986; Worden & Weisman, 1984). The other three studies used standardised self-report measures of psychological adjustment and/or coping with designated cut-off scores to identify patients suffering from depression (Evans & Connis, 1995), stress symptoms (Maunsell et al., 1996), or psychological morbidity (Greer et al., 1992). Greer and colleagues (1992) operationalised psychological morbidity as elevated levels of depression, anxiety, or avoidant

coping, or any combination of these difficulties. Finally, when comparing studies that offered interventions to all consecutive patients that meet the study criteria, the samples in two studies appear anomalous in terms of participants' baseline distress levels (Christensen, 1983; Fawzy et al., 1990). In Fawzy et al's (1990) study, patients diagnosed with melanoma reported substantially elevated mood disturbance on the Profile of Mood States Scale (McNair, Lorr, & Doppelman, 1971), comparable to patients with AIDS (Fawzy et al., 1990), and to cancer patients selected for participation in interventions on the basis of their identified high distress (Telch & Telch, 1986). Similarly, women with breast cancer in a study conducted by Christensen (1983) show elevated levels of depression on the Beck Depression Inventory (Beck, Ward, Mendelsohn, & Mock, 1961), compared to women with breast cancer in other studies (Davis, 1986; Marchioro et al., 1996).

Fawzy et al (1990) and Christensen (1983) do not propose explanations for the high reported psychological morbidity in their samples. However, one reason for the higher distress of the participants is that they were young ( $M = 42$  years) relative to patients in other studies, whose mean age is often a decade or more older (e.g., Antoni et al., 2001; Cain, Kohorn, Quinlan, Latimer, & Schwartz, 1986; Marchioro et al., 1996; Maunsell et al., 1996). As mentioned in Chapter 2, younger age at the time of diagnosis consistently has been found to be associated with greater reported psychological distress (Carver, Meyer, & Antoni, 2000; Ganz, 2000; Green et al., 2000). It is unclear why there were a large number of young patients in the Fawzy et al (1990) study because melanoma occurs more frequently in older patients (Urist, Heslin, & Miller, 2001).

In the Christensen (1983) study, the method of recruitment may have been biased towards women with elevated distress. Women were referred to the

intervention by their oncologist, surgeon, nurse, or hospital chaplain, rather than participation being offered to all consecutive patients who met the study criteria (e.g., Cain et al., 1986; Helgeson, Cohen, Schulz, & Yasko, 1999; Maunsell et al., 1996). It may be that women who displayed greater overt signs of distress were more likely to be referred to the study by the hospital personal involved in their care.

### **3.2.2 Types of Interventions Investigated**

Interventions have been delivered to women in both individual (Cain et al., 1986; Maunsell et al., 1996) and group formats (e.g. Antoni et al., 2001; Gruess et al., 2000; Helgeson et al., 1999). Three quarters of the studies (75%) that employed group formats involved groups that were heterogeneous in composition, involving mixed gender, cancer diagnoses and disease stages. Few studies compared the efficacy of patient-only and group formats for the delivery of interventions. In one study (Cain et al., 1986), group and patient-only formats of an educational and emotional support intervention were equivalent in their effects, and both formats were superior to a control condition for enhancing women's psychological adjustment. However, in another study (Jacobs et al., 1983) the intervention delivered in the patient-only format was superior to the control condition in its effects upon adjustment, but the group format was not different from the control group. Unfortunately, the researchers did not compare the intervention formats directly to one another, and thus the magnitude of the differences between the two formats for intervention delivery was not assessed.

Interventions conducted with patients with advanced stage disease have a modal length of 12 months (Andersen, 1992, 2002). In contrast, interventions for women with early stage disease have usually been brief in duration. Over half of the interventions in Table 3.1 were six to eight weeks in duration, and two interventions

were four weeks in length. Five interventions involved markedly longer therapy length, ranging from ten weeks to six months in duration, while the duration of therapy in six studies was not specified. Over half the interventions have involved therapy sessions ranging from one to two hours in length. Four studies have involved therapy sessions of 30 minutes or under, and seven studies have not specified therapy session duration. Information about the precise content and processes involved in therapy delivery are often limited and vague (Compas et al., 1998; Newell et al., 2002).

The majority of interventions have been multi-faceted and combined education and emotional support with other components, such as cognitive restructuring, information about coping, coping skills training, problem solving skills, or relaxation training. Several studies involved all, or most of these components, in their intervention. The one exception to this is the study by Stanton (2002) that involved patients engaging in writing tasks to express thoughts and feelings. A core treatment component in most interventions was the provision of information and education to patients about their diagnosis and treatments. Most interventions, with the exception of eight studies (Allen et al., 2002; Baider et al., 2001; Davis, 1986; Edgar et al., 1992; Greer et al., 1992; Heinrich & Coscarelli-Schag, 1985; Moorey et al., 1994; Stanton et al., 2002) stated that they also offered some form of emotional support from therapists, peer-group members, or both. This emotional support usually involved encouraging women to express their feelings, and discussion and normalisation of their reactions.

The process of delivery of intervention content varied markedly across studies. Processes included unstructured, insight-orientated discussions, didactic lectures or seminars, and cognitive behavioural skills training that involved modeling, in-

session rehearsal and role-play of skills, homework practice, and monitoring and shaping of skills acquisition.

Most studies do not provide details about the control conditions, and in many studies it is not clear if the control condition involved assessment only with participants offered no intervention, or whether participants were placed on a wait-list control group. Further, only six studies (Evans & Connis, 1995; Fawzy et al., 1990; Greer et al., 1992; Maunsell et al., 1996; Moorey et al., 1994; Stanton et al., 2002; Toseland, Blanchard, & McCallion, 1995) reported on patients' receipt of counselling or professional support external to the trial. Thirteen studies compared the efficacy of interventions to 'standard care' conditions that involved patients receiving the information and support routinely offered by the nursing, medical or allied health staff working in the participating clinic. The nature and extent of patients' contact with oncology clinic staff is rarely reported (Evans & Connis, 1995; Maunsell et al., 1996; Toseland et al., 1995).

### **3.2.3 Range of Outcome Measures**

As can be seen in Table 3.1, all 28 studies assessed mood, usually global psychological distress, or anxiety and depression. Six studies also assessed the effect of interventions on broader aspects of emotional adjustment, such as trauma-related symptoms (Allen et al., 2002; Antoni et al., 2001; Baider et al., 2001; Edgar et al., 1992; Helgeson et al., 1999), positive and negative affect (Helgeson et al., 1999), optimism or positive benefit finding (Antoni et al., 2001; Johnson, 1982), or self-esteem (Christensen, 1983; Edgar et al., 1992; Helgeson et al., 1999).

Over half the studies also assessed some aspects of women's physical adjustment in addition to mood, such as health concerns or disease and treatment knowledge (Berglund et al., 1994; Forester, Kornfeld, & Fleiss, 1985; Heinrich & Coscarelli-

Schag, 1985; Helgeson et al., 1999; Jacobs et al., 1983; Johnson, 1982; Maunsell et al., 1996; Richardson et al., 1997; Toseland et al., 1995), recovery of stamina and strength (Allen et al., 2002; Cunningham & Tocco, 1989; Gordon et al., 1980; Greer et al., 1992), or physical rehabilitation (Allen et al., 2002; Marchioro et al., 1996; Richardson et al., 1997; Stanton et al., 2002). Almost one quarter of the studies also measured domains of quality of life that are strongly related to women's physical recovery following treatments, such as return to work, domestic, or social activities (Berglund et al., 1994; Cain et al., 1986; Gordon et al., 1980; Greer et al., 1992; Heinrich & Coscarelli-Schag, 1985; Jacobs et al., 1983; Maguire, Tait, Brooke, Thomas, & Sellwood, 1980; Maunsell et al., 1996; Telch & Telch, 1986).

Although an explicit aim of many interventions was to improve the emotional support available to women to help them cope with their cancer experience, few studies assessed social support. Studies that did assess aspects of interpersonal functioning or social support usually did not distinguish between sources of support provision, with the exception of two studies that measured women's satisfaction with communication with health professionals involved in their care (Berglund et al., 1994; Telch & Telch, 1986). No studies have assessed the effect of intervention on partners' support of women. Helgeson et al. (1999) explored partner support as a moderator of the effect of intervention on mood and physical outcomes. Specifically, this study examined whether baseline differences in women's perceptions of the potential availability of support from partners, and the extent their partners were negative towards them during cancer discussion, moderated the effect of an educational group and a peer-support group on women's adjustment.

Rather than cancer specific partner support, five studies assessed women relationships with their partners more broadly. These studies assessed women's

relationship satisfaction (Christensen, 1983; Maguire et al., 1980; Maunsell et al., 1996), marital problems (Allen et al., 2002; Greer et al., 1992), or relationship satisfaction of the male partners of women with cancer (Blanchard, Toseland, & McCallion, 1996; Bultz, Speca, Brasher, Geggie, & Page, 2000; Toseland et al., 1995). A few studies assessed women's overall support satisfaction (Evans & Connis, 1995; Jacobs et al., 1983; Maunsell et al., 1996), and one study assessed the extent women felt alienated from others generally (Christensen, 1983). Helgeson et al.'s (1999; 2000; 2001b) study is the only controlled trial that has examined specific support behaviors. This study explored the effect of education and support group interventions on women's cancer-related discussion, the amount of perceived negativity towards them, and the extent they engaged in positive and negative downward social comparisons during these social interactions. However, the investigators did not differentiate between the sources of support communication from within women's social networks.

In addition to providing emotional support, the majority of interventions attempted to enhance aspects of women's coping, such as coping-knowledge or self-efficacy, affect regulation, cognitive coping skills, or coping and problem solving repertoires. However, 50% of studies did not assess indices of coping as outcome variables. Five studies assessed participants' sense of control over the cancer-related stressors they encountered (Christensen, 1983; Edgar et al., 1992; Evans & Connis, 1995; Gordon et al., 1980; Helgeson et al., 1999), and three studies assessed the number (Allen et al., 2002), intensity, and/or severity of cancer related problems (Telch & Telch, 1986; Worden & Weisman, 1984). Six studies assessed the extent of utilisation of coping strategies, focusing predominately on either cognitive and/or behavioural avoidance (Blanchard et al., 1996; Fawzy et al., 1990; Stanton et al., 2002; Toseland et al., 1995), or coping by seeking support from others (Richardson et al.,

1997; Toseland et al., 1995). Although three studies utilised the Mental Adjustment to Cancer Scale (Watson, Law, dos-Stantos, & Greer, 1994) that was developed as a measure of coping strategies (Watson et al., 1994), two of these studies (Berglund et al., 1994; Bultz et al., 2000) applied the measure as an index of psychological response to cancer, not coping. Finally, Houts (1986) reported assessing coping strategies, but did not specify the types of coping skills that were measured.

The impact of interventions on qualitative aspects of coping has been assessed in four studies. Two of these studies assessed the effect of intervention on coping self-efficacy (Telch & Telch, 1986), or problem resolution (Worden & Weisman, 1984). One study assessed sense of mastery of the care-giving role (Toseland et al., 1995). In a fourth study, women with breast cancer were asked how much they believed they had emotionally processed stressful cancer related events (Antoni et al., 2001). Individual differences in problem solving ability were examined in one study as a potential moderator of the effect of intervention on psychological adjustment (Allen et al., 2002). However, no studies have explored the impact of interventions on reducing the amount of coping-effort participants report using in an attempt to manage cancer related stressors.

Finally, despite substantial evidence from descriptive prospective studies that diagnosis and treatments can have marked long-term negative effects on women's sexuality and sense of femininity, only a few interventions targeted sexual health outcomes. Five studies assessed global sexual difficulties (Allen et al., 2002; Berglund et al., 1994; Cain et al., 1986; Gordon et al., 1980; Greer et al., 1992) and one study measured overall sexual satisfaction (Christensen, 1983). These studies used generic measures of sexual adjustment that summed difficulties occurring across a range of diverse problems, such as arguments with partners about sexual issues, reduction in

frequency of sexual activities, general relationship difficulties, and body image dissatisfaction or concerns. No studies have assessed sexual dysfunction, and only two studies have assessed body image outcomes separately from indices of sexual functioning (Helgeson et al., 1999; Maguire et al., 1980). Two studies did explore the effect of intervention on self-esteem or ego-strength (Christensen, 1983; Edgar et al., 1992). These variables are related to self-concept, a construct that is conceptually linked with processes involved in making appraisals or judgments about body image (Rosen & Ross, 1968; Salokari et al., 1986).

### **3.3 Efficacy of Interventions**

The findings from eleven studies (39%) need to be interpreted with caution when making conclusions about the efficacy of interventions for women with breast and gynaecological cancers (Compas et al., 1998; Newell et al., 2002; Trijsburg et al., 1992). These studies showed serious methodological limitations such as significant baseline differences between conditions on dependent measures that were not controlled statistically in the analyses (Cunningham & Tocco, 1989; Jacobs et al., 1983; Maguire et al., 1980; Worden & Weisman, 1984), or marked differences between conditions in the timing of follow-up assessment data collection (i.e., greater than one month duration; Allen et al., 2002)). Furthermore, the results from seven of these studies (25%) could be explained by differential attrition between conditions (Baider et al., 2001; Bultz et al., 2000; Cunningham & Tocco, 1989; Fawzy et al., 1990; Gordon et al., 1980; Greer et al., 1992; Jacobs et al., 1983; Moorey et al., 1994).

It is also difficult to draw conclusions about the magnitude of beneficial effects of interventions because more than half of the studies that reported benefits, did not report means, and/or standard deviations for the dependent measures (Antoni et al., 2001; Cain et al., 1986; Davis, 1986; Forester et al., 1985; Gordon et al., 1980; Jacobs

et al., 1983; Johnson, 1982; Maguire et al., 1980; Worden & Weisman, 1984). A related issue is that it is difficult to determine the clinical significance of statistically significant findings, as 61% of the reviewed studies involved experimenter-derived assessment instruments with unknown reliability and validity. This is particularly apparent in the assessment of coping (e.g., Telch & Telch, 1986; Worden & Weisman, 1984), and sexual and/or body image difficulties (e.g., Christensen, 1983; Maguire et al., 1980).

Psychological interventions to promote better adjustment in women with early stage cancers have produced mixed results for most indices of functioning. The most consistent benefits of intervention are for reduction in mood disturbances, although 43% of studies found no significant effects of intervention. Relative to standard care and no-intervention control groups, both emotional support and coping skills based interventions have been found to significantly reduce women's levels of global distress, anxiety and/or depression (e.g., Cain et al., 1986; Christensen, 1983; Edgar et al., 1992; Telch & Telch, 1986). However, the clinical significance of improvements in mood in some of these studies is questionable, as intervention participants' scores on outcome measures often improved only one or two points (e.g., Antoni et al., 2001; Jacobs et al., 1983; Worden & Weisman, 1984).

Effect sizes for mood can be calculated in only eight studies. In three studies the effects sizes for global mood (Cunningham & Tocco, 1989; Greer et al., 1992), anxiety (Greer et al., 1992) and depression (Evans & Connis, 1995) are small, ranging from  $d = .35$  to  $d = .41$ . This pattern of results is consistent with meta-analyses that report interventions involving cancer patients across a range of diagnoses and disease staging generally produce statistically small effects on mood (Meyer & Mark, 1995; Sheard & Maguire, 1999). In the current review, the remaining studies for which effects sizes

can be calculated, report moderate to large effects for mood (Evans & Connis, 1995; Fawzy et al., 1990; Marchioro et al., 1996), ranging from  $d = .53$  (Christensen, 1983) to  $d = 1.62$  (Telch & Telch, 1986). The large effects found in these studies are likely the result of the high initial distress of the participants. As mentioned previously, in three of these studies the researchers recruited patients on the basis of their elevated distress (Evans & Connis, 1995; Marchioro et al., 1996; Telch & Telch, 1986). In the other two studies (Christensen, 1983; Fawzy et al., 1990) some aspect of the recruitment procedures may have biased the samples towards a higher proportion of patients with mood disturbance.

There is only limited evidence for benefits of intervention on reduction of women's trauma symptoms. This is because only a few studies have assessed this outcome measure and their results have been contradictory. One study found that an educational intervention that included coping and/or relaxation training reduced traumatic intrusive thoughts (Edgar et al., 1992), however the effect size was relatively small ( $d = .36$ ). In three other trials, these types of interventions showed no effect on trauma symptoms (Allen et al., 2002; Antoni et al., 2001; Baider et al., 2001). Although Helgeson et al. (1999) found that an educational intervention reduced participants' upsetting intrusive thoughts across follow-up assessments they did not assess participants' pre-intervention levels of intrusive thoughts. Thus, significant baseline differences between conditions in participants' levels of intrusive symptoms could account for the results.

The reason for the non-significant and weak effects of interventions on intrusive symptoms is unclear. Cognitive restructuring, a treatment with demonstrated efficacy for reducing trauma symptoms (Foa & Meadows, 1997), was not a component of intervention in four studies. However, it is unlikely that this omission is an

explanation, as two of these interventions produced benefits (Edgar et al., 1992; Helgeson et al., 1999). Instead, the results are more likely due to the low levels of traumatic stress reported in these samples (Antoni et al., 2001).

There is also limited evidence for long-term benefits of intervention on enhancing positive psychological adjustment, as opposed to preventing disorder. There have been only three studies that focused on these outcomes, and their findings are inconsistent. Although two trials showed education and peer-support interventions produced short-term increases in patients' sense of meaning (Johnson, 1982), or optimism (Antoni et al., 2001); one study involved pre-post assessment only, and in the second study the treatment effects were small ( $d = .31$ ) and had reduced by follow-up. The third study (Helgeson et al., 1999) demonstrated that educational interventions for women with breast cancer increased women's positive affect significantly more than interventions that did not contain educational components, and benefits were maintained to 6-month follow-up. However, again the effect sizes were small ( $d = .20$ ).

Half of the eighteen studies that assessed women's physical recovery have shown a benefit of interventions for enhancing women's physical rehabilitation and their medical knowledge. Effective interventions predominately involved coping skills training or relaxation training components, and were associated with significant improvements in women's stamina, or physical functioning (Cunningham & Tocco, 1989; Marchioro et al., 1996; Telch & Telch, 1986). Furthermore, treatment effects were maintained from between six to nine months in four of these studies (Cain et al., 1986; Davis, 1986; Fawzy et al., 1990; Jacobs et al., 1983), and one study found positive benefit of intervention on women's levels of vitality that were maintained to 3 year follow-up (Helgeson et al., 2001b). Educational interventions have also been effective in improving women's knowledge about their disease and treatments, with all

five studies that have assessed these variables finding significant treatment effects (Berglund et al., 1994; Heinrich & Coscarelli-Schag, 1985; Helgeson et al., 1999; Jacobs et al., 1983; Johnson, 1982).

Interventions are less effective in improving women's recovery of role functioning, such as return to work, domestic duties or social activities. Interventions have predominately involved coping skills and relaxation training and 58% of studies report no effect of intervention on recovery of role functioning (e.g., Berglund et al., 1994; Blanchard et al., 1996; Greer et al., 1992; Heinrich & Coscarelli-Schag, 1985; Jacobs et al., 1983; Maunsell et al., 1996; Moorey et al., 1994; Richardson et al., 1997; Toseland et al., 1995). A probable explanation for these weak effects is the timing of intervention delivery. Usually interventions were delivered months, or even years, after the women's diagnoses and medical treatments were complete (e.g., Heinrich & Coscarelli-Schag, 1985; Richardson et al., 1997). At this point in their recovery many women may have resumed social and work activities. Thus, there may have been a ceiling effect that made it difficult to detect any added effect of intervention. In support of this argument, studies that reported significant benefits of intervention on role functioning all involved delivery of the intervention while the women were still receiving cancer treatments, usually in the immediate post-operative recovery period (Cain et al., 1986; Gordon et al., 1980; Helgeson et al., 1999), or longer (Maguire et al., 1980). In these studies, the positive effects of intervention on role function were also maintained to 6-month follow-up.

Interventions to improve indices of coping have produced mixed results. Some studies report significant effects of intervention on improving active coping strategies (Houts et al., 1986) such as increasing support seeking (Greer, Morris, Pettingale, & Haybittle, 1990; Richardson et al., 1997), reducing cognitive or behavioural avoidance

(Fawzy et al., 1990), improving coping self-efficacy (Telch & Telch, 1986), reducing problem intensity and severity (Telch & Telch, 1986; Worden & Weisman, 1984), or increasing problem resolution (Worden & Weisman, 1984). However, 69% of the studies that assessed indices of coping report no, or few, sustained effects of intervention on active coping strategies (Greer et al., 1992; Stanton et al., 2002; Toseland et al., 1995), women's sense of control (Christensen, 1983; Edgar et al., 1992; Evans & Connis, 1995; Gordon et al., 1980; Helgeson et al., 1999), or emotional processing of cancer stressors (Antoni et al., 2001). The strongest treatment effects on coping were with interventions that involved active coping training with opportunities to practice coping skills (Fawzy et al., 1990; Telch & Telch, 1986; Worden & Weisman, 1984), particularly cognitive restructuring skills (for a detailed review of these studies, see Graves, 2003).

As can be seen in Table 3.1, findings from across 16 studies suggest that interventions are not effective in improving interpersonal relationships, such as women's satisfaction with cancer-related support from professionals or people close to them, or with their general relationship with their partners. Although most interventions involved some form of professional or peer-support enhancement components, no studies have reported significant improvements in women's satisfaction with support from others. One study has found a benefit of intervention on women's marital satisfaction (Maguire et al., 1980), and another for improving women's satisfaction with their communication with their doctor (Telch & Telch, 1986). Helgeson and colleagues (1999; 2000; 2001a; 2001b) found that an educational intervention increased the cancer-related discussions women engaged in with people in their social networks. However, these effects were not maintained to 6-month follow-up, and there was no effect of intervention on women's perceptions of people's

responsiveness during these conversations. Interventions may need to involve members of the women's social network, and address communication about the cancer, in order to produce stronger effects on interpersonal functioning and satisfaction with support for their cancer experience from people close to them.

The effects of intervention on sexual outcomes have been evaluated in only six studies, and effects have been weak and inconsistent. In some studies, educational supportive interventions improved global sexual satisfaction for women with gynaecological cancers (Cain et al., 1986), and couples where the women were recovering from breast cancer surgery (Christensen, 1983). The effect size could be calculated in only one of these studies (Christensen, 1983), and was moderate ( $d = .53$ ). Other studies found no sustained effects of intervention on sexual outcomes (Allen et al., 2002; Berglund et al., 1994; Gordon et al., 1980; Greer et al., 1990). These weak results are likely to be due to a combination of methodological reasons. First, three of the studies involved samples with mixed cancer diagnoses. The severity of sexual difficulties and rates of recovery in sexual functioning varies markedly across cancer sites (Edgar et al., 1992; Gordon et al., 1980), and this heterogeneity in the samples may have reduced sensitivity for detecting intervention effects. None of these studies explored whether there were differential intervention effects on sexual outcomes across diagnostic subgroups.

Second, two studies involved experimenter derived measures of sexual functioning, with unknown validity and reliability, and these scales may not have been sensitive to intervention effects (Berglund et al., 1994; Gordon et al., 1980). Finally, studies do not report whether sexual counselling treatment components were included in the intervention, and it may be that the interventions did not adequately address sexual difficulties. For example, one study involved predominately telephone based

support and this format may not have encouraged women to disclose sexual concerns (Allen et al., 2002).

Adjustment to body image was specifically targeted in only two studies. Helgeson et al. (1999) reported a significant effect of intervention on body image satisfaction for women with breast cancer. However, the effect was small ( $d = .21$ ) and was not sustained to follow-up. The clinical significance of this short-term improvement is also unclear, as the researchers employed an experimenter-derived measure of body image. The second study, conducted by Maguire et al. (1983; 1985; 1980), also involved women diagnosed with breast cancer, and found a significant intervention effect on body image that was maintained to 18-month follow-up. However, the size of the intervention effect is unknown. Moreover, nurses rated women's adjusted to breast loss and post-operative scars, and the results need to be interpreted with caution. There may have been significant baseline differences between conditions on dependent measures, and nurse assessors may not have been blind to participants' condition assignments.

Finally, it is difficult to make conclusions about the long term benefits of interventions, because, as evident in Table 3.1, one-third of studies involved relatively brief follow-up periods of three months or less (e.g., Christensen, 1983; Cunningham & Tocco, 1989; Houts et al., 1986; Richardson et al., 1997). Given that the majority of patients continue to improve in mood for at least 12 months, three months follow-up is inadequate to evaluate if there are sustained benefits of intervention. It should also be noted that interventions sometimes have a detrimental effect on the adjustment of some women. Several studies reveal that some sub-groups of women in the experimental condition showed worse adjustment than women in the control condition (Allen et al., 2002; Helgeson et al., 2000, 2001a; Stanton et al., 2002). One study

found that overall women in the intervention condition showed worse adjustment in their interpersonal functioning than women in the control group (Houts et al., 1986).

### **3.3.1 Methodological Issues**

Several methodological concerns qualify the conclusions that can be drawn on the efficacy of psycho-oncology interventions, and need to be addressed in future studies (Compas et al., 1998; Trijsburg et al., 1992). First, some intervention effects may be attributable to inflation of type I error rates, as many studies involved a large number of analyses conducted on correlated variables (Cain et al., 1986; Christensen, 1983; Fawzy et al., 1990; Gordon et al., 1980; Greer et al., 1992; Jacobs et al., 1983; Moorey et al., 1994; Worden & Weisman, 1984). Second, several studies found significant differences between conditions at baseline on dependent measures (Berglund et al., 1994; Bultz et al., 2000; Fawzy et al., 1990; Telch & Telch, 1986) that the researchers attempted to control statistically using covariance analyses. However, the results may be explained by regression to the mean (Compas et al., 1998; Trijsburg et al., 1992).

Third, most studies did not report therapists' levels of training and experience, and in some studies, therapists were confounded with condition (Cunningham & Tocco, 1989; Evans & Connis, 1995; Johnson, 1982; Richardson et al., 1997) and these factors may have affected the results (Andersen, 1992; Compas et al., 1998). In addition, some researchers report differential rates between conditions of participants receiving counselling from sources external to the study (Evans & Connis, 1995; Toseland et al., 1995; Trijsburg et al., 1992), and many other studies did not report monitoring this potential confound.

Fourth, a pervasive problem is that, although there appear to be commonalities across interventions in treatment components, information about the precise content and processes involved in therapy delivery was often limited and vague. Only four

research teams have published treatment manuals (Fawzy & Fawzy, 1994) or detailed descriptions of the therapy used in their trials (Antoni, 2002; Greer & Moorey, 1997; Moorey, 1991; Nezu, Nezu, Houts, Faddis, & Friedman, 1998). Thus, the extent of replicated results for similar intervention types cannot be ascertained. Fifth, effect sizes cannot be calculated for many studies (e.g., Gordon et al., 1980; Johnson, 1982), and the clinical significance of treatment gains in many studies cannot be determined due to the predominance of experimenter-derived instruments employed (e.g., Christensen, 1983; Maunsell et al., 1996).

Sixth, the generalisability of results is constrained by the high rates of refusal (Richardson et al., 1997) and/or dropout (Edgar et al., 1992) associated with many studies. As shown in Table 3.2, rates of refusal typically range from 20% to 70% of patients approached. In studies involving partners of women with cancer, refusal rates are high (Bultz et al., 2000; Toseland et al., 1995). Dropout rates across studies range from 15% to 30%, and as mentioned earlier, differential attrition across conditions is a problem in some studies (e.g., Fawzy et al., 1990). Furthermore, several intervention trials fail to report rates of refusal (Antoni et al., 2001; Cunningham & Tocco, 1989; Davis, 1986; Gruess et al., 2000), dropout (Helgeson et al., 1999; Marchioro et al., 1996), or both (Christensen, 1983; Evans & Connis, 1995; Forester et al., 1985; Johnson, 1982; Telch & Telch, 1986).

Finally, an important caveat to the generalisability of the results to women with breast or gynaecological cancers is the high proportion of studies that involved mixed gender samples. Recent reviews present substantial evidence to suggest there are significant sex differences in appraisals of stress severity (Taylor et al., 2000; Taylor et al., 2002), and in some types of coping behaviours (Tamres, Janicki, & Helgeson, 2002). For example, women tend to appraise stressors as more severe than

do men, especially personal health concerns (Tamres et al., 2002). Descriptive studies of patients coping with cancer concur with this finding, and show women frequently report significantly higher levels of distress than men, regardless of whether they are the patient or the carer (Manne, Alfieri, Taylor, & Dougherty, 1999). Further, there are small but consistent sex differences in coping behaviours. Compared to men, women report using more coping effort, emotional support, and emotional expression. Again, these differences were most apparent in the domain of personal health. Given that many interventions with mixed gender samples involved either emotional sharing support components, or coping components, or a combination of both, there may have been gender differences in participants' response to intervention that explain the weak results. In addition, it is difficult to determine the extent that findings can be generalised to women with cancer.

### **3.4 General Conclusions and Future Directions**

Psychological interventions for women with early stage breast or gynaecological cancers that involve education and coping enhancement have often produced no or few significant benefits on women's mood (Compas et al., 1998; Devine & Westlake, 1995; Meyer & Mark, 1995; Trijsburg et al., 1992). One reason for this may be that in almost all studies control patients' mood improves significantly across follow-ups. This finding is consistent with results from longitudinal research that show that many patients improve in mood over time. The relatively good psychological prognosis for many participants in the control condition would reduce power to detect an intervention effect.

In some studies educational and coping-based interventions reduced mood disturbance relative to control patients (e.g., Helgeson Cain et al., 1986; 1999; 2000; 2001a; Helgeson et al., 2001b), and enhanced coping (e.g., Fawzy et al., 1990; Telch

& Telch, 1986). However, the reported significant effects on mood and coping have uniformly small effect sizes (Devine & Westlake, 1995), typically in the order of  $d = .35$  or less (e.g., Antoni et al., 2001; Edgar et al., 1992; Helgeson et al., 1999).

Reviews of psycho-oncology interventions for patients across a range of disease stages and diagnoses (Compas et al., 1998; Meyer & Mark, 1995; Newell et al., 2002; Sheard & Maguire, 1999) also report small to modest effect sizes for affective distress and coping. The magnitude of these effects is similar to the range of effects sizes reported in reviews of psychotherapy (Meyer & Mark, 1995), and behavioral medicine interventions (Devine, 1996; Devine & Percy, 1996; Devine & Reifschneider, 1995). For women with early stage breast or gynaecological cancers, large effects for mood are found in interventions that were delivered to participants with high psychological distress (e.g., Telch & Telch, 1986). However, two of these studies included patients' family members and/or partners in the interventions to various extents (Christensen, 1983; Marchioro et al., 1996), and two studies involved peer-support interventions that focused on enhancing emotional support provision between group members (Evans & Connis, 1995; Fawzy et al., 1990). Thus, enrichment of the quality of support available to patients may have been the effective ingredient in these interventions, rather than the high distress sample per se. The effects of intervention on sexual functioning and body image have been evaluated in only few studies, but again effects have been small and inconsistent (e.g., Helgeson et al., 1999, 2000; Helgeson et al., 2001b; Maguire et al., 1980).

The timing of intervention delivery might also contribute to a reduced power to detect an effect of interventions on adjustment. As can be seen in Table 3.1, most interventions were offered several months after diagnosis, when women's levels of distress associated with the initial crisis of diagnosis typically have reduced markedly.

Interventions delivered at the time of diagnosis might reduce initial distress, or accelerate the reduction of distress over time.

A further consideration is the variability in disease severity of participants in many studies. Although all the interventions in the current review aimed to assist patients with early stage disease, most samples involved heterogeneity in disease staging (refer to Table 3.2). The proportion of patients with advanced, recurrent, or terminal illness is high in several studies (e.g., Greer et al., 1992; Maunsell et al., 1996). Some studies do not report the disease staging of participants, but state vague selection criteria, such as “survival expectancy at least one year” (Cain et al., 1986) that suggest patients with advanced diseases were recruited. Moreover, in several studies around 8% of participants died before follow-ups are complete. In one study over a third of the sample died across the course of the study (Gordon et al., 1980). The heterogeneity of disease staging may have contributed to a reduced power of studies to detect intervention effects. PTSD is more prevalent amongst patients with advanced or recurrent disease (Andrykowski & Cordova, 1998). Furthermore, patients confronting their mortality may have additional practical and emotional needs, such as preparing their funeral or pain management, that are unlikely to be addressed by interventions designed for patients who have a reasonable expectation of cure (Spiegel, Bloom, & Yalom, 1980; Spiegel & Diamond, 2001; Spiegel, Stein, Earhart, & Diamond, 2000).

The variable and weak effects of interventions might also 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 studies provided interventions that involved the male partners of women with early

stage breast or gynaecological 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 male partners were seen (Bultz et al., 2000; Toseland et al., 1995), and in another study only some of the women's 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, 1985, 1987, 1986; Andersen, Anderson, & deProse, 1989; Schover, 1991, 1994; Schover, Fife, & Gershenson, 1989). No significant benefits of any of these interventions were found. In the fourth study (Christensen, 1983), conjoint couple communication training improved women's mood and couples' sexual satisfaction after a mastectomy. However, body image was not assessed, and there was no follow-up assessment, which precluded evaluation 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.

In summary, interventions might be made more effective by including treatment components that educate both partners about the woman's diagnosis and treatments, promote couple coping to enhance mutual coping and support processes, and address sexual and body-image difficulties. Interventions should also be delivered near to the time of diagnosis, when partners' emotional distress is highest.

### **3.5 Program of Research**

The research described in Chapter 4 of this dissertation consists of a randomised controlled trial of a psychological intervention for women with early stage breast or gynaecological cancer, and their partners. The current research was intended to address the key issues identified in the preceding reviews of descriptive studies of the

adjustment of women with cancer, and the intervention studies. First, the intervention focused upon the development of effective couple coping with cancer, as mutual conjoint support and coping seemed likely to influence long-term psychological adjustment. Second, the intervention was offered at the time of initial diagnosis, when distress is usually most severe. Third, the study assessed a broad range of outcomes, with a particular focus on body image and sexuality, which are outcomes often not assessed in previous research. Fourth, 6- and 12-month follow-ups were included to ascertain if the intervention impacted on long-term adjustment. Fifth, recruitment was restricted to women with early stage disease to control for the effects of heterogeneity in disease severity, so as to improve the power of the study to detect intervention effects. Finally, the study assessed the effects of intervention on observed social support, a variable that has not been assessed in prior intervention studies.

## Chapter 4

### Results from a Randomised Control Trial of a Couple Coping Intervention

“You are never stronger than when you land on the other side of despair”

(*White Teeth* Zadie Smith, 2000 p.264)

“We are a team and we were there for each other.

Knowing that helped us feel stronger, kept us both going”

(Simon, CanCOPE participant, describing how he and his wife coped with their cancer experiences)

Picture a couple sitting together at home a few hours after the woman has been told she has breast or gynaecological cancer. Imagine the churn of emotions as they struggle to come to terms with the news and to contain their doubts and fears. How should the partners together confront the crisis, and support each other? Chapter four reports results from a controlled trial evaluation of a couple-based coping intervention (CanCOPE) to promote adjustment to cancer diagnosis and treatment. In the introduction is a brief summary of the key points made in Chapters one through to three.

#### 4.1 Introduction

Breast and gynaecological cancers are amongst the most prevalent cancers in women worldwide (Landis, Murray, Bolden, & Wingo, 1998), and diagnosis and treatment are associated with considerable acute distress for most women (Cordova, Cunningham, Carlson, & Andrykowski, 2001a; Ganz, 2000; Greimel & Freidl, 2000; Mendelsohn, 1990). Most women return to their normal levels of mood and daily

functioning 6- to 12-months after treatment (Coyne, Benazon, Gaba, Calzone, & Weber, 2000; Glanz & Lerman, 1992; Greimel & Freidl, 2000; Rowland et al., 2000; Vinokur, Threatt, Caplan, & Zimmerman, 1989).

However, a substantial minority of women experience chronic problems with disorders of mood, either significant depression or anxiety, or PTSD (Alter et al., 1996; Andrykowski & Cordova, 1998; Irvine, Brown, Crooks, Roberts, & Browne, 1991; Wenzel et al., 1999). Moreover, in a high proportion of women with breast or gynaecological cancers, body image and sexual difficulties can remain impaired despite improvement in mood (Andersen, Anderson, & deProse, 1989; Carver et al., 1998; Rowland et al., 2000). A small proportion of partners also experience long-term adjustment difficulties (Baider et al., 1996; Wellisch, Jamison, & Pasnau, 1978; Zahlis & Shands, 1991), although less is known about the prevalence of sexual disorders and PTSD in male partners.

Good long-term adjustment to cancer is characterised by initially active coping, challenging and processing negative cognition about oneself, particularly sexual self view (Yurek, Farrar, & Andersen, 2000) and the threat posed by cancer (Carver, Meyer, & Antoni, 2000; Parle & Maguire, 1995), and a subsequent reduction in coping effort (Coyne & Gottlieb, 1996). In addition, for women in a committed relationship, the quality of support they receive from their partners, particularly emotional support, seems crucial to their long-term psychological and sexual adjustment (Manne, 1994; Manne, Alfieri, Taylor, & Dougherty, 1999; Manne, Dougherty, Veach, & Kless, 1999). It may be that partners interact in ways that influence each other's coping and adjustment (Coyne & Smith, 1991; Gignac & Gottlieb, 1997). Several researchers propose that couples who adapt well to cancer may share realistic cognitive appraisals of their cancer experience, and develop an

emotional connectedness, and that this communal approach to stress, in turn, fosters conjoint active coping and enriched mutual support (Coyne & Smith, 1991; Cutrona, 1996; Mickelson, Lyons, Sullivan, & Coyne, 2001).

Couple coping, characterised by partners' communication that conveys a sense of unity in the face of a stressful event (Coyne & Smith, 1991; Cutrona, 1996; Shapiro, Gottman, & Carrere, 2000) and of sharing the burden of coping ("our problem" and "we-ness"), predicts adjustment to a range of illnesses, including cancer (Manne, Dougherty et al., 1999; Skerrett, 1998). However, to date, no study has demonstrated that intervening to enhance couple coping improves individual adjustment.

Psychological interventions to promote better adjustment to early stage breast or gynaecological cancers have produced mixed results (for review see Andersen, 2002; Baum & Andersen, 2001; Newell, Sanson-Fisher, & Savolainen, 2002). Many studies report few, if any, significant sustained benefits of intervention on women's mood, coping, or social functioning (e.g., Allen et al., 2002; Berglund, Boland, Gustafsson, & Sjoden, 1994; Forester, Kornfeld, & Fleiss, 1985; Heinrich & Coscarelli-Schag, 1985; Houts, Whitney, Mortel, & Bartholomew, 1986; Maunsell, Brisson, Deschenes, & Frasure-Smith, 1996). Interventions that do report benefits for mood and coping tend to produce small effect sizes (Meyer & Mark, 1995) that, although statistically significant, are of questionable clinical significance (refer to the discussion in Chapter three of this thesis). Few interventions have focused on improving sexual and body image adjustment, which are domains of functioning in women with breast and gynaecological cancer that seem most vulnerable to impairment. In the studies that have assessed sexual outcomes, the effects of intervention are again, weak and inconsistent (e.g., Allen et al., 2002; Berglund et al., 1994; Cain, Kohorn, Quinlan,

Latimer, & Schwartz, 1986; Christensen, 1983; Gordon et al., 1980; Greer et al., 1992; Helgeson, Cohen, Schulz, & Yasko, 1999; Maguire, Tait, Brooke, Thomas, & Sellwood, 1980).

Interventions may produce negligible or equivocal effects because they fail to address variables predictive of good long-term adjustment, particularly effective couple coping. Instead interventions have relied upon enhancing the support patients receive from artificially created social networks, usually from groups attended by other patients with cancer (Helgeson & Cohen, 1996). To date, only one intervention has actively involved the male partner in a manner likely to foster couple coping (Christensen, 1983). In this study, couple communication training improved women's adjustment to mastectomy, and couples' sexual satisfaction after surgery. However, body image was not assessed, and the study employed only a pre-post design. Thus, the long-term effects of the intervention are unknown. Given the centrality of the couple relationship to long-term psychological adjustment and sexuality, a couple-based intervention might be particularly effective in promoting these outcomes.

#### *Aims of the Study*

The aim in the current study was to evaluate the effects of couple based psycho-education and coping training on adjustment to cancer. Couples in which the woman had been diagnosed with early stage breast or gynaecological cancer were randomly assigned to one of three treatment conditions: (a) medical information education (MI), (b) patient-only coping training (PC), or (c) couple coping training (CanCOPE). Based on 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). We also predicted that CanCOPE would improve coping and reduce psychological

distress (Hypothesis 2), and promote better female body image and sexual adjustment (Hypothesis 3) than PC or MI.

## **4.2 Method**

### *Participants*

Ninety-four couples participated in the study. Couples were recruited from three hospital oncology clinics in metropolitan Brisbane, Australia. Criteria for inclusion in the study were: (a) The woman was about to commence treatment for a primary (localised or regional) breast or gynaecological 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 12 months; (c) the couple lived within 200 km of the metropolitan area to make intervention delivery feasible; (d) neither partner reported treatment for a psychological disorder in the past 12 months; and (e) both partners were able to read and speak English.

Fifty-seven women were diagnosed with breast cancer and thirty-seven with gynaecological cancer. The majority of women with gynaecological cancers had cervical cancer ( $n=21$ ), 9 women had uterine cancer, 6 women had endometrial cancer, and one woman was diagnosed with early stage ovarian cancer. Of the women with breast cancer, 29 had Stage I cancer, 19 had Stage II a, and 9 had Stage II b cancers (using the TNM 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 one woman underwent a bilateral mastectomy. Of the women with gynaecological cancers, 17 had Stage 1 cancer, 18 had Stage 2, and 2 women had Stage 3 cancers (Fleming et al., 1997). All the women with gynaecological cancers underwent a hysterectomy, with or without lymph node clearance. 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 chemotherapy and radiation therapy ( $n = 11$ ). Positive lymph node involvement was found in 26% of women ( $n = 24$ ) and ranged from 1 to 12 nodes. At the time of diagnosis 55% of the women had been through menopause, and 22% of women were receiving hormone replacement therapy.

Couples were defined as sexually active if they reported the occurrence of intercourse at least once in the past 12 months. Seventy-five (80%) couples were sexually active, although 29 of these couples reported no sexual 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 gynaecological (21/29, 72%) than with breast cancer (8/46, 17%),  $X^2(1, N = 75) = 22.71, p < .0001$ .

The mean age of women was 51 years ( $SD = 9.8$ ), and of men was 53 years ( $SD = 10.0$ ). Couples had been married 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 post-secondary (technical or university) education. The median annual family income was \$41,000, an amount comparable to the median annual household income for Australian families of \$37,000 (Australian Bureau of Statistics, 1996).

In order to describe the couples' relationships each partner completed 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 ANOVA of treatment condition by gender, with the latter as a within-subjects factor, showed 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 for a community sample of maritally satisfied couples (Spanier, 1976).

### *Measures*

Couple Communication. Couple communication was assessed during a 10-minute discussion in the couple's home. Couples were asked to discuss "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". This task with similar instructions has been used to assess support communication in families in which someone has a severe psychiatric disorder, and observed communication predicted future adjustment (Halford, Steindl, Varghese, & Schweitzer, 1999). Couples' discussions were videotaped using a portable camera on a tripod, and 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 6-month follow-up. After the 10-minute discussion at pre-intervention 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 if they had previously engaged in a similar discussion about the effects of cancer on them, and their coping and support of each other, since the cancer diagnosis.

The videotaped interactions were coded using a 30-second interval sampling procedure. Coders who were blind to the intervention condition classified the presence

or absence of six behaviors in each 30-second interval: criticism, disagreement, withdrawal, warmth, validation, and couple-focused coping in the woman and the man for each interval. The definitions for each of these behaviors are presented in Table 4.1. The derived scores are the percentage of intervals that contain each defined behavior. The criticism, negate, withdrawal and validation codes are derived from the Rapid-KPI, which has been used to assess couple 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 conveying caring and support. Couple coping was intended to capture the active expression of the positive, conjoint coping construct we described in the introduction. A second observer independently rated a random sample of 1/3 of the tapes. Inter-rater agreement on behavioural coding was satisfactory to high with Kappa = .69 for warmth, .72 for validation, .75 for couple coping, .82 for withdrawal, .90 for criticise, and 1.0 for negate.

Coping, Psychological Distress, Sexual Functioning and Body Image. Self-report measures of coping, psychological distress, sexual adjustment, and body image were assessed four times: after the women were diagnosed but prior to their surgery or psychological intervention, after the psychological intervention was completed (which was six weeks post-surgery), and at 6- and 12-month follow-ups. Both partners completed the Revised Ways of Coping Questionnaire – Cancer Version (WOC-CA; Dunkel-Schetter, Feinstein, Taylor, & Falke, 1992), which is a 44-item measure of coping effort used by individuals in response to cancer (Coyne & Gottlieb, 1996; Parle & Maguire, 1995). Individuals rate how often during the last week they used a particular coping strategy from 1- “not used”, to 4-“used a great deal”. Larger total scores indicate higher amounts of coping effort. The internal reliability of the scale was high with Cronbach alphas across the 4 assessment points ranging from .87 to .96.

Table 4. 1

Definition of Couple Communication Codes.

Observational Code	Definition
1. Criticise	Expressions of dislike or disapproval, or statements likely to demean the listener.
2. Disagree	Direct disagreement or “Yes, but” type disagreements.
3. Withdrawal	Not tracking, not responding, turning away, statement of not wanting to discuss the issue.
4. Warmth	Voice tone, facial expression or body posture that convey warmth and caring (e.g., warm tone)
5. Validation	Demonstrations of acceptance of the other person by paraphrase, opened-ended questions, positive feedback, or agreement with them by assent, or direct agreement.
6. 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”)

Women and men completed two sub-scales from the Psychosocial Adjustment to Illness Scale – Self Report (PAIS-SR; L. P. Derogatis, 1986; L. R. Derogatis & Derogatis, 1990; Morrow, Chiarello, & Derogatis, 1978). The 7-item Psychological Distress subscale of the PAIS-SR assesses symptoms of anxiety and depression. Participants rate how often during the last week they experienced the psychological problems from 0- “not at all”, to 3-“extremely”. The 6-item Sexual Problems subscale assesses the occurrence of sexual difficulties attributed to diagnosis and treatments. Individuals rate the extent of impairment to their sexual relationship during the last week, (e.g., decreases in sexual closeness, loss of sexual performance) from 0- “no change or loss” to 3- “marked loss or decrease”. Raw scores on both PAIS subscales were converted to T Scores based on normative data from a mixed cancer sample (Stefanek, Derogatis, & Shaw, 1987). Across the four assessments Cronbach  $\alpha$  for Psychological Distress ranged from .87 to .95, and for Sexual Problems ranged from .81 to .86.

Women completed the Impact of Event Scale (IES; Horowitz, Wimer, & Alvarez, 1979), which consists of seven items assessing intrusive negative thoughts and eight items assessing avoidance of negative thoughts and behaviours. The IES has been used extensively to assess traumatic reactions to major stressful events, including reactions to cancer (Cordova et al., 1995; Lewis et al., 2001). Women rated the frequency of intrusive or avoidant traumatic thoughts about cancer during the past week from 0- “not at all” through 1- “rarely” and 3-“sometimes” to 5- “often”. The internal consistency of both the sub-scales in the present study was high across the four administrations, with  $\alpha$  ranging from .87 to .90 for the intrusion sub-scale, and from .80 to .91 for the avoidance subscale.

The Sexual Self Schema Scale (SSS) for Women (Andersen & Cyranowski, 1994) is a 26-item self-report measure of women's views about sexual aspects of themselves. Women rated 26 adjectives (e.g., loving, embarrassed, passionate) and 24 adjective fillers (e.g., helpful, sensible, rude) on a scale ranging from 0-“not at all descriptive of me”, to 6-“very descriptive of me”. Consistent with recommendation by Yurek, Farrer & Andersen (2000) we calculated a total score, with higher scores reflecting more positive sexual self view. The scale had high internal reliability across the four assessments in the current study,  $\alpha$  ranged from .78 to .82. The SSS shows convergent validity with other indices of sexual self-concept, predicts a wide range of sexual attitudes, behaviours and cognitions (Cyranowski, Aarestad, & Andersen, 1999; Cyranowski & Andersen, 1998), and discriminates between healthy cancer-free women and women with breast cancer (Andersen & Cyranowski, 1994).

Women 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 (Scott, Halford, Smythe, & Steginga, 2003). The SIS has two scales: Self Acceptance that has six items assessing acceptance of appearance and sense of femininity (e.g., “I like the way I look undressed”), and Partner Acceptance that has five items assessing 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 gynaecological cancer patients (Scott et al., 2003; Scott, Halford, & Ward, 1998). In the current study, intra-scale reliabilities across the four assessments were high,  $\alpha$  ranged from .83 to .92 for Self Acceptance, and from .82 to .91 for Partner Acceptance.

Women completed three scales from the Brief Index of Sexual Functioning (BISF; Leiblum & Rosen, 2000; Taylor, Rosen, & Leiblum, 1994) in which they rate the frequency in the past month they experienced sexual thoughts and desire (8-items), arousal (9-items), and orgasm (9-items). Scores range on each scale from 0 to 12 with higher scores indicating greater sexual responsiveness (Mazer, Leiblum, & Rosen, 2000). Women also completed the 4-item Sexual Intimacy scale from the BISF in which respondents rate from -2-“much lower level” to +2 “much higher level” the extent of change in their sexual interest, arousal, activity, and satisfaction. In the current sample  $\alpha$  across the 4 assessments ranged from .79 to .80 (Desire), .81 to .85 (Arousal), .62 to .75 (Orgasm), and .92 - .95 (Sexual Intimacy). The BISF scales discriminate between healthy and chronically ill women (Jones, 2002; Welsh, Hung, & Waters, 1997), and have been used to assess sexual health outcomes in women following surgical treatments (Meston & Derogatis, 2002; Shifren et al., 2000). In addition, women completed an item from the BISF in which they 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”. Single item questions can be as informative as multiple item scales when the behaviour being assessed is reasonably apparent to the participant (Carver et al., 2000; Helgeson, 1992).

Client Satisfaction Questionnaire. Women completed a 13-item Client Satisfaction Questionnaire (CSQ) after intervention, which was developed for the current study. Women rated their satisfaction with the service (7 items), such as the extent their needs were met and the effect on their ability to cope with cancer, and satisfaction with the therapeutic relationship (6 items), such as the extent that they felt understood and able to express their concerns. Scores for each item range from 1 to 5 giving a maximum

score for Service Satisfaction of 35 and for Therapist Rapport Satisfaction of 30. The internal reliability of the Service Content and Therapist Rapport scales in the current sample were high ( $\alpha = .85$  and  $.86$ , respectively).

### **4.3 Intervention**

Following the initial assessments, couples were stratified by diagnostic group (breast or gynaecological cancer) and randomly assigned to MI, PC, or CanCOPE. Three female registered psychologists served as therapists in the study, with each therapist seeing equal numbers of patients in each condition. The therapists had extensive experience working with women diagnosed with cancer (ranging from three- to 15-years experience). A treatment manual was written for each treatment condition and therapists met fortnightly with the first author for supervision, and to monitor integrity of treatment delivery.

Medical Information Education (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 medical treatments and received five brief (maximum of 15 minutes duration) telephone calls conducted over the period of the study. The booklets were each 10-15 pages in length, developed by the Queensland Cancer Fund, and were entitled “Understanding Breast Cancer”, “Understanding Gynaecological Cancers”, “What is Radiation Therapy?”, and “What is Chemotherapy?”. These booklets were written for a Grade eight reading level, and described the medical treatments the woman might receive, and common physical difficulties encountered by women with breast or gynaecological cancers. The telephone calls were conducted prior to cancer surgery, one and two weeks post-surgery, and 6-and 9-months post-surgery. During calls the therapist spoke only with the woman and focused on her understanding of

her diagnosis and medical treatments, and seeking appropriate medical support for treatment side effects. Therapists did not provide specific psychological advice, supportive counselling, or coping skill training.

Patient Coping Training (PC). PC integrated the provision of the medical information provided in MI with cognitive-behavioural coping psycho-education (Antoni, 2002; Baum & Andersen, 2001; Fawzy et al., 1990; Fawzy & Fawzy, 1994; Greer & Moorey, 1997; Moorey, 1991), and supportive counselling (Haber, 1997; Spiegel, 1999; Spiegel & Diamond, 2001). PC involved four two-hour sessions held before surgery, after surgery, one week later, and at 6-months follow-up. Two 30-minute telephone calls were conducted to review client progress one- and three-months post-surgery. All face-to-face sessions were conducted in the women's homes.

The aim of PC was to increase women's sense of personal control and ability to cope with their cancer experiences. Women were educated about common psychological reactions to cancer diagnosis and treatment; taught how to review their coping and adopt an active, problem-solving coping style; assisted to identify and challenge negative cancer-related cognition; and taught coping strategies for managing common concerns associated with cancer treatment. Supportive counselling addressed strategies to enhance self-confidence and body image satisfaction, and to manage iatrogenic effects. In the 6-month follow-up session women explored the existential meaning of their cancer experience. Further details of the intervention are provided in Halford, Scott and Smythe (2001). The therapist manual for this condition is included as Appendix A.

Couple Coping Training (CanCOPE). CanCOPE was a couple-based intervention that covered similar content to PC. However, in CanCOPE the focus

was on helping the couple conjointly cope with cancer and support each other, as opposed to helping the woman alone to cope. CanCOPE involved five two-hour sessions, and two 30-minute telephone calls. All face-to-face sessions in CanCOPE were conjoint couple sessions, held in the couple's home. The timing of CanCOPE sessions was the same as the PC. CanCOPE involved one extra face-to-face session held two weeks after surgery to provide the additional therapy time required to address both partners' needs. Both partners in CanCOPE received the same educational material, coping skills training, and supportive counselling, as the women in PC. In addition, CanCOPE couples were taught supportive communication and partner support, and received sexual counselling. Finally, couples were assisted to explore and discuss the existential meaning they attached to their experience of cancer. Further details of the intervention can be found in Halford et al., (2001). The therapist manual used for this condition is included as Appendix B.

#### **4.4 Procedure**

A psychologist attended the cancer treatment clinics and women who were living with a partner were approached immediately after the consultation in which they were informed of the cancer diagnosis. Understandably this is a highly stressful time and many women feel overwhelmed by the initial shock of knowing they have cancer. Consequently, we did not seek the woman's consent to be included in the study at this time. Instead, women were provided with a brief explanation of the study and an information sheet was provided. The next day the psychologist called the woman and explained the study. If the woman agreed, a home visit appointment was made for the woman and her partner. One hundred and three patients were approached and 97 couples (94%) agreed to participate. Data from three couples were

subsequently excluded because post-operative pathology results indicated metastatic disease, giving a sample of 94 couples.

The time between diagnosis and hospitalisation for cancer surgery in Brisbane, Australia typically is two to five days. In the initial home visit, informed consent to participate in the study was obtained, and the initial assessments were conducted. These assessments took approximately two hours, and involved the couple completing a semi-structured interview, separately completing the self-report measures, and doing the communication task. Post-intervention and 6-month follow-up assessments also were conducted in the couples' homes. The 12-month follow-up assessment was completed as a mail out.

#### **4.5 Results**

In 85 of the 94 couples recruited into the study, both partners completed the pre- and post-intervention self-report assessments (90% of couples), 78 (83%) completed 6-month and 66 (70%) completed 12-month follow-ups. 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  $3 \times 2 \chi^2$  showed there was no significant association between condition and dropping out of the study for either women or men.

The BISF was completed at pre-intervention by 75 women who reported being sexually active pre-morbidly (72% of the total sample). Of these 75 sexually active women 54 (72%) completed the BISF at post-treatment, and 48 women (89%) at 12-month follow-up. The SSS measure was a late addition to the assessment protocol and the measure was not administered to 21 women. Seventy-three women completed it as pre-intervention, and 59 (81%) women at 12-month follow-up.

A series of one-way ANOVAs showed no significant differences between the conditions at pre-intervention in participants' ages, incomes, 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 versus gynaecological cancers), disease stage, nodal status, pre-morbid 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 the 94 couples who entered the study completed the baseline communication task (89%). Eight couples declined videotaping, and two videotapes were inaudible. Couples' 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 post-intervention (81%) and 49 couples (58%) at 6-month follow-up. Seventeen couples at post-intervention and 29 couples at 6-month follow-up provided self-report data but did not complete the communication task. Couples' main stated reasons for declining to complete the communication task at post-assessment or follow-up were 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 declining to complete the communication tasks.

#### Effects on Couple Communication

There were extremely low rates of criticise and negate at pre-intervention, with a zero occurrence in more than 90% of the participants. The rates remained very low at

post-intervention and 6-month follow-up. Given these extremely low rates, no intervention effect was possible and no further analyses were done on these behaviours. The pre-intervention rates of male and female withdrawal, validation, warmth and couple coping showed low ( $r = .3$ ) correlation. Separate three-way ANCOVAs on each behavior of condition (MI, PC, CanCOPE) by gender (male, female) by time (post-intervention, and 6 month follow-up), were conducted, 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' pre-assessment scores were used as covariates in the analyses.

The communication raw means and standard deviations at pre-intervention, and covariate-adjusted means at post-intervention and follow-up are presented in Table 4.2. 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 ( $M = 36.06$ ,  $SD = 10.45$ ) than either PC ( $M = 23.53$ ,  $SD = 10.44$ ) or MI ( $M = 23.19$ ,  $SD = 10.45$ ). The difference between CanCOPE and MI showed a large effect size,  $d = 1.23$ . There was no significant main effect of time or gender. The only significant interaction was of gender by time,  $F(1,44) = 4.71$ ,  $p < .05$ , with women decreasing slightly in couple coping from post 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 by condition interaction,  $F(2,44) = 3.20$ ,  $p = .05$ . CanCOPE reduced withdrawal from post to 6-month follow-up,  $F(1,44) = 4.64$ ,  $p < .05$ , and withdrawal increased slightly, though not significantly, in MI and PC.

Warmth had no significant main effects, and none of the interaction terms were significant. There was a trend for a gender by condition interaction,  $F(2,44) = 3.03$   $p$

Table 4.2

Means and Standard Deviations (in parentheses) of Couple Communication<sup>(1)</sup>

Behaviour	Gender	Medical Information			Patient Coping			CanCOPE		
		Pre	Post	6 months	Pre	Post	6 months	Pre	Post	6 months
Couple Coping	F	24.7	23.5	21.7	23.8	27.7	18.2	32.2	36.8	38.7
		(21.9)	(13.1)	(17.2)	(19.1)	(24.8)	(19.6)	(22.0)	(23.7)	(17.2)
	M	22.8	23.6	22.6	25.3	27.1	19.9	34.2	33.7	38.2
		(17.2)	(14.9)	(21.0)	(17.8)	(23.4)	(19.4)	(10.1)	(15.2)	(20.6)
Validation	F	55.7	64.8	59.1	53.7	54.9	56.3	62.9	51.3	62.3
		(30.0)	(22.2)	(26.7)	(23.6)	(19.1)	(30.6)	(23.1)	(17.9)	(25.1)
	M	51.0	57.6	65.1	61.0	62.6	57.5	58.6	62.3	62.8
		(29.0)	(24.5)	(25.7)	(22.0)	(25.0)	(30.2)	(27.7)	(18.4)	(20.0)

<sup>(1)</sup>Means at pre-intervention are raw means, and at all other times are means adjusted with pre-intervention means as covariates

Table 4.2 Means and Standard Deviations (in parentheses) of Couple Communication <sup>(1)</sup> (Continued)

Behaviour	Gender	Medical Information			Patient Coping			CanCOPE		
		Pre	Post	6 months	Pre	Post	6 months	Pre	Post	6 months
Warmth	F	35.2	31.9	8.2	36.8	42.6	19.9	25.2	21.2	15.2
		(44.3)	(41.9)	(17.8)	(41.6)	(42.7)	(33.2)	(31.1)	(36.5)	(33.0)
	M	29.2	34.5	13.6	48.6	42.8	15.0	35.6	37.1	32.1
		(36.1)	(13.6)	(24.9)	(40.3)	(40.0)	(31.6)	(38.5)	(42.6)	(42.0)
Withdrawal	F	32.1	29.1	38.2	26.5	29.1	40.6	34.1	35.0	27.0
		(37.7)	(27.1)	(34.5)	(31.5)	(28.9)	(34.5)	(31.3)	(31.3)	(25.2)
	M	32.5	39.3	40.7	36.2	33.1	32.1	41.1	36.8	17.7
		(39.0)	(34.2)	(32.3)	(27.3)	(31.0)	(34.9)	(37.4)	(34.5)	(26.5)

<sup>(1)</sup>Means at pre-intervention are raw means, and at all other times are means adjusted with pre-intervention means as covariates

Table 4.2 Means and Standard Deviations (in parentheses) of Couple Communication <sup>(1)</sup> (continued)

Behaviour	Gender	Medical Information			Patient Coping			CanCOPE		
		Pre	Post	6 months	Pre	Post	6 months	Pre	Post	6 months
Criticise	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)	0.80 (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)
Negate	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)

<sup>(1)</sup>Means at pre-intervention are raw means, and at all other times are means adjusted with pre-intervention means as covariates

= .06, with a trend for CanCOPE men to express more warmth than men in the other conditions. Validation had no significant main effects, and none of the interaction terms were significant. There was a trend for a gender by time by condition interaction,  $F(2,44) = 2.66$   $p = .08$ , with CanCOPE women at post-intervention tending to do engage in less validation relative to women in the other conditions.

Eighty couples reported at pre-intervention 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 conversation like the one they were asked to engage in for the assessment.

#### Effects on Coping, Psychological Distress and Couples' Sexual Functioning

Three-way ANCOVAs were conducted on the WOC coping effort and PAIS Psychological Distress and Sexual Problem Scales of condition (MI, PC, CanCOPE), by gender by time (post-intervention, 6- and 12-month follow-up), with pre-intervention scores as covariates, and gender and time as within-subjects factors. A two-way MANCOVA was conducted on the IES scales of avoidance and intrusion, which only the women completed, of condition (MI, PC, CanCOPE) by time (post-intervention, 6- and 12-month follow-up), with pre-interventions scores as covariates, and time as a within-subjects factor. Raw means and standard deviations at pre-intervention, and covariate-adjusted means and standard deviations at post-intervention and follow-up assessments are presented in Table 4.3.

On the WOC there were no significant main effects of gender, time or condition, but there was a significant interaction of condition by time,  $F(4,122) = 4.39$   $p < .01$ . Coping effort declined more over time in CanCOPE than the other two conditions. There was no significant difference between conditions at post-intervention, but

Table 4.3

Means and Standard Deviations (in parentheses) of Coping, Psychological Distress and Sexual Problems<sup>(1)</sup>

Measure	Gender	Medical Information				Patient Coping				CanCOPE			
		Pre	Post	6 F/U	12 F/U	Pre	Post	6 F/U	12 F/U	Pre	Post	6 F/U	12 F/U
WOC 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 (17.5)	65.7 (16.2)
	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 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)	45.2 (4.9)	46.5 (8.2)	53.6 (7.8)	45.0 (8.7)	42.5 (10.6)	44.4 (9.8)

<sup>(1)</sup>Means at pre-intervention are raw means, and at all other times are means adjusted with pre-intervention means as covariates

Table 4.3 Means and Standard Deviations (in parentheses) of Coping, Psychological Distress and Sexual Problems <sup>(1)</sup> (Continued)

Measure	Gender	Medical Information				Patient Coping				CanCOPE			
		Pre	Post	6 F/U	12 F/U	Pre	Post	6 F/U	12 F/U	Pre	Post	6 F/U	12 F/U
PAIS 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)	48.4 (7.9)	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)	47.5 (6.4)	47.1 (9.0)	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)
IES Avoidance	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)

<sup>(1)</sup>Means at pre-intervention are raw means, and at all other times are means adjusted with pre-intervention means as covariates

CanCOPE was significantly lower on coping effort than the other conditions at 12 month follow-up,  $F(2,61) = 4.59$   $p < .05$ . The difference between the CanCOPE and MI condition at 12-month follow-up was a moderate effect size,  $d = 0.64$ . None of the remaining interaction effects were significant.

Psychological distress on the PAIS showed no main effect of time or gender, but there was 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 by condition by time,  $F(4,122) = 3.64$   $p < .01$ . At post-intervention, 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 ( $d=.22$ ) 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 post-intervention than men in the other conditions. However at 6- and 12-month follow-up men's psychological distress was comparable across 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 having a higher mean than MI. The effect size of the differences between CanCOPE and MI, and between PC and MI, were small,  $d = .34$  and  $.39$ , respectively. On IES Intrusion there were no significant main or interaction effects.

Male and female reports of sexual problems on the PAIS were moderately correlated,  $r = .62$ ,  $p < .01$ . Effects were analysed just for those couples ( $N = 54$ ) who reported at pre-intervention that they had been sexually active in the last 12-months, as a focus of the measure is on experienced difficulties 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 ( $M = 53.08$ ,  $SD = 7.42$ ) than men ( $M = 49.1$ ,  $SD = 6.82$ ). Women's sexual problems tended to decrease over time while men's problems showed no change. There also was a trend for a gender by time by condition interaction,  $F(4,98) = 2.13$   $p = .08$ , with CanCOPE women tending to report less sexual problems than MI or PC women.

#### Sexual Self-Schema and Body Image.

Only women completed measures related to femininity, body image and sexual responsiveness: the SSS, SIS, and BISF. The SSS was analysed with a two-way ANCOVA of condition (MI, PC, CANCOPE) by time (post-intervention, 6- and 12-month follow-up). Separate two-way MANCOVAs of condition (MI, PC, CanCOPE) by time (post-intervention, 6- and 12-month follow-up) were conducted on the SIS subscales of self- and partner-acceptance, and the four BISF subscales (Desire, Arousal, Orgasm, Intimacy), plus the sexual communication question. Pre-interventions scores were covariates, and time was a within-subjects factor. The raw means at pre-intervention and covariate-adjusted means at post-intervention and follow-ups are presented for the SSS & SIS in Table 4.4, and for the BISF in Table 4.5.

On the Sexual Self-Schema (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 ( $M = 62.60$ ,  $SD = 8.63$ ) than women in either PC ( $M = 56.52$ ,  $SD = 8.63$ ) or MI ( $M = 55.63$ ,  $SD = 8.62$ ). This was a large effect size,  $d = .80$ . There was no significant effect of time, or interaction of time by 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,  $F(2,69) = 3.94$   $p < .05$ , CanCOPE women had a more positive perceived partner-

Table 4.4

Means and Standard Deviations (in parentheses) of Female Sexual Self Schema and Body Image<sup>(1)</sup>

Measure	Medical Information				Patient Coping				CanCOPE			
	Pre	Post	6 F/U	12 F/U	Pre	Post	6 F/U	12 F/U	Pre	Post	6 F/U	12 F/U
SSS Sexual Self Schema	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)
SIS Self Acceptance	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	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 (4.6)	19.7 (2.5)	20.4 (2.8)	20.1 (3.2)	20.3 (3.1)

<sup>(1)</sup>Means at pre-intervention are raw means, and at all other times are means adjusted with pre-intervention means as covariates

acceptance of body-image ( $M = 20.29$ ,  $SD = 1.77$ ) than either MI ( $M = 19.5$ ,  $SD = 1.78$ ), or PC ( $M = 18.90$ ,  $SD = 1.76$ ). The effect size of CanCOPE relative to MI was small to moderate,  $d = 0.44$ .

#### Female Sexual Responsiveness, Intimacy and Sexual Communication

On the BISF Sexual Desire, Arousal and Orgasm, none of main effects of time or condition, or the interaction terms were significant. On the BISF Sexual Intimacy, there were no significant effects of time, or interactions of time by 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 PC ( $M = -2.36$ ,  $SD = 2.53$ ), or MI ( $M = -3.53$ ,  $SD = 2.55$ ), with a large effect size of CanCOPE relative to MI,  $d = .91$ . Sexual Communication showed no significant effects of time or condition, or interaction of time by condition. There was a trend for main effect of condition  $F(2, 40) = 2.86$ ,  $p = .07$ , with CanCOPE women reporting better communication of their sexual desires to their partners than women in the other conditions.

#### Client Satisfaction

Two one-way ANOVAs showed there was no significant difference across conditions in participants' satisfaction with Service Content or Therapist Rapport. Satisfaction with both Service Content ( $M = 32.80$ ,  $SD = 2.58$ ) and Therapist Rapport ( $M = 28.21$ ,  $SD = 1.63$ ) was very high, and close to the maximum possible scores of 35 and 30 respectively.

#### Study Attrition

As noted previously, there was no significant difference across conditions in rates of dropping out from the study. Hence differential attrition is unlikely to explain differences between conditions on outcome measures. However, as attrition

from the study has implications for the generalisability of the findings we compared the 66 couples in which both partners completed the 12-month follow-up self-report assessments (completers) with the 28 couples who did not (non-completers). A series of chi-square tests showed no significant difference between completers and non-completers on the medical variables of treatment modalities, cancer type, and disease stage. However, completing women were almost three times more likely to have positive lymph nodes ( $n = 21/66, 32\%$ ), than non-completing women ( $3/28, 11\%$ ),  $X^2(1, N = 94) = 4.61, p < .05$ . One-way ANOVAs showed completers and non-completers did not differ significantly on pre-intervention WOC coping effort, PAIS psychological distress, IES intrusion or avoidance, SSS, SIS indices of female body image, BISF indices of female sexual responsiveness, sexual intimacy and communication, or PAIS sexual problems. Self-report completers and non-completers also did not differ significantly on the observed communication of couple coping or withdrawal. However, non-completers 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 non-completers also showed significantly lower warmth than male self-report completers,  $F(1,74) = 4.94, p < .05$ . Non-completers also were significantly less maritally satisfied on the DAS for both women,  $F(1,92) = 6.51, p < .05$ , and men,  $F(1,92) = 6.22, p < .05$ . Thus, initial psychological or sexual adjustment was not associated with remaining in the study, but positive nodal involvement, high marital satisfaction, high observed female and male validation and male warmth predicted remaining in the study.

#### **4.6 Discussion**

The results of this study demonstrate significant benefits from a couple-based intervention for improving couples' adjustment to cancer. The results provided

partial support for each of the hypotheses. Consistent with Hypothesis 1, CanCOPE produced a large increase in observed couple coping and showed a trend to reduce withdrawal. However, CanCOPE did not produce the predicted overall increase in expressed warmth or validation, or decrease in negativity. There was support for Hypothesis 2. CanCOPE reduced coping effort by men and women, produced a modest reduction in women's psychological distress and avoidance of negative cancer-related cognition, and showed a trend to lower short-term psychological distress in men. However, contrary to Hypothesis 2, CanCOPE did not reduce women's intrusive negative cognition more than the other conditions. Consistent with Hypothesis 3, CanCOPE increased women's positive sexual self-schema, perceptions of their partner's view of their body, and sexual intimacy, and there were trends for improvement of women's communication of sexual desires and sexual problems. However, the conditions did not differ in women's levels of sexual responsiveness, or men's sexual problems.

#### **4.6.1 Effects of Intervention**

The present study is the first to show improvements in observed supportive communication following a conjoint coping intervention for couples confronting cancer in one partner. CanCOPE produced a large increase in observed couple coping statements, and showed a trend to reduce withdrawal, and these changes were maintained for at least six months. However, these findings need to be interpreted cautiously as there was a substantial drop out from completion of the communication tasks at follow-up. Couples who initially showed low levels of warmth and validation were more likely to refuse to do the discussion task at subsequent assessments. This selective attrition means we cannot know if the communication of these couples would improve with intervention. The loss of these couples from follow-up

observations may also explain the failure to detect a significant effect of CanCOPE on these communication codes.

Several studies have shown that female cancer patients rate their male partners as unsupportive when the men are reported to be negative (e.g., Dakof & Taylor, 1990; Pistrang & Barker, 1995). Based on these findings, CanCOPE was intended to reduce such negativity, but negativity was very rare in the current sample of couples. The low rates of negativity may have been a function of the support discussion instructions we used, which were very similar to those used by Halford et al (1999) who also reported low rates of negative communication. Higher rates of negative communication are observed when couples discuss conflict topics than when communicating support (Heyman, 2001). However, women with cancer do report low rates of male negative responses (Manne, Alferi, Taylor, & Dougherty, 1999; Manne, Pape, Taylor, & Dougherty, 1999; Manne & Schnoll, 2001). It may be that negative communication is relatively rare in predominately highly maritally satisfied couples that are confronting a cancer crisis. Furthermore, older couples exhibit less negativity and more affection during marital interactions than younger couples (Carstensen, Gottman, & Levenson, 1995), and more than half the couples in the sample were over 50 years of age. The most likely explanation of the observed low negativity in the current sample is that it reflects typical behavior, and this interpretation was supported by the couples who reported that their observed communication was similar to their usual communication. Future research could compare couples' observed problem discussion with their support discussions to establish if negativity is occurring, whether it is a function of the type of communication task employed, and if negativity can be reduced by interventions like CanCOPE.

In the current sample, rates of observed withdrawal were high, substantially higher than rates observed in young, engaged couples discussing relationship issues (Halford et al., 2000; Sanders, Halford, & Behrens, 1999). Furthermore, at pre-intervention nearly half the couples reported they had not previously discussed their coping or support of each other, which is consistent with prior research in which patients reported considerable avoidance of cancer discussion (Carter & Carter, 1994; Henderson, Davison, Pennebaker, Gatchel, & Baum, 2002; Lepore & Helgeson, 1998; Manne, Dougherty et al., 1999). Anecdotally, couples in the current study cited uncertainty about what to say that might be helpful, and fear of upsetting their partner, as reasons for why they had avoided discussions where they might share emotions. However, most couples reported after the interaction task that having the discussions was helpful. Given that women's reports of the couple discussing emotional aspects of their experience predicts better adjustment to cancer (Lichtman, Taylor, & Wood, 1988; Manne, 1999; Vess, Moreland, & Schwebel, 1985a, 1985b), and that avoidance of discussion might be common, prompting couples to engage in such discussion may, in itself, be a useful intervention.

Prior research has found group psychological interventions for women with early stage breast or gynaecological cancer produce variable and weak effects in improving coping and reducing psychological distress (Andersen, 2002; Newell et al., 2002). CanCOPE replicated the previous modest benefits of intervention on psychological distress, but produced a large reduction in coping effort for women and their male partner.

The modest effects of CanCOPE on psychological distress are probably attributable to floor effects. Consistent with previous research (e.g., Andrykowski, Cordova, Mc Grath, Sloan, & Kenady, 2000; Baider, Walach, Perry, & Kaplan De-

Nour, 1998; L. R. Derogatis et al., 1983), in the current study there were moderate initial elevations in psychological distress on the PAIS and IES. However, few women or men showed levels of distress that could be considered psychiatric disorder. For example, at pre-intervention only 28 (30%) patients report IES intrusion scores or avoidance scores above the cut off score (20) suggestive of significant distress (L. B. Wenzel et al., 1999), which is a lower rate that typically reported in previous studies (see Andersen, 2002). Previous research shows initial distress reduces substantially in most patients without psychological intervention (see Andersen, 2002), and in the current study women's psychological distress decreased substantially in the MI control condition, by 12-month follow-up only two MI patients had IES scores greater than 20. While decline is consistent with previous research, the extent of decline was even greater than in previous studies; the level of PTSD symptoms in the current study was low compared to many previous studies (e.g., Epping-Jordon et al., 1999; Tjemsland, Soreide, & Malt, 1996; L. B. Wenzel, Donnelly, J. P., Fowler, J. M., Habbal, R., Taylor, T. H., Aziz, N., Cella, D., 2002; L. B. Wenzel et al., 1999). In this regard the present study was a rigorous test of the efficacy of CanCOPE, and the finding of a benefit of CanCOPE beyond the good adjustment reported by women in MI and PC is a testament to the therapeutic power of the couple-based intervention.

Women in all three conditions reported high consumer satisfaction with these support services. It is likely that the low long-term psychological distress in the current study may have been due to some elements of the assessment, plus the provision of medical information and some professional support, which were common to all three conditions. In the assessments, couples filled in a large set of questionnaires that required them to consider their coping and adjustment.

Furthermore, the interaction tasks provided all couples the opportunity to share their thoughts and feelings with their partner, at crucial time points in their disease experience. Disclosure of feelings is associated with improved emotional adjustment and coping with a range of traumatic events (Lepore, Ragan, & Jones, 2000; S. K. Lutgendorf & Antoni, 1999; Pennebaker, Barger, & Tiebout, 1989; Pennebaker, Mayne, & Francis, 1997), including cancer (Lepore & Helgeson, 1998; Manne, 1999).

Finally, the findings of a modest effect of intervention on affect may, in part, be due to a measurement problem. The PAIS mood subscale combines symptoms of both anxiety and depression, which are proposed to have different cognitive antecedents (Clark, 2001; Riskind, Williams, Gessner, Chrosniak, & Cortina, 2000). Psycho-oncology interventions also show differential effects on anxiety and depression, and are generally more efficacious for reducing anxiety rather than depression (Sheard & Maguire, 1999). Thus, the PAIS mood scale may have had reduced sensitivity to detecting effects of CanCOPE on anxiety and depression, if the intervention produced different effects for these two disorders of mood. CanCOPE did show a modest benefit for reducing anxiety symptoms as measured by the IES.

CanCOPE produced large improvement in sexual self-schema. CanCOPE also produced large improvement in sexual intimacy, a moderate improvement in women's perceptions of their partners' acceptance of their body, and a trend for an improvement on sexual communication. These outcomes have not been assessed in prior research. However, there was no effect on sexual dysfunction. The failure to obtain effect on sexual dysfunction is likely a floor effect. In contrast to previous studies (e.g., Andersen et al., 1989; Ganz, Desmond, Belin, Meyerowitz, & Rowland, 1999; Wohlberg, Romsaas, Tanner, & Malec, 1989), women in the current study

reported low rates of sexual problems, rates that were comparable to healthy women, and markedly lower than rates reported by surgically menopausal women (Mazer et al., 2000). The extent of cancer treatment predicts sexual dysfunction in women (Andersen, 1987; Andersen & Green, 2001; Andersen & Jochimsen, 1985; Arora et al., 2001; Ganz et al., 1999; Rowland et al., 2000), and the low rates of sexual dysfunction in the present sample may be attributable to the smaller proportion of women that received chemotherapy or more extensive treatments (e.g., mastectomy or pelvic radiation), relative to previous studies (Andersen, 1987; Andersen, Woods, & Copeland, 1997; Arora et al., 2001; Ganz et al., 1999; Yurek et al., 2000).

#### **4.6.2 Limitations of the Study**

There are some significant 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 in the current study was larger than most previous trials of psychological interventions for early stage cancer, and was the largest sample of male partners of women with cancer (Manne, 1998). However, there were fewer men than women that remained in the study, and this reduced power might explain why some CanCOPE effects that were significant for women were only trends for men (e.g., level of psychological distress on the PAIS). Furthermore, only two thirds of the women in the sample stated they were sexually active at pre-intervention. Although this proportion (72%) is comparable to the proportions of pre-morbidly sexually active women reported in other cancer studies (Ganz et al., 1999; Yurek et al., 2000), the reduced sample size gave only modest power to detect effects of CanCOPE on sexual dysfunction.

A strength of the study was the observational assessment of couples' support processes, a methodology that is rare in the support literature (Bolger, Zuckerman, &

Kessler, 2000). However, as only couple communication of emotional support was observed, it is possible that CanCOPE produced changes to other aspects of partner support, such as instrumental support, that were not assessed. In future studies, the use of methods like daily process assessment of coping and support behaviors such as used by Tennen, Affleck, Armeli and Carney (2000) might provide valuable insights into the processes that facilitate couples adaptation to cancer.

Any couple-based intervention for women with cancer, such as CanCOPE, 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, emotional support through empathic communication and practical support could be provided by a family member or close friend. Such an adaptation of CanCOPE might be useful to women in low marital satisfaction relationships, who were found to be more likely to drop out from the current study.

#### **4.6.3 Mechanism of Intervention Effects**

Conjoint couple coping has been speculated to enhance long-term coping with a range of stresses including cancer (e.g., Coyne & Smith, 1991; Lyons, Mickelson, Sullivan, & Coyne, 1998; B. R. Sarason, Sarason, & Gurung, 1997; I. G. Sarason, Sarason, & Pierce, 1994). Consistent with these speculations, in the current study CanCOPE improved adjustment, and CanCOPE was focused on improving couple conjoint coping. However, there were multiple components to CanCOPE, and its effectiveness does not demonstrate which components produced the intervention effect. The lack of benefit of PC relative to MI in improving women's adjustment

does suggest that the couple component of CanCOPE was important. PC involved the woman receiving medical education plus training in active cognitive and behavioural coping. As noted earlier, such active coping predicts good adjustment to cancer, and thus some positive benefit from PC might have been expected. There was differential therapist contact between intervention conditions as CanCOPE involved one extra therapy session than PC. The small sample size in the present study also meant there was modest power to detect treatment effects. However, if these factors explained the lack of observed benefits of PC, then the pattern of results would be expected to favor PC over MI. Instead, there were no trends that favored PC relative to MI. In fact, in PC there was significantly less decrease in coping-effort, psychological distress, or cognitive avoidance, than in MI.

In previous research a combination of medical education and coping skills training provided to groups of cancer patients sometimes has produced positive effects (Newell et al., 2002). It may be that medical education and/or the group support were the effective ingredients of such interventions, rather than teaching active coping. Alternatively, it might be that in order to be effective, active coping needs to be integrated within a context of social support for coping, such as with a group of fellow patients or with a partner. Regardless of which of these explanations may be correct, CanCOPE had substantial advantages over PC, and the difference between the two interventions was the couple component.

Further evidence of the importance of the couple component of CanCOPE comes from the finding that women in CanCOPE showed enhanced sexual self concept post-operatively, and believed their partners were more accepting of their appearance. Women's beliefs about their attractiveness to their partners following cancer surgery predict long-term psychological well-being and satisfaction with

cancer treatment (Stanton et al., 1998). In couples, a woman's perception of the acceptance of her body as attractive by her partner helps shape the woman's self-image (Drigotas, Rusbult, Wieselequist, & Whitton, 1999). It seems likely that the couple focus in CanCOPE facilitated communication between the partners that developed the positive body and sexual self-image of the women.

The present study is the first trial of a couple coping intervention for women with cancer and thus the study focused on the efficacy of the intervention. Replication studies should be a first priority, and issues about the possible mechanisms by which CanCOPE may confer a benefit to women's psychological adjustment might be explored in later research.

#### **4.6.4 Generalisability of Findings**

There was a high rate of acceptance by couples to participate (94%) in the current study, a rate notably higher than the 40% to 78% agreement reported in previous psycho-oncology studies (Andersen, 1992, 2002; Manne, 1994; Trijsburg, van Knippenberg, & Rijpma, 1992). This high acceptance rate is particularly striking given that we also recruited male partners, and male rates of refusal to participate in psycho-oncology research often are around 70% (Manne, 1994, 1998; Newell et al., 2002). The high agreement rate in the current study might be due to some combination of the timing, location, and format of the psychological intervention offered. All three conditions in the current study involved receiving some form of professional support, and the offer of support was made immediately after diagnosis. In most previous studies support has only been available to some participants, and usually support has been offered some considerable time after the crisis of diagnosis (Andersen, 2002; Newell et al., 2002). In the current study patients seemed highly receptive to offers of support at the time of diagnosis. In the current study, the

support in each condition and assessments were conducted in people's homes, which made the therapy easy to access. Finally, the group format in which most previous programs have been offered might not appeal as widely to potential participants as the individual or couple-based format offered in the current study.

The attrition from the study of 21% of women through to 12-month follow-up was markedly lower than in most previous studies of psychological interventions for patients with early stage disease (Newell et al., 2002), but was still quite high. Two countervailing factors seem to have influenced attrition. First, women who had positive nodal involvement were more likely to remain in the study. This may be attributable to these women feeling greater ongoing concerns about their prognosis and wanting continuing psycho-education and support. In this regard, some of the women who need the most help may self-select to continue in support programs. Second, 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 psychological adjustment (Manne, Alferi et al., 1999). This suggests that attempting to involve partners, even just in assessment of outcomes, may be more difficult with maritally distressed couples.

The value of CanCOPE was tested with women suffering from breast or gynaecological cancer and its utility with other cancers is unknown. Conjoint coping has been argued to be broadly applicable to coping with a wide range of health problems, and evaluating the utility of CanCOPE with a range of cancers and chronic illnesses warrants investigation. A close association between the site of a cancer and body image and sexuality, such as exists with breast or gynaecological cancer, might make a couple intervention particularly appropriate. For example, CanCOPE might

be beneficial for cancers where treatments can produce marked changes to patients' physical appearance and reduced body image satisfaction, such as facial surgery in patients with head and neck cancers, (De Leeuw et al., 2000; Rapoport, Kreitler, Chaitchik, Algor, & Weissler, 1993) or stomal surgery in patients with colon (Northouse, Mood, Templin, Mellon, & George, 2000) and gastrointestinal cancers (Wasteson, Nordin, Hoffman, Glimelius, & Sjoden, 2002). CanCOPE might be pertinent to men with prostate or testicular cancers and their partners, as these male forms of cancers have a strong association with body image and sexuality (Gritz, Wellisch, Siau, & Wang, 1990; Gritz et al., 1989; Kunkel, Bakker, Myers, Oyesanmi, & Gomella, 2000; Lavery & Clarke, 1999; Malec, Romsaas, Messing, Cummings, & Trump, 1990; Perez, Skinner, & Meyerowitz, 2002; Stanford et al., 2000; Steginga et al., 2001). However, women and men differ in their coping behaviours and preference for modes of support from their partners during stress, particularly their utilisation of emotional support (Cunningham & Barbee, 2000; Cutrona, 1996; Helgeson & Lepore, 1997; Ptacek, Pierce, Ptacek, & Nogel, 1999; Tamres, Janicki, & Helgeson, 2002). Therefore, 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 and their partners 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' intimacy and 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; Greenstein & Breitbart, 2000; Swenson & Fuller, 1992).

Finally, the couples in the present study were almost exclusively Caucasians from a western culture. Women from other cultures and ethnic backgrounds who are diagnosed with breast and gynaecological cancers do report similar problems with trauma symptoms (Alferi, Carver, Antoni, Weiss, & Duran, 2001; Fukui et al., 2000; Gotay, Holup, & Pagano, 2002), and long-term body image and sexual functioning (Molassiotis, Chan, Yam, Chan, & Lam, 2002). However, the couples focus of CanCOPE might not generalise to women from other cultures, as culture and ethnicity largely determines the type and source of support that people seek and accept (Badr, Acitelli, Duck, & Carl, 2001). People from predominately collectivist cultures may look less to the couple relationship as the primary unit of support, and place equal or greater importance on their extended family network for support provision (Duck, West, & Acitelli, 1997; Gudykunst, 1992; Porter & Samovar, 1998). Certainly, recent exploratory studies comparing Asian and Anglo-American women diagnosed with breast or gynaecological cancers have found marked cross-cultural differences in support preferences and utilisation (Gotay et al., 2002; Wellisch et al., 1999).

#### **4.7 Implications for Supporting Cancer Patients**

Overall, there were moderate to large effects of CanCOPE on increasing positive functioning, such as enhancing couple coping communication and sexual and body image, and reducing coping effort. However, reduction of negative outcomes like psychological distress, sexual dysfunction, and communication negativity ranged from small to non-significant effects. There are important implications of this pattern of findings for supporting cancer patients.

First, several authors have noted that the rate of psychological disorder in patients confronted with early stage cancers is quite low, and that universal

application of psychological interventions that focus on treating or preventing psychological disorder is probably unnecessary (e.g., Benazon, Coyne, Calzone, & Weber, 2002; Coyne, Benazon et al., 2000; Coyne, Thompson, Palmer, Kagee, & Maunsell, 2000). In the current study MI, involving structured education and some minimal professional support through telephone calls, was associated with low rates of patient adjustment problems. Provision of this level of information and support would seem to be a minimum acceptable standard for quality, routine care that should be associated with low rates of severe psychological distress. However, given that there was a small, but non-trivial, proportion of patients who suffered severe distress, a more intensive support program like CanCOPE should be available selectively to patients or family members with substantial adjustment problems.

Clearly, an important direction for future research will be the identification of markers of risk for adjustment difficulties, so that patients may be effectively triaged to interventions that vary in their level of intensity and treatment focus. In prior research, interventions delivered to patients who were selected on the basis of their identified risk for adjustment problems produce large effect sizes, and patients in the control conditions show a deterioration in mood across time (Andersen, 2002; Newell et al., 2002).

Andersen (2001) argues that specific domains of psychosocial morbidity are predicted by different markers of vulnerability, rather than there being a generic risk factor germane to all quality of life outcomes. Accordingly, a given intervention may be particularly effective for a specific adjustment outcome, but less beneficial for others. For example, in women with breast or gynaecological cancers, a biological predisposition to threat sensitivity (Carver & White, 1994) and fear of cancer recurrence, predicts avoidant coping and long-term mood disturbance (Carver et al.,

2000). Where as, holding a negative sexual self-view predicts post-operative sexual functioning and body image problems (Andersen et al., 1997; Yurek et al., 2000). Thus, to reduce problems with mood, interventions should target women who report high cancer threat and pessimism about their prognosis. Although therapy is unlikely to alter biological dispositions, intervention might successfully modify women's cognitive appraisals of cancer threat (Carver et al., 2000). To enhance women's sexual adjustment, interventions could focus on women with negative sexual self-schema, and include techniques for enhancing women's cognitive appraisal of their sexuality (Cyranski et al., 1999). Although, the results from the present study provide preliminary evidence that a couple coping intervention is particularly beneficial for improving sexual self-schema, sexual intimacy, and partner related body image adjustment, irrespective of women's pre-morbid levels of sexual self-concept. The mechanisms for this effect are not known and warrant further research with studies involving larger samples sizes.

A second implication of the pattern of findings is that intervention can enhance quality of life independent of effects on distress or rates of disorder. Numerous authors have suggested that confronting a potentially life threatening situation can produce positive outcomes, not just problems (e.g., Brennan, 2001; Folkman, 1997; Folkman & Greer, 2000; Folkman & Moskowitz, 2000b; Folkman, Moskowitz, Ozer, & Park, 1997; Katz, Flasher, Cacciapaglia, & Nelson, 2001; Stein, Folkman, Trabasso, & Richards, 1997; Tedeschi, 1999; Tedeschi & Calhoun, 1996). In women with cancer, overcoming adversity can increase their sense of meaning and purpose in life (Antoni et al., 2001; Johnson Vickberg, Bovbjerg, DuHamel, Currie, & Redd, 2000; Johnson Vickberg et al., 2001; Katz et al., 2001; Tomich & Helgeson, 2002), and appreciation of life and close relationships (Cordova et al., 2001a). Women's

talking about the cancer with people close to them is associated with their posttraumatic growth (Cordova et al., 2001a). CanCOPE promoted this type of talking plus mutual support, and this may explain the observed positive outcomes on quality of life.

The data also has implications for the optimal length of follow-up when evaluating intervention outcomes. The majority of interventions conducted with patients diagnosed with early stage cancers have involved short follow-up periods. However, in the current study, most of the benefits of CanCOPE did not appear until 12-month follow-up, and would not have been detected if a shorter follow-up period was employed. It is possible that the benefits produced by some intervention components are not apparent in the early post-operative recovery phase because the issues they address are not salient to the women. For example, issues related to resuming sexual activity with partners may become more important to women once cancer treatments are completed and the side effects of fatigue and reduced libido have subsided.

The results also have implications for the dissemination of psychological interventions for cancer patients. The feasibility of offering CanCOPE or other similar intensive support programs requires attention to managing the costs of service delivery. Given that many patients do not suffer psychological disorder without intensive intervention, one option is to selectively target intensive psychological 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, as well as prevention of disorders (Davison, 2000). Rather than denying access to

support services to those who desire such support, cost management of psychological interventions might be achieved by developing more cost-effective modes of service delivery. The home-based delivery of CanCOPE probably increased its acceptability to patients, but made it expensive to deliver. In ongoing work with colleagues I am evaluating a self-directed version of CanCOPE that involves a videotape, guidebook and telephone calls. This might make CanCOPE available at a lower cost than the face-to-face version evaluated in the current study, and enhance the potential access of such a program.

#### **4.8 Theoretical Implications**

The pattern of results poses fundamental questions about the way contemporary theories conceptualise coping, and the approach taken by interventions that aim to assist people to adjust to major life stress. Models of coping and adaptational processes focus almost exclusively on an individual's coping responses and attributes as predictors of adjustment (Bandura, 1997; Carver & Scheier, 1998; Fife, 1995; Holahan & Moos, 1987; Lazarus & Folkman, 1984; Moos, 1976; Pearlin & Schooler, 1978; Schaefer & Moos, 1992). Some theorists acknowledge that coping involves social cognition and occurs in a social environment (Fife, 1995; Lazarus, 2000), or that a person's coping may be modelled on their observations of other peoples' behaviours (Bandura, 1986, 1989; Carver & Scheier, 1998). However, the explication of social processes in coping regulation and outcomes is minimal and secondary. Rather, coping is analysed as individualistic phenomena, and the individual's behaviour and adjustment are the focus of description and assessment. Furthermore, most interventions designed to help people adapt to stressful events focus on improving the individual's coping, and are delivered in isolation from the individual's social network.

However, major life stress can markedly affect people's interpersonal functioning, and their interactions with someone close to them can have implications for both their own, and their loved one's coping and adjustment (Repetti & Wood, 1997; Terry & Hynes, 1998). In the present study, an intervention designed to improve dyadic coping and mutual support processes was superior to an intervention that focused on individual coping alone. This finding suggests that for people in close relationships, the couple should be the focus of intervention, and supports research contending that the interpersonal aspects of coping, particularly relationship focused coping is a crucial factor in peoples' adjustment to chronic life stresses (Coyne & Smith, 1991, 1994; DeLongis & O'Brien, 1990; Eckenrode, 1991; Gottlieb & Wagner, 1991; Lepore, 1997; O'Brien & DeLongis, 1997).

The results are also consistent with recent reviews examining the efficacy of interventions that have aimed to enhance peoples' adjustment to a range of stressful life events. Interventions that demonstrated the most benefits were those that actively included the person's family member or friend in the intervention program, especially those that emphasised the development of reciprocal support process between the dyad (Hogan, Linden, & Najarian, 2002; Lakey & Lutz, 1996). In contrast, interventions that attempted to improve a person's adjustment in isolation from their loved ones, or by fostering novel supportive relationships amongst strangers who become members of an intervention group, produced inconsistent and generally weaker results (Heller & Rook, 1997; Hogan et al., 2002).

Coping research has been criticised for its failure to produce results that are consistent and clinically meaningful (Folkman, 1997; Lazarus, 2000; Lepore, 1998; Somerfield & McCrae, 2000). These clinical and theoretical problems might be attributed to the failure of stress and coping models to recognise the centrality of

relational coping processes in adaptation to stressful events (Gottlieb, 1996), and the persistence of interventions that approach the difficulty from an individualistic perspective (Fiske & Haslam, 1996).

The results from the present study suggest that models of coping need to be modified to take couple coping processes into account. For example, a revision of one of the most influential models in the coping literature, Lazarus and Folkman's (Lazarus & Folkman, 1984) Transactional Theory of stress and coping would include a pathway that describes the connection between individual and relationship coping processes. This additional pathway proposes that coping for people in close relationships might develop as a shared social construction between partners, and that adaptive coping to life events in close relationships involves the development of a positive synergy between individual and couple coping processes. Couple coping skills would reinforce partner's individual coping, as well as promote helpful cognitive appraisals of challenges posed by the stressful event. Emotional distress may be alleviated by conversationally induced reappraisals (Burlison & Goldsmith, 1998; Kennedy-Moore, 2001), and partner's couple coping discussion about cancer related stressors might be particularly important for cognitive coping progresses (Cordova, Cunningham, Carlson, & Andrykowski, 2001b; S. Lutgendorf, Andersen, Larsen, Buller, & Sorosky, 1999; S. K. Lutgendorf & Antoni, 1999). The Transactional Theory of stress and coping was recently modified to address the role of meaning-based coping, and positive outcomes and psychological states, in peoples' adaptation to stress (Armeli, Gunthert, & Cohen, 2001; Billings, Folkman, Acree, & Moskowitz, 2000; Folkman, 1997; Folkman & Greer, 2000; Folkman & Moskowitz, 2000a, 2000b; Folkman et al., 1997; Ryff & Keyes, 1995; Suh, Diener, & Fujita, 1996; Tennen & Affleck, 1999). In the present model described here, a second pathway (a), (see Figure 4.1), would be

added to accommodate the impact of adaptive couple coping processes on the quality of the couples' relationship, such as relationship satisfaction, positive relationship goals, and increased feelings of emotional connectedness. Positive relationship functioning would, in turn, help to regulate and reinforce adaptive couple coping skills (pathway b), and directly promote positive emotion (pathway e). For example, marital quality predicts life satisfaction (Diener, Suh, Lucas, & Smith, 1999). Positive couple coping skills would also indirectly produce positive emotion in both partners (pathway c), as their sharing of the coping burden (pathway d) would increase the likelihood that they would reach successful and mutually favorable solutions to problems.

These modifications of the transactional model of stress and coping are highly speculative and future research needs to test the validity of the posed pathways by which couple coping might aid individuals' adaptation to major life events, whilst maintaining and sustaining relationship functioning and quality. Future studies could also explore coping processes associated with various levels of social systems and relationship intimacy (Fiske, 1992), as these factors have implications for the generalisability of couple coping interventions such as CanCOPE to other cultures, as well as different types of dyadic support relationships.

In summary, the best ways to improve individual outcomes might be to address coping in the context of the intimate social context in which it occurs. The current results lend some support to this contention, and underscore the importance of couple coping as a source of support for partners in the face of a major life challenge like cancer. CanCOPE, a couple-based psychological intervention, 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.

“It seems an odd thing to say, after enduring all sorts of difficult treatments, but our life is better now than before cancer” (Joan).

“We’re closer; we appreciate each other more and enjoy even the little day-to-day things we do together” (Robert).

“...and we learned what’s important in life...your health and your loved ones are what really matter...and you know, we discovered that we can cope, and we can smile at the end of it all” (Joan).

(Joan and Robert, CanCOPE participants, 13 months after Joan’s cancer diagnosis, discussing their cancer and CanCOPE experiences)

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