

## Social Support and Adjustment to Cancer: Reconciling Descriptive, Correlational, and Intervention Research

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Several research literatures are reviewed that address the associations of emotional, informational, and instrumental social support to psychological adjustment to cancer. Descriptive studies suggest that emotional support is most desired by patients, and correlational studies suggest that emotional support has the strongest associations with better adjustment. However, the evidence for the effectiveness of peer discussion groups aimed at providing emotional support is less than convincing. Moreover, educational groups aimed at providing informational support appear to be as effective as, if not more effective than, peer discussions. Reasons for inconsistencies between the correlational and intervention literatures are discussed, and future directions are outlined.

*Key words:* social support, cancer, intervention, psychological adjustment

Increasing cure rates and remissions have led to a 5-year survival rate, averaged across all sites of cancer, of more than 50% (American Cancer Society, 1992; National Cancer Institute, 1984). To date, 4 million people are living with cancer (American Cancer Society, 1992). Thus, health care professionals are faced with a new challenge: helping people live with cancer or live with having had cancer (Scott & Eisendrath, 1986). An important determinant of cancer patients' ability to live with their illness is their social environment.

There are at least two reasons that the social environment is a particularly important domain in the study of cancer. First, aspects of the social environment have been shown to promote well-being and to protect persons from the deleterious effects of stressful life events, of which cancer is one (Cohen & Wills, 1985). Both the structural aspects of social networks (e.g., size) and the functional aspects of social supports (e.g., emotional support) have been related to cancer morbidity and mortality (see Glanz & Lerman, 1992, for a review; Reynolds & Kaplan, 1990). Second, cancer is a stressful event that influences interpersonal relationships (e.g., Peters-Golden, 1982). Because cancer is a potentially fatal illness and often is characterized by a stigma, cancer patients' network members may withdraw or react inappropriately. Cancer also may affect relationships indirectly by restricting patients' social activities, which will affect their access to interpersonal resources (Bloom & Kessler, 1994; Bloom & Spiegel, 1984). Thus, people

diagnosed with cancer may have difficulties obtaining social resources just when they are most needed (Dakof & Taylor, 1990; Dunkel-Schetter, 1984; Wortman & Conway, 1985).

The experience of cancer depends on a host of variables, including patient demographics (age, sex, socioeconomic status), site of malignancy (e.g., breast, pelvic), stage of disease, and type of treatment (e.g., surgery, chemotherapy, radiation). Despite this diversity in experience, we believe that persons diagnosed with cancer confront a number of common psychosocial issues and, as a consequence, have similar needs that can be met by people in their social environment.

A diagnosis of cancer challenges basic assumptions about the self and the world (Janoff-Bulman & Frieze, 1983), and successful adjustment involves restoration of these assumptions (Taylor, 1983). Specifically, a diagnosis of cancer may lead to a sense of personal inadequacy, diminished feelings of control, increased feelings of vulnerability, and a sense of confusion (Lesko, Ostroff, & Smith, 1991; Rowland, 1989). People in the social environment can behave in ways that influence these reactions to illness.

There are three main types of supportive social interactions: emotional, informational, and instrumental (House, 1981; House & Kahn, 1985; Kahn & Antonucci, 1980; Thoits, 1985). In theory, each kind of support can influence one or more of the illness reactions described above. *Emotional support* involves the verbal and nonverbal communication of caring and concern. It includes listening, "being there," empathizing, reassuring, and comforting. Emotional support can help to restore self-esteem or reduce feelings of personal inadequacy by communicating to the patient that he or she is valued and loved. It also can permit the expression of feelings that may reduce distress. Emotional support can lead to greater attention to and improvement of interpersonal relationships, thus providing some purpose or meaning for the disease experience. *Informational support* involves the provision of information used to guide or advise. Information may enhance

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Preparation of this article was supported by a grant from the National Cancer Institute (CA61303) and a Research Scientist Development Award from the National Institute of Mental Health (MH00721).

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perceptions of control by providing patients with ways of managing their illness and coping with symptoms. Learning how to manage the illness also may enhance patients' optimism about the future and thus reduce feelings of future vulnerability. Informational support also can help to ameliorate the sense of confusion that arises from being diagnosed with cancer by helping the patient understand the cause, course, and treatment of the illness. *Instrumental support* involves the provision of material goods, for example, transportation, money, or assistance with household chores. This kind of support may offset the loss of control that patients feel during cancer treatment by providing tangible resources that they can use to exert control over their experience. Provision of instrumental support, however, also may increase feelings of dependence and undermine self-efficacy in patients (Wortman & Dunkel-Schetter, 1987).

Our goal in this article is to determine the conditions under which the social environment beneficially influences adjustment to cancer. We review studies that examine the effect of the social environment on psychological adjustment, and we include the very small literature on the role of the social environment in the progression of disease. Psychological adjustment refers to adaptation to disease without continued elevations of psychological distress (e.g., anxiety, depression) and loss of role function (i.e., social, sexual, vocational). Disease progression refers to severity of symptoms and longevity.

We first examine descriptive and correlational evidence on social interactions and adjustment to cancer to determine which interactions are associated with the greatest benefits. Then, we describe intervention research in which aspects of the social environment were manipulated to determine which interactions lead to the greatest benefits. Because the conclusions reached by these literatures are contradictory, we then discuss ways of reconciling the discrepancies and offer suggestions for future research.

### Descriptive and Correlational Research on Adjustment to Cancer

The nonexperimental research on social support and cancer has addressed two issues. First, descriptive data have been collected on the kinds of support patients desire from each of their network members. Second, correlational research has been conducted on the kinds of support related to cancer adjustment.

#### *Helpful and Unhelpful Support*

In three separate studies, researchers asked patients to describe the interactions they found helpful or unhelpful during the illness experience. Each study showed that patients identify emotional support as the most helpful kind of support, regardless of which network member is involved, and informational support as helpful from health care professionals but unhelpful from family and friends.

Dunkel-Schetter (1984) interviewed 79 breast and colorectal cancer patients between 7 and 20 months following diagnosis. Respondents were asked to describe the most helpful and

unhelpful behaviors and the sources of such behaviors. Behaviors were coded into four categories: emotional (love, concern, understanding, reassurance, encouragement), instrumental (aid, assistance), informational (advice, problem-solving information), and appraisal (approval). Emotional support was identified most often as helpful, and instrumental support was identified least often as helpful.

When the source of support was considered, emotional and instrumental support were perceived to be helpful from any source, whereas informational support was perceived to be helpful only if the source was a health care professional. A lack of information from a physician was problematic, whereas too much information from family and friends was problematic; the converse (complaints of too much information from a physician and lack of information from family and friends) did not apply.

A similar set of findings emerged from Neuling and Winefield's (1988) longitudinal study of 58 women recovering from breast surgery. They interviewed women three times: in the hospital after surgery, 1 month after surgery, and 3 months after surgery. At each time of assessment, patients rated the frequency with which family, friends, and surgeons provided each of the following kinds of support: emotional (listening, encouragement, talking, understanding, love), informational (advice, telling what to expect, answering questions), instrumental (helping with chores, providing transportation, providing child care), and reassurance. The findings suggest that (a) needs for emotional support, especially from family, are particularly high; (b) emotional support is the kind of support most received but is also perceived to be the least adequate; and (c) patients desire informational support but only from physicians.

Dakof and Taylor (1990) replicated the findings on emotional and informational support. They asked 55 cancer patients (with a variety of cancer sites) who were within 6 years of diagnosis or recurrence to identify the most helpful and unhelpful support behaviors. Behaviors were coded into one of three categories: Emotional support included physical presence, concern, empathy, affection, and understanding; informational support included information, optimism about prognosis, and being a positive role model; instrumental support (tangible support) included practical assistance and medical care. Among the kinds of support, emotional support was perceived to be the most helpful if present and the most harmful if absent when the source was a spouse, family member, or friend. When the source was a physician, informational support was the most helpful if present, and both informational and emotional support were harmful when absent. Instrumental support was identified as more helpful among poor-prognosis patients.

A fourth study examined support needs among 64 patients (with a variety of cancer sites, but 59% had breast cancer) who were an average of 18 months from diagnosis (Rose, 1990). Patients rated the extent to which they needed emotional, instrumental, and informational support from three sources: family, friends, and health care professionals. Some aspects of emotional support were desired equally from the three sources, whereas other aspects were desired more from different sources. For example, one kind of emotional support—

opportunity for ventilation—was desired more from family and friends than from health care professionals. Patients desired instrumental support from family more than from friends or health care professionals but informational support from health care professionals more than from family or friends. Finally, patients indicated a desire for one type of informational support—modeling—from friends, especially when the friend had cancer.

Another approach to determining perceptions of helpful and unhelpful behaviors involved a comparison of attitudes toward cancer among 100 healthy lay people and 100 women with breast cancer who had been diagnosed between 3 weeks and 21 years prior to the interview (Peters-Golden, 1982). This work identified several misconceptions lay people had about cancer patients' needs and desires. Whereas the majority of potential support providers said that they would try to cheer up a cancer patient, the majority of cancer patients said that "unrelenting optimism" disturbed them. Another misconception of healthy people was that it is harmful for cancer patients to discuss their illness. In addition, healthy people believed patients' major concerns were cosmetic (i.e., losing a breast), whereas patients' major concerns centered on recurrence and death. One expectation of lay people borne out by patients is that others avoid those with cancer.

Other studies have identified similar unhelpful behaviors. Prominent unhelpful behaviors noted by cancer patients include minimizing the problem, forced cheerfulness, being told not to worry, medical care being delivered in the absence of emotional support, and insensitive comments of friends (Dakof & Taylor, 1990; Dunkel-Schetter, 1984). Dakof and Taylor (1990) found that a particularly hurtful behavior was others' avoidance of the patient. This behavior characterized friends rather than spouse and family.

The most frequently reported unhelpful behaviors could be construed as the failure to provide emotional support. Avoiding the patient, minimizing the patient's problems, and forced cheerfulness all keep the patient from discussing the illness. The availability of someone with whom the patient can discuss illness-related concerns is central to the concept of emotional support. Perhaps the reason that patients perceive the opportunity to discuss feelings, especially negative ones, as one of the most important types of support (see Wortman & Dunkel-Schetter, 1979, for a review) is that this specific kind of support is often unavailable (Mitchell & Glicksman, 1977). Patients often want to discuss worries and concerns regarding the illness, but network members believe talking about the illness is bad for patients and upsetting to themselves. In a study of support group attenders, 55% said that they wished they could talk more openly with family members (Taylor, Falke, Shoptaw, & Lichtman, 1986). Dunkel-Schetter (1984) found that 87% of patients said they coped with their illness by keeping thoughts and feelings to themselves. Patients were concerned about how others would react to their expression of feelings.

Although a lack of emotional support from family and friends is especially harmful, there are limits on the extent to which family and friends can provide certain kinds of emotional support. For example, reassurance ("Everything will work out") or empathy ("I know how you feel") may not be

helpful and may be viewed as minimization of the problem when conveyed by family and friends (Rowland, 1989; Wortman & Lehman, 1985). These same responses, however, may be viewed as genuine and helpful when conveyed by peers—those facing a similar stressor. Wortman and Lehman (1985) suggested that peers are in a unique position to provide support because they do not share others' misconceptions about coping with cancer and they are not vulnerable to the anxiety and threat that discussing the illness poses for other network members.

### *Relations of Support to Adjustment*

Although there is a great deal of literature linking social support to adjustment to cancer (see Lindsey, Norbeck, Carrieri, & Perry, 1981, and Rowland, 1989, for reviews), we include only studies that examined specific kinds of support. Many studies averaged over multiple kinds of social interactions. We describe the relations of three kinds of social interactions (emotional, informational, and instrumental) to cancer adjustment. We also distinguish between patients' perceptions of support availability (i.e., perceived support) and reports of support receipt (i.e., received support). In studies that compared the two, perceived support was more strongly related to adjustment (Cohen & Hoberman, 1983; Cohen & Wills, 1985; Wethington & Kessler, 1986). When applicable, we describe the source of support. The sources most often studied were close family, friends, and health care professionals. Unless otherwise noted, the studies reported below are cross-sectional and hence subject to third-factor explanations and reverse causation.

Six studies focused only on emotional support in examining adjustment to cancer. Each of these studies revealed a positive link between emotional support and good adjustment. For example, in a study of 41 women who had mastectomies an average of 22 months prior to the interview, those who perceived greater emotional support from spouse, physician, surgeon, nurses, or children rated themselves as having better emotional adjustment (Jamison, Wellisch, & Pasnau, 1978). Similarly, in a study of 86 women with advanced breast cancer who were interviewed an average of 28 months after diagnosis, Bloom and Spiegel (1984) found that perceived emotional support from family members (cohesion, expressiveness, low conflict) was associated with a favorable outlook (i.e., hope for the future). Greater levels of perceived emotional support also were found to be associated with better social and emotional adjustment (enhanced role functioning, self-esteem, and life satisfaction; reduced hostility) in 301 women with breast cancer with favorable prognoses (Stage I or II; Zemore & Shepel, 1989).

A longitudinal study also provided evidence of relations between perceived emotional support and adjustment. Northouse (1988) interviewed 50 women 3 days (Time 1) and 30 days (Time 2) postmastectomy. Emotional support was measured as the availability of five sources (spouse, family member, friend, nurse, physician) to listen, understand, express love and concern, encourage the patient to talk about problems, and allow the patient to be herself. A composite index of

adjustment was computed from measures of mood, psychological distress, and psychosocial functioning. Positive associations of emotional support and adjustment emerged in cross-sectional analyses at both Time 1 and Time 2. Time 1 emotional support was similarly related to Time 2 adjustment, but Time 1 adjustment was not statistically controlled in this analysis.

The possibility that the relation between emotional support and adjustment is mediated by coping was investigated in a study by Bloom (1982). One hundred thirty-three women with nonmetastatic breast cancer were interviewed between 1 week and 2.5 years after surgery. An index of perceived emotional support (i.e., family cohesion), the presence of a confidant, and two aspects of social affiliation (perceptions of social contacts and leisure activities) were measured. None of the support variables was directly associated with any of the three adjustment indexes (self-concept, sense of power, and psychological distress), but the emotional support index and social contact variables were indirectly associated with all three adjustment indexes through their inhibiting effects on poor coping strategies. A second interview, conducted 2 months later on a portion of the same patients ( $n = 112$ ), revealed the same cross-sectional pattern of findings.

Finally, a prospective study that focused on the perceived adequacy of emotional support showed beneficial effects on both adjustment and survival. Ell, Nishimoto, Mediansky, Mantell, and Hamovitch (1992) interviewed 294 people with breast, lung, or colorectal cancer within 3–6 months of initial diagnosis and followed them for approximately 3 months. Emotional support was correlated with reduced distress during the initial interview and predicted survival. Separate analyses revealed survival benefits only for women with breast cancer and only for those with localized disease. Thus, the site and stage of cancer may be important moderators of the association between social support and health.

Three studies measured multiple aspects of support. All three suggested links between emotional support and adjustment. For example, in a study of 58 women with breast cancer (mean length since diagnosis was 4 years), fibrocystic disease, or diabetes, five aspects of support receipt were measured (expression of positive affect toward patient, affirmation, extent patient confides to network member, reciprocity [extent network member discusses important problems with patient], and aid) from four sources (spouse, family, friends, and others; Primomo, Yates, & Woods, 1990). The first four kinds of support reflect emotional support as defined earlier. Two aspects of emotional support (affect and reciprocity) were associated with less depression in each of the three groups of women when the source was a partner or family member. Aid (i.e., instrumental support) from any source was not related to depression.

Perceived emotional support, professional support, and financial support were examined among 151 women who had mastectomies 3 to 12 months prior to the interview (Funch & Mettlin, 1982). Emotional support (i.e., the extent to which patients perceived they could rely on and talk to network members) was linked to all three adjustment measures (positive affect, negative affect, and index of well-being). Profes-

sional support (i.e., information from and satisfaction with physician) was linked to two of the three adjustment indexes (negative affect and well-being). Neither emotional support nor professional support was associated with any of five indexes of physical recovery. Instead, financial support (i.e., income, insurance) was associated with better physical recovery on all five indexes. Thus, the kinds of support that are associated with psychological and physical health may be distinct.

Perceived availability of emotional support (i.e., willingness to listen) and instrumental support (i.e., help) from spouse, family, friends, minister, physician, and nursing staff was examined among 49 women who had mastectomies (Woods & Earp, 1978). Neither kind of support was associated with depression for women with a high number of physical complications from surgery, but both were related to reduced depression among women with a low number of physical complications from surgery. The authors reasoned that social support was helpful only up to a given level of physical disability. The pattern of findings was stronger for instrumental than for emotional support.

Finally, two studies focused only on received informational support and only on one source—the physician. In studies of two separate samples of 50 patients undergoing radiation therapy, the majority of patients reported that their physicians had not prepared them for the treatments (Mitchell & Glicksman, 1977; Peck & Bowland, 1977). In both studies, the lack of information was associated with unnecessary and irrational fears.

In summary, few studies have distinguished among the kinds of support related to cancer adjustment, but among those that have, the strongest link between support and adjustment involved emotional support. Research has focused more on emotional than informational or instrumental support, reflecting the perception among the scientific and clinical communities—accurate or not—that emotional support is most important. Informational support seems to be helpful when the source is a health care professional. There is limited evidence for health benefits of instrumental support, but it has rarely been assessed. The effects of instrumental support may be limited to certain health outcomes (e.g., physical recovery) or to patients with a particular level of difficulties (e.g., Dakof & Taylor, 1990; Woods & Earp, 1978).

### *Limitations*

The correlational research linking social support to adjustment to cancer is limited in two ways. First, the issue of causality cannot be addressed because the majority of the studies have been cross-sectional. Social support may enhance adjustment, better adjustment may lead to more supportive interactions, or some third variable may be responsible for the association between support and adjustment (e.g., patient neuroticism). Second, these studies have usually measured the perception of network members' behaviors rather than the actual behavior, and we do not know the basis for this perception. Intervention studies that manipulate the social environment remedy these two deficiencies.

### Studies of Social Support Interventions for Cancer Patients

The intervention studies that have examined the influence of social interactions on adjustment to cancer largely focused on the role of social support provided by peers, that is, by others with cancer. This is in contrast to the correlational research, which has typically focused on close family, friends, or health care professionals. There are at least two reasons why interactions with peers have been the focus of intervention research. First, the correlational research suggests that there are some needs that are not met by naturally occurring social environments that may be met by peers (e.g., willingness to discuss illness, empathy, validation; Coates & Winston, 1983). To the extent that the naturally occurring social environment minimizes negative feelings, forces cheerfulness, and encourages patients to put the experience behind them before they are ready to do so, patients may feel further alienated from their social networks. Peers can provide validation for negative feelings. Second, because cancer can negatively affect existing social relationships, patients may turn to persons outside of their immediate network for support. One alternative source of support is what is commonly known as a support group, that is, a group of other persons experiencing the same stressor. In a study that compared patients who attended such groups with those who did not, attenders reported significantly more negative experiences with the medical community and marginally more difficulties communicating with family (Taylor et al., 1986).

The group interventions described below are diverse in nature, and the effects on a wide array of outcomes are not consistent. According to Holland (1991), over 20 intervention studies have been conducted that involved social interactions and behavioral techniques, the majority of which demonstrated an improvement in psychological adjustment. The data on mortality, however, were more equivocal. Most of the

intervention studies lacked theoretical frameworks and many had serious methodological flaws (e.g., lacked a control group, lacked randomization). In a review of the literature on psychosocial interventions with cancer patients, Taylor, Falke, Mazal, and Hilsberg (1988) concluded that participation in some form of group intervention reduces distress and helps patients resume daily activities but that the process by which these outcomes occur has rarely been investigated. We examined the nature of group interventions conducted to date to determine the kind of social interaction that leads to increased adjustment.

Taken collectively, there are two primary components of group interventions—discussion with peers and education. Group discussion ranges from unstructured conversation to focused discussions on psychological issues. In theory, the discussion takes place within an atmosphere of caring and acceptance, and the primary form of support fostered is emotional support, that is, listening, reassurance, comfort, and caring. Education involves providing information about the disease and how to manage it. Thus, the educational groups primarily foster informational support.

First, we review studies of interventions that integrated group discussion and education; second, studies of discussion-based interventions; third, studies of education-based interventions; and fourth, studies that distinguished and compared the two. The studies are listed in Table 1 in the order we discuss them. We include all intervention studies that were conducted with groups rather than individuals, used some type of comparison group, and were published in peer reviewed scientific journals. Unless otherwise stated, the control groups used in these studies were no-treatment controls.

#### *Combined Education and Discussion*

Most interventions have combined different kinds of social interactions. We report four studies, each of which showed an

Table 1  
*Characteristics of Group Intervention Studies*

Authors	Type	Prognosis	Site	Duration	Follow-Up
Ferlic et al. (1979)	Combined	Advanced	Variety	2 weeks	After
Vachon et al. (1982)	Combined	All stages	Breast	3 weeks	After
Morgenstern et al. (1984)	Combined	All stages	Breast	Unspecified	6 months to 3 years <sup>a</sup>
Fawzy et al. (1990)	Combined	Stages I, II	Melanoma	6 weeks	6 months, 6 years <sup>a</sup>
Houts et al. (1986)	Dyad discussion	All stages	Gynecologic	10 weeks	During, 2 weeks
Spiegel et al. (1981)	Group discussion	Advanced	Breast	1 year	During, after, 10 years <sup>a</sup>
Kriss & Kraemer (1986)	Group discussion	All stages	Breast	1 year	After
Lonnqvist et al. (1986)	Group discussion	All stages	Breast	8 weeks	4 to 5 years
Heinrich & Schag (1985)	Education	All stages	Variety	6 weeks	After
Cain et al. (1986)	Education	All stages	Gynecologic	8 weeks	1-2 weeks, 6 months
Johnson (1982)	Education	All stages	Variety	4 weeks	After
Berglund et al. (1994)	Education	Localized	80% Breast	7 weeks	After; 3, 6, 12 months
Manne et al. (1994)	Education	Stages I, III	Breast	2 hr	After
Gruber et al. (1993)	Education	Stage I	Breast	9 weeks	During, after, 3 months
Jacobs et al. (1983)	Education vs. group discussion	All stages	Hodgkins	8 weeks	Few weeks
Telch & Telch (1986)	Education vs. group discussion	All stages	Variety	6 weeks	After
Cunningham & Tocco (1989)	Combined vs. group discussion	All stages	Variety	6 weeks	After; 2-3 weeks
Duncan & Cumbia (1987)	Education vs. group discussion	Advanced	Breast	5 weeks	2 weeks

Note. "Combined" represents interventions that involved both group discussion and education. "After" means that the follow-up was described as taking place after the intervention, presumably immediately after the intervention ended.

<sup>a</sup>The only outcome assessed at this follow-up period was survival or recurrence.

intervention effect on outcome variables. The first three suffer from a variety of methodological flaws, and all four are limited in that the effect of one intervention component cannot be distinguished from the effects of the others.

One study evaluated a group counseling intervention for patients with advanced cancer (variety of sites). The intervention began with education and ended with group discussion (Ferlic, Goldman, & Kennedy, 1979). The education was intended to provide informational support, and the group discussion was intended to provide emotional support. The intervention groups met three times per week for 2 weeks; each session was 90 min; and each group consisted of about 8 patients. Patients were assigned to the intervention group ( $n = 30$ ) or to a control group ( $n = 30$ ) that was matched on age, sex, and education. (It is unclear if the assignment was random.) Self-concept (a measure of self-esteem) and what the authors broadly construed as psychosocial adjustment (reflecting confidence in communication with network members, health care professionals, and other cancer patients; knowledge of cancer; and understanding of death) were measured before and after group participation. Compared with the control group, intervention participants increased in self-esteem and psychosocial adjustment over the 2 weeks.

A second intervention provided informational and emotional support to women with breast cancer. The intervention consisted of educational meetings, advice on coping given by cancer survivors, and peer group discussion of fears and concerns (Vachon, Lyall, Rogers, Cochrane, & Freeman, 1982). The intervention took place in the hospital and was provided to patients who received radiation therapy as inpatients. The number of intervention groups was not specified. After radiation ended (approximately 3 weeks), the in-hospital intervention patients ( $n = 64$ ) were less distressed than the in-home controls ( $n = 104$ ). Unfortunately, the control group consisted of women who received radiation therapy on an outpatient basis; thus, the effect of the intervention cannot be distinguished from the effect of living in the hospital. The findings of this study also are limited in that patients were not randomized to condition.

Finally, two studies evaluated the effects of group interventions on survival. In a study of women with breast cancer, both informational and emotional support were provided in a set of weekly sessions of 90 min each (Morgenstern, Gellert, Walter, Ostfeld, & Siegel, 1984). Each session involved group discussion as well as training in mental imagery and meditation. Patients were followed between 6 months and 3 years (depending on the date they entered the study) for *survival*. Each participant ( $n = 34$ ) was matched with three nonparticipants ( $n = 102$ ) on age at diagnosis, stage of disease, and kind of surgery by tumor registries. Intervention groups consisted of 8 to 12 patients, which suggests that three or four separate groups were conducted. The goals of the group sessions were to promote acceptance of the disease, to instill hope, and to enhance control. Results revealed that group participation was associated with longer survival, but the time lag between diagnosis and study participation was longer for intervention participants than nonparticipants, which suggests that the sickest patients may have been selected out of the intervention group. The intervention effect was not statistically reliable

when the time interval between diagnosis and study participation was controlled in the analysis. Patients also were not randomly assigned to conditions.

An elegant study that randomly assigned patients to an intervention ( $n = 38$ ) or a control group ( $n = 28$ ) was conducted with Stage I and II malignant melanoma patients (Fawzy et al., 1990). The intervention combined education, stress management, coping skills, and discussion with patients and facilitators. Thus, informational and emotional support were provided. The intervention consisted of six weekly 90-min sessions, and four separate intervention groups were conducted. Six months after the intervention had ended, patients in the intervention group had reduced psychological distress (Fawzy et al., 1990) and altered immune function (increased natural killer cell activity, decreased T cells, increased lymphocytes; Fawzy et al., 1993) compared with patients in the control group. The intervention decreased recurrence and increased survival 6 years later (Fawzy et al., 1993). Alterations in immune function, however, did not explain the intervention's effect on mortality.

Although all of these studies suggest that multifaceted interpersonal interventions positively influenced adjustment to cancer when compared with no-treatment control groups, several suffer from methodological flaws. In addition, none distinguished among the effects of individual intervention components.

#### *Discussion With Peers*

We divide the peer discussion interventions into two types: (a) dyadic discussion between a newly diagnosed cancer patient and a cancer survivor, sometimes referred to as peer counseling, and (b) group discussion among more than 2 cancer patients, usually at least 6, sometimes referred to as a support group.

*Discussion with former patients.* One form of discussion that has been fostered among cancer patients is that between newly diagnosed patients and cancer survivors. The assumption behind this type of intervention is that cancer survivors can provide a unique kind of emotional support. They can offer comfort and empathy by virtue of having gone through the experience; they can provide validation of feelings; and they can provide reassurance by demonstrating to newly diagnosed patients that it is possible to recover.

Only one study has compared the efficacy of the peer dyad intervention to a control group. Gynecological cancer patients were randomly assigned to a no-treatment control group ( $n = 18$ ) or a group that received counseling by former cancer patients ( $n = 14$ ; Houts, Whitney, Mortel, & Bartholomew, 1986). The former cancer patients were social workers. They called patients three times: prior to hospitalization, 5 weeks later, and 10 weeks later. The peer counselors offered encouragement, listened to patients' concerns, shared feelings, and provided advice on how to cope with cancer. No group differences in psychological distress appeared 6 weeks or 12 weeks after the intervention began. The length of the intervention may have been too brief (three phone calls) or the nature of the contact inadequate (by phone) for it to have had a significant impact on well-being. Some aspects of the interven-

tion also may not have been appropriate (e.g., patients were advised to maintain normal routine). Although advice by peers could be considered to reflect informational support, informal (nonexpert) advice giving by peers is likely to occur to some extent in all peer support interventions. This kind of information presumably is not as accurate as that provided by experts in educational interventions.

*Group discussion.* Many interventions have consisted of group discussions that were more or less structured by group leaders. We report three studies. In the first, metastatic breast cancer patients were randomized to a control group ( $n = 24$ ) or a group discussion intervention ( $n = 34$ ; Spiegel, Bloom, & Yalom, 1981). Three discussion groups were run. The intervention consisted of weekly 90-min meetings for 1 year. Meetings focused on problems involved in having a terminal illness and ways to improve relationships. Mood was measured at the beginning of the intervention and then 4, 8, and 12 months later. No group differences in adjustment appeared at 4 months or 8 months, but at 1 year the intervention group reported better adjustment (less depression, greater vigor, less fatigue, less confusion) compared with the control group. By 1 year, however, only half the patients remained in the intervention and control groups. Attrition was mostly due to death. Ten years later, this team of researchers found that the intervention increased survival by 18 months (Spiegel, Bloom, Kraemer, & Gottheil, 1989).

A second long-term (12 months) intervention also found adjustment benefits from group discussion (Kriss & Kraemer, 1986). The intervention was provided to 62 women who had mastectomies; it consisted of 90-min meetings, weekly for the first 6 months and monthly for the next 6 months. There were six intervention groups, each consisting of 8 to 12 women. The group format was loosely structured, but the content focused on self-perception, body image, and sexuality. Group leaders attempted to create an atmosphere of acceptance and caring (i.e., emotional support) and used role playing, psychodrama, and guided imagery. At the end of the year, the intervention did not affect body image but increased positive affect and sexual adjustment, the two variables on which the postmastectomy women fared poorly compared with a group of 51 healthy women before the study. The conclusions are limited in that the women were not randomized to condition (in fact, intervention participants were self-selected) and the controls were healthy women, not breast cancer patients who did not receive the intervention.

The remaining intervention evaluation (Lonnqvist, Haltunen, Hietanen, Sevilä, & Heinonen, 1986) found no effects for group discussion, but the intervention was shorter in duration, had a high refusal rate (40%), and included only a single follow-up several years later. In addition, an inadequate description of the intervention makes it difficult to evaluate its actual content. An 8-week group psychotherapy program was provided to 32 newly diagnosed breast cancer patients in Helsinki. Patients formed five separate intervention groups, and each group was matched on age, sex, and illness with a separate control group ( $n = 33$ ). Follow-up data were collected for intervention patients 6 months after the intervention and for both intervention and control patients 4 to 5 years after the onset of the illness. The authors did not report whether

intervention patients showed changes in adjustment at 6 months, but there was no difference between the intervention and control groups on psychosocial adjustment 4 to 5 years later.

In summary, few evaluations of interventions compared discussion groups with no-treatment controls. Moreover, the interventions that have been evaluated differ widely in nature. Existing data do suggest, however, a positive effect for two 12-month interventions (Kriss & Kraemer, 1986; Spiegel et al., 1981).

### *Education*

Educational interventions have involved providing information about cancer, cancer treatment, and how to manage the disease and its treatment. We review six studies that compared group education interventions with no-treatment controls. Each of these studies showed effects of education on at least one outcome variable, and each randomized patients to condition. The last study, however, suffers from problems associated with small sample sizes.

Heinrich and Schag (1985) developed a stress and activity management treatment program that involved education, relaxation, problem-solving, and exercise. The program consisted of six weekly 2-hr sessions. Groups of 5 to 10 patients (with a variety of cancer sites) were randomized to intervention or control groups. At the end of the program, intervention patients' ( $n = 26$ ) knowledge of cancer increased compared with that of controls ( $n = 25$ ), but there were no group differences in psychological adjustment or activity level.

A second study found that education influenced psychological adjustment as well as knowledge of cancer. Gynecological cancer patients were randomly assigned to individual counseling ( $n = 21$ ), group counseling ( $n = 28$ ), or a control group ( $n = 31$ ; Cain, Kohorn, Quinlan, Latimer, & Schwartz, 1986). The counseling groups participated in eight weekly educational sessions that focused on information about cancer and positive health strategies (e.g., diet, exercise, relaxation). There were 4 to 6 patients in the group counseling intervention, which suggests that there were between five and seven separate groups. Anxiety, depression, and psychosocial adjustment to illness were evaluated by a social worker before patients were randomly assigned to condition and by a research assistant, blind to condition, at two follow-up periods (1 to 2 weeks after the intervention and 6 months after the intervention). One to 2 weeks after the intervention, the individual counseling patients were rated as less anxious than the group counseling patients or the control patients, but both intervention groups showed greater gains in knowledge compared with the control group. By 6 months, both individual and group counseling patients were rated as less anxious, less depressed, and better adjusted to the illness than were control patients. This study provides evidence that education delivered to an individual or a group increases knowledge of cancer and improves psychological adjustment. Although individual counseling had a greater impact on anxiety in the short run, over time the group intervention was equally successful in facilitating psychological adjustment.

A third study of patients with a variety of cancer sites also



revealed effects of an educational intervention on knowledge of cancer and psychological adjustment (Johnson, 1982). Age, sex, and pretest scores on anxiety, meaningfulness of life, and knowledge of cancer were used to place patients into pairs. One member of each pair was randomized to one treatment group ( $n = 22$ ) or one control group ( $n = 22$ ). The treatment consisted of eight 90-min educational sessions that focused on informational support. These were administered over a 4-week period. At the end of the treatment, the intervention group showed significantly greater improvements on anxiety, meaningfulness of life, and knowledge of cancer than the control group.

A fourth study revealed psychological health benefits of an educational intervention but showed that some positive effects disappear over time (Berglund, Bolund, Gustafsson, & Sjoden, 1994). Patients (80% with breast cancer) were randomly assigned to an educational program that involved information, physical training, and coping skills ( $n = 98$ ) or to a control group ( $n = 101$ ). The intervention consisted of 11 meetings held over 7 weeks. Between 3 and 7 patients attended each session. Outcome variables were measured pre- and postintervention as well as 3 months, 6 months, and 12 months after the intervention. After the educational program, intervention patients had improved physical strength and "fighting spirit" (a subscale on a cancer adjustment scale) compared with controls, and these benefits were maintained over the 12 months. However, other short-term benefits derived by intervention patients compared with control patients (reduced depression, enhanced body image) disappeared by 12 months.

A recent study evaluated the effects of a brief educational program ("Look Good, Feel Better") aimed at enhancing cancer patients' physical appearance (Manne, Girasek, & Ambrosino, 1994). Women who had surgery for breast cancer (mostly Stage I and Stage III) volunteered to participate in the program. After completing a baseline questionnaire in the morning, patients either attended the 2-hr program in the early afternoon (experimental group,  $n = 45$ ) or waited to attend the program (control group,  $n = 76$ ). After the 2-hr program, all patients (experimental and no-treatment controls) completed the follow-up questionnaire. The intervention had a positive effect on mood and perceptions of attractiveness. Self-esteem decreased in the control group but was maintained in the experimental group. The findings are limited, however, by the facts that (a) patients self-selected into the program and (b) the dependent variables were assessed immediately after the program (i.e., while patients' physical appearance was enhanced).

A final study revealed an effect of an educational intervention on immune function but not on psychosocial adjustment (Gruber et al., 1993). Stage I breast cancer patients were randomly assigned to an intervention that provided informational support ( $n = 7$ ) or a wait-list control group ( $n = 6$ ). The intervention involved a 9-week sequence of relaxation, guided imagery, and electromyographic biofeedback. It was conducted in a highly structured group setting to minimize peer supportive interactions. Immune measures were collected weekly: 3 weeks prior to the intervention, during the intervention, and 3 months after the intervention. After baseline levels of immune function were controlled for, intervention patients

showed enhanced immune function (i.e., natural killer cell activity, concanavalin A responsiveness, mixed lymphocyte responsiveness) compared with controls. At the end of the intervention, no group differences appeared on any of the measures of psychosocial adjustment, including affect, mental adjustment to cancer, locus of control, or social support. Small cell sizes, however, severely limited the study's power to detect effects.

In summary, studies that have compared educational interventions to no-treatment controls show that education increases patients' knowledge of cancer and improves psychological and physical adjustment. Although the majority of follow-up assessments took place shortly after the interventions ended, two studies demonstrated that some positive effects lasted from 6 months to 1 year (Berglund et al., 1994; Cain et al., 1986). We now examine studies that compared the effects of group discussion, education, and no treatment.

### *Discussion Versus Education Interventions*

Four studies attempted to distinguish the effects of group discussion from those of education on adjustment to cancer. The first three randomized patients to conditions and demonstrated the superiority of education over group discussion interventions. The fourth did not find effects for either group discussion or education but failed to randomize patients to conditions and suffers from a sample size insufficient for detecting effects.

Education was compared indirectly with discussion in a study of patients with Hodgkin's disease (Jacobs, Ross, Walker, & Stockdale, 1983). Two experiments were conducted. One randomly assigned patients either to an education group that received informational support in the form of booklets and newsletters ( $n = 21$ ) or to a no-treatment control group ( $n = 26$ ). The second randomly assigned patients either to a discussion group that provided emotional support through discussion of problems and common concerns ( $n = 16$ ) or to a no-treatment control group ( $n = 18$ ). The discussion group met for eight weekly 90-min sessions. It is not clear whether either of the interventions consisted of more than one subgroup. At the end of the study (approximately 3 months later), patients in the education group reported increased knowledge of Hodgkin's disease, fewer treatment problems, less anxiety, less depression, and less life disruption than patients in the corresponding control group. There were no differences in adjustment between patients in the discussion group and patients in the corresponding no-treatment control group. The education and discussion groups were not directly compared, however.

In a second study (Telch & Telch, 1986), education and group discussion were directly compared. The educational intervention was clearly superior to the discussion intervention. Cancer patients (with a variety of cancer sites) were randomly assigned to either an educational intervention that provided informational support in the form of expanded coping skills ( $n = 13$ ), a nondirective group discussion intervention that provided emotional support and emphasized mutual sharing of feelings and concerns ( $n = 14$ ), or a control group ( $n = 14$ ). The interventions consisted of six weekly 90-min



sessions. Each intervention consisted of three separate groups of about 5 patients each. Psychological distress, self-efficacy, and cancer-related problems (e.g., physical appearance, pain, activity restriction, relationships) were measured before and after the interventions. In addition, psychological adjustment (e.g., problems in daily living, medical concerns, relationship concerns) was rated by a therapist who interviewed the patient and by an independent judge, blind to condition, who listened to the audiotaped interview. At the end of the study (6 weeks later), participants in the educational intervention were better adjusted (i.e., showed reduced psychological distress and greater feelings of self-efficacy) than participants in the group discussion intervention. Group discussion patients were better adjusted than control patients. Pre-post comparisons of the dependent variables revealed an improvement for the educational group, no change for the discussion group, and a deterioration for the control group. In addition, the education group scored lower on the measure of cancer-related problems than did the discussion or control groups. The latter two groups did not significantly differ from each other. Finally, at the end of the intervention, patients in the educational intervention were rated as better adjusted than group discussion or control patients by both the therapist and the independent judge. There were no differences in psychological adjustment ratings for group discussion and control patients.

In a third study, the effects of education with group discussion were distinguished from the effects of group discussion alone. Cunningham and Tocco (1989) randomly assigned patients with a variety of cancer sites and prognoses to either an educational program that focused on coping skills (e.g., relaxation, mental imagery, lifestyle changes) with the addition of supportive discussion ( $n = 28$ ) or to a supportive discussion group only ( $n = 25$ ). Both interventions met for six weekly 2-hr sessions in groups of 7 to 10 patients. Mood and psychological symptoms were measured prior to the first meeting, at the end of the second meeting, and 2-3 weeks later. Both groups showed improvements over time, but the education with discussion group showed greater improvements. A nonrandomized wait-list control group ( $n = 18$ ) showed no changes in psychological adjustment over a 6-week period.

Finally, a study of a small sample of patients ( $n = 18$ ) compared an education-based intervention with a discussion-based intervention and found that neither influenced psychological adjustment (Duncan & Cumbia, 1987). Adult metastatic breast cancer patients were involved in either a nondirective discussion group aimed at providing emotional support through empathy and acceptance ( $n = 6$ ), an educational group that focused on the provision of informational support in the form of teaching patients skills to cope with their disease ( $n = 6$ ), or a control group ( $n = 6$ ). The two intervention groups met for 90 min, twice a week for 5 weeks. Patients were interviewed within 2 weeks after the intervention. The authors reported no effect of either intervention on adjustment, but the specific dependent variables were not described, small sample size led to insufficient statistical power, and it is not clear whether patients were randomly assigned to conditions.

To the extent that the two kinds of interventions have been evaluated, education has been shown to have a greater effect

on psychological adjustment than has group discussion. Again, the nature of the discussion-based interventions varied widely, which makes it difficult to draw strong conclusions about the kind of peer discussion that affects adjustment.

### Summary

Although our review includes several studies that found effects of support interventions on mortality (Fawzy et al., 1993; Morgenstern et al., 1984; Spiegel et al., 1989), the number and scope of studies focusing on physical adjustment are not yet sufficient for us to assess the effectiveness of these interventions or to speculate seriously on responsible mechanisms (see Andersen, Kiecolt-Glaser, & Glaser, 1994; Cohen, 1988, for a discussion of how psychological and behavioral factors influence disease course). Consequently, our summary (and discussion) focuses on the role of social support interventions in psychological adjustment.

The group (peer) intervention studies we examined evaluated the effectiveness of group discussion, group education, or the combination of the two. We view group discussion interventions primarily as attempts to provide emotional support and educational interventions primarily as attempts to provide informational support. This literature is neither large enough nor methodologically sound enough for us to reach any definitive conclusions, but we feel it offers some strong hints. Overall, the evidence for the effectiveness of group discussion interventions is less than one would expect on the basis of descriptive and correlational research. Educational interventions, however, appear to be as effective as, if not more effective than, group discussion interventions. First, studies that compared group discussion with no-treatment controls and group education with no-treatment controls revealed more evidence for the effectiveness of education than group discussion. The only evidence for benefits of group discussion came from very long (12-month) interventions (Kriss & Kraemer, 1986; Spiegel et al., 1989). This is in contrast to educational interventions, which lasted no longer than 9 weeks and, in some cases, showed positive effects that lasted between 6 months and 1 year (see Table 1). Thus, at the very least, educational interventions are more cost-effective than group discussion interventions. Second, the two studies (with adequate sample sizes) that evaluated group discussion and education and included comparisons with no-treatment controls showed stronger effects of education than of group discussion on adjustment.

One difficulty that arises in comparing the two kinds of interventions is caused by the fact that they were probably not pure education or pure group discussion. Some informal discussion may have occurred in the educational interventions, and some informal information giving may have occurred in the group discussion interventions. At the very least, one may conclude that short-term interventions that attempt to provide education, regardless of whether informal discussion occurs, appear to have greater benefits for adjustment than do interventions that provide group discussion in the absence of education. It is worth noting that Meyer and Mark's (1995) recent meta-analytic review of all psychosocial interventions

did not show differential effectiveness for different kinds of interventions (e.g., education, supportive therapy).

The lack of evidence for positive effects of group discussion is inconsistent with the correlational research on the kinds of support that facilitate adjustment to cancer and with descriptive studies on the kinds of support cancer patients say they desire. Descriptive and correlational studies suggest that the most important kind of support is emotional support, particularly the availability of someone with whom the patient can disclose worries and concerns. This is exactly the kind of emotional support supposedly fostered in peer discussion groups. Instead, intervention research does not provide strong evidence for the benefits of emotional support. Is the correlational research wrong, or is the conclusion from the intervention research faulty? We discuss both possibilities.

### Reconciling Correlational and Intervention Research

In reconciling these contradictory findings, we need to ask why one would expect social support to facilitate adjustment. If we identify the mechanisms by which social interactions influence well-being, we can determine the kind of naturally occurring support and support intervention that should influence these mechanisms and influence adjustment to cancer. In the following discussion, we examine why past research may have shown group discussions to be less effective and educational interventions to be more effective in influencing some of these support processes.

### Difficulties With Group Discussion Interventions

Theoretically, group discussion interventions benefit patients' adjustment to cancer by enhancing their self-esteem (Lieberman, 1988; Yalom & Greaves, 1977) through the provision of emotional support. Discussion with peers is intended to convey caring and acceptance, to reduce feelings of uniqueness, and to validate feelings through the sharing of experiences; that is, it is intended to encourage positive feelings toward the self or to diminish any feelings of personal inadequacy that may accompany cancer. Mutual support and encouragement also are intended to enhance patients' optimism about the future. Finally, the process of expressing the self in a warm and accepting environment may affect adjustment by increasing patients' awareness of previously unacknowledged emotions, permitting them access to new emotions, leading them to acceptance of emotions, or altering their emotions (Greenberg & Safran, 1989).

Then why have group discussion interventions been relatively unsuccessful? The failure to find a consistent positive effect of group discussion on adjustment to cancer could be due to methodological weaknesses that plague the literature (e.g., small sample sizes). However, there are some serious conceptual problems as well. Group discussion interventions have as much potential to adversely affect patients' illness reactions as they do to positively influence these reactions. Group discussion may reduce self-esteem, diminish perceptions of control, or focus on the wrong source of emotional support (peers).

1. *Group discussion interventions have the potential to negatively affect self-esteem and optimism about the future.* The content of peer group discussions varies widely. A peer group may consist of patients with different personalities and often different prognoses and kinds of cancer. These differences have a greater effect on the nature and content of discussion-based interventions than of education-based interventions. Group members can bring up uncomfortable and frightening topics that increase anxiety if not placed in proper perspective by trained leaders. Although the intention may be to have feelings validated, group members may learn that others do not share their feelings and thus may be left feeling more alone and isolated. Groups that consist of members with varying cancer sites may have greater difficulty validating each other's experiences. Thus, self-esteem may be damaged by harmful group interactions.

Talking to group members who are doing well (upward comparisons) may be inspiring, but talking to group members who are not doing well (downward comparisons) may be fear arousing. Although downward comparisons typically enhance self-esteem and lead patients to feel better about themselves, this is more likely to occur when patients have the opportunity to select their social comparisons (Helgeson & Mickelson, in press). In the context of a support group, multiple social comparisons are forced on patients. There is some evidence that participants in support groups feel uncomfortable in the presence of downward comparisons (Coates & Winston, 1983; Taylor et al., 1988; Vernberg & Vogel, 1993). The presence of others who are worse off may diminish patients' optimism about the future.

Finally, peer discussion groups have the potential to damage self-esteem by reinforcing the participant's identity as a member of a deviant or stigmatized group (Coates & Winston, 1983). To the extent that identification with the group interferes with integration into society, group participants may have increased difficulty obtaining support from their naturally occurring social environments.

Some of these problems can be addressed with structured formats and trained facilitators (Dunkel-Schetter & Wortman, 1982; Lieberman, 1988). Structure does not imply that the dialogue of these groups is standardized. As Goldberg and Wool (1985) noted, it is difficult to standardize psychotherapeutic interventions because people present with different problems. Instead, structure implies that trained facilitators (a) keep group members on track and reduce chaotic conversation, (b) promote acceptance and feelings of commonality as opposed to uniqueness and deviance, (c) normalize and validate experiences, and (d) clarify misconceptions. Group discussion without this kind of structure may be just as likely to have a negative as a positive effect on well-being.

2. *Group discussion may (temporarily) reduce perceived control among some patients.* One way to maintain control over the illness experience is by denying its existence, and group discussion could break down denial—thus having the apparent effect of increasing distress. There are two groups of patients who appear "nondistressed" on most psychological instruments: the truly nondistressed and the deniers (Shedler, Mayman, & Manis, 1993). The combined effects of decreasing distress among patients who initially reported distress and

increasing distress among deniers may result in an intervention's apparent ineffectiveness (Shedler et al., 1993). One may argue that this reasoning also should apply to the education-based interventions, which appear to be effective. However, an education-based intervention is not as likely to reduce denial because information about the disease and appropriate treatment is less likely than a discussion of personal feelings to threaten a patient's perception that he or she is coping well.

The idea that expressing negative feelings might temporarily increase distress but benefit health in the long run has been suggested by other researchers (Pennebaker, Colder, & Sharp, 1990), including those studying support groups for other problems (Coates & Winston, 1983; Cowan & Cowan, 1986). If one assumes that group discussions will eventually aid those who initially deny distress, longer term follow-ups may provide more sensitive evaluations. For example, in the Spiegel et al. (1989) group discussion intervention, beneficial effects on adjustment did not appear during the intervention (at 4 months and 8 months) but appeared immediately after the intervention ended (12 months).

3. *Emotional support provided by peers in an intervention may not influence well-being.* It may be that emotional support from existing network members—friends and family and physicians—has a greater influence on adjustment than does emotional support from other cancer patients. First, emotional support provided by peers is typically of shorter duration (finite time length of intervention) than emotional support provided by members of naturally occurring networks. Second, emotional support from peers may not be as effective in reducing distress as emotional support from other sources—either because the relationship is not as intimate or because the support is artificial in the context of an intervention (Rook & Dooley, 1985). The long-term peer support interventions may be effective because they foster “natural” friendships between peers, which changes an “artificial” relationship into a “natural” one.

### *Effectiveness of Educational Interventions*

Education may directly influence adjustment to cancer because it helps patients restore control or find meaning in the experience. Education may indirectly influence adjustment to cancer by restoring patients' self-esteem and optimism about the future.

1. *Educational interventions enhance perceptions of control.* Educational interventions can help to restore patients' loss of control by providing them with information about the cause, course, and treatment of the illness and by teaching them ways to manage the illness and its side effects. Because of their expertise, health care professionals, not peers, are the most effective and accurate sources of information about the disease, disease course, treatment, and side effects.

2. *Educational interventions may affect self-esteem and optimism.* To the extent that patients respond to the information provided in an educational intervention, self-esteem and optimism about the future may increase. For example, patients may gain information about how to enhance physical appearance during chemotherapy that will restore self-esteem if used. Information about the disease may increase hope and informa-

tion about how to cope with side effects may lead to a more favorable outlook for the future if these coping strategies are implemented and effective.

In summary, educational interventions may be more effective than group discussion interventions because they meet the needs of a greater proportion of patients and because they are less likely to place patients at risk for negative outcomes. Educational interventions have the opportunity to restore lost control, provide meaning for the experience, restore self-esteem, and instill optimism about the future. Educational interventions also may appear more effective than group discussion interventions because patients receive both informational support and informal emotional support.

### *Future Directions*

If we take our review seriously, we would recommend developing educational programs for cancer patients. Educational interventions have more consistent positive effects on adjustment and are easier and less costly to implement than group discussion interventions. The question remains, however, whether we should take the literature seriously enough to guide clinical practice. We believe that given the correlational literature and the theoretical arguments regarding the importance of emotional support, discarding the hypothesis that group-based emotional support interventions are beneficial to patients is premature. In view of this conclusion, we suggest two directions for future intervention research: (a) more methodologically sound evaluations of controlled peer discussion interventions, and (b) evaluation of interventions focused on improving emotional support provision from members of naturally occurring support networks.

### *Methodological Improvements of Group Discussion Intervention*

Studies should use no-treatment control groups, randomize patients to conditions, structure and monitor group discussions, and measure the mechanisms by which the intervention is expected to achieve its effects (e.g., enhancement of self-esteem). Researchers should consider measuring denial, other coping styles, and individual difference variables (e.g., gender, prognosis) that may determine who benefits the most from discussion-based interventions. Discussion-based interventions should be structured and portable so that they can be implemented by trained facilitators. It also would be advantageous to include more diverse classes of people, because past intervention research has involved mostly White, middle- to upper-class women (Meyer & Mark, 1995; Taylor et al., 1988).

Adjustment should be measured before, during, and after the intervention. Both short-term and long-term (at least 1 year) follow-ups should be included. Short-term effects of an intervention may dissipate over time, or it may take a longer period of time for health benefits of an intervention to appear. The latter effect is consistent with discussion-based support groups in other areas (e.g., Cowan & Cowan, 1986).

Researchers should consider the effect of combining cancer patients with different cancer sites and prognoses in a single intervention. These differences may interfere with the empa-

thy and shared experiences that are expected to normalize and validate patients' feelings. The presence of a good-prognosis patient and a poor-prognosis patient in the same discussion group not only influences the nature of the discussion but may mask any differential effectiveness of the intervention with respect to prognosis.

Multiple groups should be used to evaluate interventions. In the literature reviewed in this article, the numbers of groups within each intervention were generally small with a mode of one. Groups vary substantially in their response to an intervention, and optimal designs would treat groups (as opposed to individual patients) as the unit of analysis. At the very least, a large enough number of groups should be used so that group differences within each treatment can be statistically controlled.

More studies of peer dyad interventions are needed because this intervention is not vulnerable to some of the problems that plague group discussion interventions. Cancer role models can be selected on the basis of their optimism, psychological stability, and positive response to disease. The American Cancer Society's "Reach to Recovery" program, in which women who have surgery for breast cancer are visited in the hospital by a former cancer patient, is based on this idea.

### *Interventions to Improve Naturally Occurring Support Networks*

Descriptive and correlational research focused on support provided by existing network members, whereas the intervention research focused on support provided by new network members. Future intervention research may benefit from altering existing social relationships rather than creating new social relationships to meet patients' needs for emotional support.

*Family and friends.* Interventions that involve family and friends could be aimed at dispelling myths (e.g., it is bad for the patient to talk about the illness), improving communication, and facilitating both patients' and family members' expressions of needs and feelings. For example, after surgery, spouses often perceive patients as fragile and are afraid that physical closeness will be harmful. Patients perceive spouses' lack of physical closeness as withdrawal and respond in kind. Improving communication helps both patients and spouses to understand each others' actions.

Interventions that address the patient-spouse relationship would seem to be particularly important because spouse support is critical to adjustment (Jamison et al., 1978). Two studies were designed to improve communication among women with breast cancer and their spouses. In one, postmastectomy patients and their spouses were randomly assigned to communication counseling or a no-treatment control group (Christensen, 1983). There was a decrease in depression among patients and an increase in sexual satisfaction among patients and spouses assigned to the intervention group compared with those assigned to the control group. In a second, Samarel and Fawcett (1992) added a "coach" component to a support group to help family members become aware of patients' needs and how to provide emotional support. Unfortunately, the effectiveness of the intervention has not been evaluated.

*Physicians.* Interventions could focus on training physicians to provide emotional support to patients. Physicians must learn to convey information in a caring and accepting manner as well as in a way that patients are able to understand. Patients are more likely to return to an empathic physician than a physician who is competent but not understanding (Korsch & Negrete, 1972). Moreover, increasing the emotional support from physicians to patients will increase patient trust, openness, confidence, and feelings of control and will enable patients to elicit the information they need.

There are barriers to implementing interventions that alter the existing social environment. Chapman and Pancoast (1985) discussed a number of obstacles, three of which are relevant to our discussion. First, it is difficult to change the content of exchanges that occur in established relationships. Second, caregivers are overburdened and may not be receptive to participating in an intervention. Third, some relationships are nonsupportive or conflicted and not amenable to a support intervention.

An alternative approach to altering the social environment is equipping the patient with skills to influence the social network (Cohen et al., 1988). Such training might focus on general social skills (e.g., assertiveness) that will help patients communicate their needs and be able to distinguish helpful from unhelpful social resources. Educating patients about how their illness affects relationships (e.g., places a burden on caregivers) may reduce miscommunications and increase understanding of social interactions.

### Conclusion

The descriptive and correlational literatures suggest that the support most desired by cancer patients and most strongly linked to adjustment is emotional support—specifically, the availability of someone with whom to discuss illness-related concerns and worries. The intervention research, however, offers little evidence that short-term peer discussion groups aimed at providing emotional support influence cancer adjustment. Instead, educational interventions aimed at providing informational support appear to have an equal, if not greater, impact on adjustment. To reconcile these divergent findings, we examined (a) the mechanisms by which one would expect social interactions to influence psychological and physical adjustment to cancer, and (b) the extent to which educational versus group discussion interventions address these mechanisms. We suggest five psychological mechanisms: enhancement of self-esteem, restoration of perceived control, instilling of optimism about the future, provision of meaning for the experience, and fostering of emotional processing. The current state of the literature leads us to conclude that previous educational interventions have a greater potential than group discussion interventions to affect more of these mechanisms. Because the evaluations of group discussion interventions reviewed in this article are limited by methodological flaws and conceptual weaknesses, we suggest that better tests of this intervention should be conducted before discarding the hypothesis that discussion with peers is an effective vehicle for providing the emotional support cancer patients desire.

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