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Psychosocial Interventions for Patients with Cancer: What Works and What Doesn't

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With the successes that have been achieved in cancer care leading to patients surviving longer, the need for a variety of psychosocial intervention models is posing a new challenge to the field. This article reviews the general categories of interventions used most commonly: (1) education; (2) coping; (3) emotional support; and (4) psychotherapy. It provides a theoretical model for designing psychosocial interventions, and provides guidelines for assessing what works and what doesn't © 1999 Published by Elsevier Science Ltd. All rights reserved.

Key words: psychosocial interventions, mixed outcomes, framework, what works, assessing guidelines
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INTRODUCTION

> "What is in a name? That which we call a rose by any other word would smell as sweet."
> William Shakespeare
> Romeo and Juliet, Act II, Scene II

SHAKESPEARE'S IMMORTAL quote works well as a metaphor for psychosocial interventions for patients with cancer. There are many kinds of roses as well as many kinds of psychosocial interventions. Depending upon the variety, roses give off a pleasant scent ranging from barely noticeable to wildly pungent. Roses impact on the other senses as well; their colour is pleasing to the eye and their petals feel like velvet to the touch. Psychosocial interventions also have a range of pleasing effects. They can help patients to cope better with very distressing situations, they can positively improve affective state, and they certainly help to reduce the physical side-effects of the disease or its treatment. In addition, just as the sight, the scent, and the touch of a rose provide an overall positive effect on its beholder, so too can psychosocial interventions provide an overall positive effect on the quality of life of patients with cancer. However, to take the metaphor one step further, many roses have thorns, some tiny and barely noticeable, others large, sharp and downright dangerous. Similarly, there are psychosocial interventions reported in the literature that have shown some thorns as well. This paper will review the general categories of interventions employed and selected studies in order to elucidate what we have learned so far about what does and does not work for patients with cancer. Possible mechanisms of action for positive outcomes will be explored. A theoretical model for designing psychosocial interventions will then be offered and finally, guidelines for assessing any psychosocial intervention for patients with cancer will be presented.

REVIEW OF INTERVENTIONS

There are several distinct categories of interventions that have been utilised for patients with cancer. These include education, coping, emotional support and psychotherapy. The formats employed have been fairly evenly divided between individual and group interventions. Psychological and behavioural outcomes include coping, affective state, quality of life, knowledge and compliance. Physiological outcomes include physical functioning and immune parameters, as well as recurrence and survival [1].

Interventions with short-term positive outcomes

Worden and Weisman [2] performed a prospective study to examine the effectiveness of a preventive intervention in lowering distress and improving coping. 381 newly diagnosed cancer patients were assessed using a screening instrument. Those determined at high risk for emotional distress and poor coping ($n=117$) were randomly assigned to one of two short-term interventions ($n=59$) or to a control group ($n=58$). One intervention was patient centred, focusing on problem

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solving. The second intervention consisted of progressive muscle relaxation. Follow-up occurred at 2 and 6 months. Patients in both intervention groups showed significantly lower levels of emotional distress and significantly higher levels of problem resolution than the controls.

Greer and colleagues [3] reported on a prospective, randomised, controlled trial comparing the quality of life of 156 patients with cancer receiving psychological therapy with that of patients receiving no therapy. The adjuvant psychological therapy lasted 8 weeks and included a brief problem-focused, cognitive behavioural treatment programme specifically designed for the needs of individual cancer patients. At 8 weeks, patients receiving the therapy had significantly higher scores on fighting spirit as well as significantly lower scores on helplessness, anxious preoccupation, depression and fatalism. At 4 months, this improvement continued with a significant increase in magnitude.

Moorey and colleagues [4] reported on the same patients 1 year later. Only 19% of therapy patients were still clinically anxious compared with 44% of control patients. Only 11% of therapy patients were depressed versus 18% of control patients.

Davis [5] randomly assigned 19 newly diagnosed stage I patients with breast cancer to either biofeedback treatment, cognitive therapy or a no-treatment condition. Urinary cortisol (24-h samples) and state anxiety were measured. At 8 months the biofeedback group demonstrated a 6.98% decrease in urinary cortisol ($P<0.05$), the cognitive therapy group a 14.25% decrease in urinary cortisol ($P<0.05$) and the no treatment group a 17.9% increase in urinary cortisol ($P<0.05$). Although there were no statistically significant differences between groups on anxiety measures, 27.7% of the treatment patients showed at least one standard deviation decrease in anxiety as compared with their baseline measures, while no one in the control group demonstrated a decrease.

Richardson and colleagues [6] reported on the effect of compliance with treatment on survival among patients with haematological malignancies. This was a randomised, controlled, prospective educational study to determine if any one of three educational programmes would increase compliance in patients with mixed haematological cancer. All three educational groups were equally effective in improving compliance and compliance was associated with higher survival rates.

Interventions with mixed outcomes

McCorkle and associates [7] reported on a prospective randomised study to examine the effectiveness of care delivered by two different home care treatment conditions, versus an office care group on pain, mood disturbance, concerns, health perceptions, and independence. 166 homebound patients with stage II or greater lung cancer were randomised to Oncology Home Care (OHC) via a Master's level Clinical Nurse Specialist, or Standard Home Care (SHC) with a regular registered nurse (RN), or Office Care (OC: no nurse control). Patients were recruited 2 months after diagnosis. Follow-up occurred every 7 weeks for a total of 6 months. No differences in pain, mood disturbance, and concerns were found among the three groups. However, the OHC and SHC showed less distress and greater independence 6 weeks later but steadily increasing worse health perceptions than OC (control). Conversely, the OC group reported more symptom distress and social dependency but had perceptions of improved health over time. It would appear that the two intervention groups helped patients to more accurately assess and cope with their diagnosis and prognosis. Although patients in the control were able to maintain a certain level of denial, resulting in a better perception of health, they were actually less able to deal with the realities of their condition.

Houts and associates [8] performed a prospective study to determine if counselling of newly diagnosed patients by former cancer patients would increase the use of coping strategies and reduce psychological stress beyond the effects seen by professional staff counselling alone. 32 newly diagnosed gynaecological oncology patients were randomised to either standard professional support alone or combined with additional counselling by former patients. The effects were measured at baseline, 6 and 12 weeks. Counselling by former patients included three phone conversations, plus an informational notebook and audio cassette. Content focused on maintaining normal relationships, making positive plans for the future, asking questions of staff and keeping up normal routines. No differences in emotional status between the two groups were reported. Only one change in coping occurred and this was opposite to the intended and predicted result. Patients in the experimental group made more changes in relationships with family members. Although patients were not asked if they perceived these changes to be positive, it is quite possible that they reflected improvements in relationships.

Pruitt and coworkers [9] conducted a prospective, randomised study to determine if education would reduce psychological distress of patients assessed to be at risk for high distress. 31 high-risk patients were randomly assigned to three 1-h sessions about radiation therapy, cancer, coping strategies, and communication skills, or to a standard no intervention control group. They were measured at baseline, 1 and 3 months later. Depression decreased in the intervention group but there were no other changes in affective state. Knowledge levels did not increase.

Jacobs and coworkers [10] did a randomised, prospective study to determine if psychological and social functioning could be enhanced in patients with Hodgkin's disease either through education or by participation in a peer support group. 105 patients who were currently receiving or within 2 years of completed chemotherapy for Hodgkin's disease were randomised to one of four groups: an education group versus an education control group and a peer support group versus a peer support control group. In the education group, knowledge regarding Hodgkin's disease improved significantly compared with the control group. They also showed significant improvement in anxiety and treatment problems and improvement trends in depression and life disruption. Neither group showed significant changes in interpersonal problems, personal habits, activities, life satisfaction or self-competency. Surprisingly, the education group showed a significant decrease in social competency. This intervention was able to decrease anxiety and treatment problems, but may have also decreased denial resulting in patients becoming more self-conscious in social situations.

In the peer support arm of the study, no significant changes were found between groups on any scale. However, both groups did improve in depression, interpersonal problems, anxiety, personal habits and treatment problems. Interestingly, they also showed decreases in life satisfaction, self-competency, and social competency. These mixed results indicate that time will serve to resolve some issues but that other issues may become long-term problems if left alone. Peer support in certain cases may not be enough. Just talking about problems may not be helpful. Patients may need professional guidance to help them deal with the issues raised.

Linn and colleagues [11] conducted a randomised, prospective study to determine if frequent, one-to-one counselling could improve quality of life, functional status and survival for late-stage terminal cancer patients. 120 men with different cancer diagnoses were randomised to the experimental group (counselling) or the control group (no counselling). Counselling was done several times a week by a single trained therapist. Content included expression of feelings, reducing denial but maintaining hope, dealing with unfinished business and establishing some control over the environment. Significant improvements in quality of life began as early as 3 months and continued to gain in strength to 12 months. No significant changes in functional status or survival occurred for either group. The authors concluded that psychological interventions can do little to improve functional status or survival when implemented late in the progression of fatal disease. However, this in no way reduces the value of improving quality of life, and doing so for end-stage cancer patients should be a high-priority goal.

Interventions with long-term positive outcomes

Maguire and colleagues [12] studied the effect of counselling by a specialist nurse on the psychiatric morbidity associated with mastectomy. 75 patients were individually counselled before surgery and 1 week after surgery with follow-up visits at both clinic and at home. The aim of the counselling was to provide information, advice, and practical and emotional support to each patient from the time of admission to 12 months after surgery. 77 control patients received only routine medical care. Follow-up occurred at 12–18 months after surgery. Contrary to expectations, the counselling failed to prevent morbidity in the first year. However, the nurse's regular monitoring of patients' progress resulted in her recognising and referring 76% of those who needed psychiatric help. This is in marked contrast to only 15% of the control group whose condition warranted being recognised and referred appropriately. As a result, there was less morbidity in the counselling group (12%) than among controls (39%) 12–18 months after mastectomy.

Spiegel and colleagues [13, 14] did a controlled, prospective, 1-year study to determine the effects of weekly supportive group meetings for women with metastatic breast cancer. Discussions focused on the problems of terminal illness, including: improving relationships with family, friends and physicians; living as fully as possible in the face of death; and mourning members who die. Patients were trained in self-hypnosis for pain management. Follow-up occurred at 1 year to determine the impact of the intervention on psychological and physical variables and at 10 years to determine the effect on survival. At the end of the year, the intervention group had lower mood disturbance, less phobia and fewer maladaptive coping responses compared with the controls. Surprisingly, Spiegel found at the 10-year follow-up that the intervention group also had twice the expected survival time (36 months versus 18 months).

Fawzy and colleagues [15–17] conducted a controlled, experimental, prospective study to determine the effects of a short-term psycho-educational intervention on coping, affective state and immunological parameters. 38 patients attended six weekly 1.5-h group sessions. 28 patients served as controls. The content of group sessions included: health education, stress management, enhancement of coping skills/problem solving and psychological support. Compared with controls, the intervention group had less depression, fatigue, and confusion; more vigour; lower total mood disturbance; more active-behavioural and active-cognitive coping; increases in aspects of the immune system, specifically in the natural killer subsystem at 6 months follow-up. There were also fewer recurrences and deaths at the 6-year follow-up.

Possible mechanisms of effective interventions: compliance, psychological, immunological

The Richardson education study [6] clearly showed a positive effect on survival as a result of simple compliance with a treatment protocol. The Spiegel study [13, 14] may have functioned via several psychological mechanisms. This intervention focused and clarified issues associated with the course and treatment of illness. It provided an 'antidote' to feelings of isolation often experienced by cancer patients. It also 'detoxified' death by helping patients to face their own potential loss and by mourning the death of group members. Finally, it fostered a sense of meaningfulness by helping one another.

The Fawzy study [15–17] may have exerted its positive influence through a combination of enhanced psychological mechanisms, improved compliance, and positive effects on certain immunological parameters. This study showed an enhancement of coping and reduction of emotional distress. The increased utilisation of active-behavioural and active-cognitive coping might have positively affected compliance with healthcare maintenance (for example reduced sun exposure). Reduction of distress could have positively enhanced the natural killer cell subsystem. Enhancement of immune functions might have played a role in tumour surveillance, thereby affecting recurrence and survival.

THEORETICAL FRAMEWORK FOR PSYCHOSOCIAL INTERVENTIONS

The studies reviewed above have had a variety of results. Some have influenced a few isolated components, others have had broader impact. Some have had the desired results while others have shown no improvement or change. Yet a few others have had unexpected results, some positive and some negative. How then should one go about designing a psychosocial intervention for patients with cancer in order to ensure the best possible outcomes? To begin with, several key questions should be answered. First, why should healthcare workers intervene? Next, who requires such interventions? When should these interventions be provided? How should they be offered and who should deliver them? Finally, what are the desired and expected outcomes of such interventions?

The answer to the question "Why intervene?" is that the diagnosis and treatment of cancer initiates a period of turmoil, uncertainty and psychological distress that can be managed with a variety of psychosocial interventions. The remaining questions are best addressed in the context of the five phases of the cancer experience: diagnosis, initial treatment, follow-up, recurrence and re-treatment, and terminal-palliative care [18].

During the diagnostic phase, patients may deny the presence or seriousness of the disease and refuse medical care. They may engage in a prolonged search for other treatment options or conversely respond by giving up with a fatalistic refusal of treatment. They may experience acute grief, anger, anxiety and depression as well as decreased concentration, psychomotor retardation, and changes in appetite, sleep and energy levels. During this phase additional education from a nurse specialist; individual psychotherapy from a psychologist, social worker, or psychiatrist; and pharmacological management from a psychiatrist may be extremely helpful in overcoming these problems. It is hoped that such intervention would help patients to resolve negative feelings, accept the diagnosis, enhance coping and adjustment, establish an alliance with the physician and treatment team, develop and initiate a treatment plan and improve their quality of life.

During the initial treatment phase patients may experience general anxiety, fear, sadness, depression, loss of control, helplessness, hopelessness, anger, and guilt. They may also experience problems relative to the type of treatment they receive. Patients undergoing surgery may have grief reactions to changes in body image, they may postpone surgery, seek non-surgical alternatives, and have postoperative reactive depression. Patients receiving radiotherapy may fear the X-ray machine, fear abandonment and have psychotic-like delusions and hallucinations. Chemotherapy patients may have fears of side-effects including nausea and vomiting, body image changes, experience a sense of isolation, and have drug-induced organic brain syndrome (for example psychosis). Additional education by the oncologist or nurse specialist regarding the disease and treatment is needed. The impact of body image side-effects may be addressed by the American Cancer Society's *Look Good, Feel Better* Programme, as well as speciality stores or appearance/image centres [19]. The sense of isolation as well as many of the concerns listed above can be dealt with through group therapy employing supportive, behavioural and/or cognitive techniques. Such groups may be led by volunteer survivors, other peers, or professionals. Individual psychotherapy via a psychologist, social worker, specially trained nurse or psychiatrist may be needed and helpful. Finally, pharmacological management from a psychiatrist may be required. The results of such interventions should be improvement in coping and adjustment to treatment, management of side-effects, affective state, compliance with treatment, reintegration of patients into their routine life and higher quality of life.

Once the initial treatment is completed there is the assumption by both healthcare workers, patients and family members that all is now well; that the best thing to do is get back to normal and forget that this horrible experience ever happened. Unfortunately, the reality is that there will be ongoing problems, and coping with the diagnosis of cancer, even if the patient is cured, can be a lifelong phenomenon. Almost every patient will have some apprehensions about recurrence. There is an increased sense of vulnerability to all of life's vicissitudes. Many will have difficulty in adapting to some limitations at home or work. Even those without physical impairment can have difficulty reintegrating into their routine life. Many experience ongoing anxiety and reactive depression. At this time, additional education by the oncologist or nurse specialist, support groups that are community- or hospital-based, individual psychotherapy from a psychologist, social worker, or psychiatrist, and pharmacological management by a psychiatrist can result in improved coping and adjustment, improved affective state, increased compliance with follow-up regimen, successful re-integration of patients into their routine life and better quality of life.

Those patients who do have a recurrence and require retreatment experience the same responses as to their initial diagnosis, but these may be significantly exacerbated. These are shock and disbelief, complete or partial denial, anxiety, anger and depression. The psychological adjustment may be much more difficult this time around. There is often a frenzied search for new information, other consultants and 'quack' cures. Additional education about further treatment options, a clear commitment to ongoing care, reduction of

Table 1. *Combination of therapies proven most effective in psychosocial interventions for patients with cancer*

	Coping skills			
Education	Behavioural training	Stress management	Cognitive therapy	Support
Diagnosis:	Relaxation response:	Personal awareness:	Coping skills:	Group:
biopsies	PMR	sources of stress	*Active behavioural*	Disease-specific
scan, X-rays	guided imagery	responses to stress	problem solving	Phase-specific
blood tests	visualisation		seek advice, support	Multiple therapeutic
symptoms	Tai chi, Chi gong	Effects of stress:	partnership with doctors	techniques
	yoga	insomnia	attend support groups	Goal-oriented
Treatment:	meditation	GI distress	improve diet	Professionally led
options	biofeedback	hypertension	exercise	Peer support
side-effects	hypnosis	immune suppression		
dealing with effects			*Active cognitive*	Individual:
		Management:	challenge	Patient-specific
Disease:		use problem solving to	positive opportunity	Multiple therapeutic
S&S of recurrence		eliminate or modify	upward comparison	modalities
S&S of progression		reappraise as less	sense of meaning	Goal-oriented
course of disease		stressful	reappraisal	Professionally led
new options		relaxation response	detoxify death	
symptom management		to mitigate negative	grief/mourning	Peer:
		physiological effects		trained
Nutrition:				goal-oriented (e.g. Reach
health enhancing				to Recover)
health inhibiting				

S&S, symptoms and signs; PMR, progressive muscle relaxation; GI, gastro-intestinal.

Table 2. Guidelines for assessing a psychosocial intervention

- Demographics specified
  - type of cancer (e.g. breast, melanoma, colon, prostate cancer)
  - gender (male, female, or combined)
  - age (e.g. <40 years)
  - patients only or friends and family included
- Phase of disease identified
  - diagnosis
  - initial treatment
  - follow-up
  - recurrence/retreatment
  - terminal/palliation

Or

- Stage of disease identified
  - newly diagnosed and/or good prognosis—cure likely
  - disease present but with probable longer-term survival (i.e. in terms of years)
  - disease present and survival measured in terms of months, weeks or days
- Purpose, goals or outcomes stated
  - increased knowledge
  - better compliance
  - improved coping and adjustment
  - enhanced social support
  - decreased stress
  - improved physical symptoms (e.g. nausea and vomiting, pain)
- Therapeutic modality and structure defined
  - education
  - behavioural training
  - cognitive therapy
  - psychotherapy
  - group/individual format
- Leader(s)
  - professional (e.g. nurse, social worker, psychologist, psychiatrist)
  - peer

impact of body image side-effects, reduction of sense of isolation, group therapy (supportive, cognitive, behavioural), individual psychotherapy, and pharmacological management are critical at this phase. If appropriately employed the patients should experience improved coping and adjustment to treatment, improved management of side-effects, improved affective state, increased compliance with treatment, re-integration of patients into their routine life as much as possible and improved quality of life.

Patients in the terminal-palliation phase fear abandonment by family and medical staff. They have a fear of the 'unknowns', that is, the process of dying and what it is like to be dead. They fear potential physical problems such as pain, shortness of breath, and loss of body functions. They are going through a personal mourning and may experience anxiety, depression, and acute delirium. A clearly verbalised commitment by all healthcare members to remain available is needed. Aggressive management of side-effects of terminal disease, especially pain, by the oncologist, nurses, and psychiatrist is crucial. Individual therapy to explore personal mourning and existential issues by the nurse specialist, social worker, psychologist, chaplain and/or psychiatrist can be incredibly helpful. Finally, pharmacological therapy by the psychiatrist to treat anxiety, depression, or delirium may also be needed at this time. The goals of intervention during this terminal phase are improved quality of life, affective state, and management of side-effects of disease progression. Self-mourning and grief work will be facilitated and death will be detoxified.

Another format for answering these questions may be based on prognosis. First are patients who are newly diagnosed and/or have a good prognosis where cure is likely. These patients definitely have to learn to live as cancer survivors. This prognostic stage corresponds roughly to the diagnosis and initial treatment phases. Next are those patients who are not likely to be cured of their cancer but have a long-term prognosis usually measured in years. They may have alternating periods of active treatment and remission. This corresponds to the recurrence and retreatment phases. Finally, there are those patients where cure is definitely unlikely and lifespan is no more than a year or two and probably measured in months, weeks or days. This prognostic stage corresponds to the terminal/palliation phase.

WHAT WORKS

A summary of the types of interventions that have been proved helpful for patients with cancer is provided in Table 1. The first of these is education. Education about the disease needs to be tailored to the type and phase of cancer. Information about nutrition should be included. Coping skills should form a large part of any psychosocial intervention for cancer patients. This includes behavioural training, stress management and cognitive therapy. Finally, emotional support is required from trained health professionals as well as family and friends. Research has shown that all of these have been generally helpful when used individually but are even more powerful and enduring when used in combination [17, 20].

The explanation for this may be that patients are given multiple tools with which to cope. It may also be that different individuals come to this experience with different coping skills and resources already available. In this case, their existing coping skills are reinforced and supplemented in those areas in which they are lacking.

Table 3. Types of interventions according to phase of disease or prognosis

Phase of disease or prognostic stage		Examples of effective interventions
Diagnosis, initial treatment	Newly diagnosed and/or good prognosis with cure likely	Short-term, structured, psycho-educational. Usually last 6 to 10 weeks and are institution based (e.g. Refs [3, 15–17]).
Recurrence Retreatment	Ongoing disease, cure unlikely but longer-term prognosis of 2 or more years	Ongoing, less structured, supportive in nature, patient issue-driven, perhaps less frequent, perhaps monthly rather than weekly (e.g. Wellness Community, Church Groups).
Terminal/palliative	No cure, prognosis no more than 1–2 years and usually less	Long-term or ongoing, structured and goal-oriented (e.g. symptom management, dealing with end of life issues), supportive. Usually weekly or more often and are institution based (e.g. Refs [11, 14]).

GUIDELINES FOR ASSESSING A PSYCHOSOCIAL INTERVENTION

Assuming there is no single intervention format that is ideal for every patient at every point in time, it is important to know what components any particular intervention may have to offer. Table 2 is a guideline for patients and healthcare members to assess any psychosocial intervention. Who the group is designed for in terms of demographics and the stage or phase of disease of the patients to be included should be specified. The purpose, goals or expected outcomes should be unambiguously stated. The therapeutic modalities to be used and the structure need to be defined. Finally, it should be clear who is leading or providing the intervention. Table 3 is a synopsis of the general types or categories of psychosocial interventions that seem most appropriate at different phases or prognostic stages of disease. The phase of disease or prognosis may be the most critical factor in determining the overall goals and format of any psychosocial intervention.

CONCLUSION

For many years horticulturists have been experimenting with crossbreeding to form the 'perfect rose'. They take the scent from one, the colour from another. The perfect rose must be resistant to insects and diseases. The colour of the leaves and the shape of the plant must also be considered. A visit to any nursery will show that there are in fact many 'perfect roses'. However, one person might prefer a floribunda while another delights in a hybrid tea and the rose that flourishes in the moisture-rich environment of Kent would shrivel in the arid Southwestern United States. In a similar manner, numerous psychosocial interventions have been devised and tested over several decades. Many of these have also been the result of a hybridisation process and while some have been successful, others have failed to achieve the desired results. However, knowing what does not work is as important as determining what will work. The quest for a better rose continues, as does the quest for better ways in which to help each individual patient with cancer to cope with this life crisis. May we all be blessed with green fingers.

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