

Behavioural Interventions and Psychological Aspects of Care During Chemotherapy

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Numerous studies have reported the deleterious impact that the side effects of cytotoxic chemotherapy can exert on the quality of life in patients with cancer. Nausea and vomiting consistently feature as the most distressing aspects of cancer therapy. Uncontrolled emesis can cause patients to abandon treatment and the poor public image of chemotherapy may lead others to refuse treatment altogether. Anticipatory nausea and vomiting can also develop in patients and this may persist for many years after successful completion of treatment. There are several behavioural interventions that are effective in ameliorating or preventing these unpleasant side effects. Consequently, psychological support should be provided as an integral part of good patient management, alongside appropriate antiemetic and anxiolytic drugs. As we can identify the characteristics of those patients more at risk from severe emesis and the development of anticipatory problems, there are good arguments for the most effective drug therapy (rather than the cheapest) being given to them prophylactically, together with relaxation techniques.

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INTRODUCTION

"I had to beg them to stop giving me the chemotherapy. I just could not face another course. After the second course I found that thinking about going there made me vomit - in fact it was almost as bad as when I was actually having the treatment. Even now (2 years later) I start feeling sick when I pass by the hospital. I went there the other day to see a friend who had a baby, but I could not stay - that hospital smell brought it all back. I doubt that I could voluntarily put myself through chemotherapy again, even if I knew my life depended upon it" [1].

PATIENTS with cancer undergoing chemotherapy and radiotherapy may experience a large number of unpleasant side effects. Many of these problems (Table 1) remain under-reported in both the clinical literature and in clinical practice. Nevertheless, when quality of life is formally evaluated using self-report questionnaires or semi-structured interviews, the psychosocial and physical dysfunction endured by patients is clear.

The apparent discrepancy between clinical impression and objective measurement of unwanted side effects may be due to a variety of characteristics and attitudes within both patients and their doctors. For example, some doctors may adopt communication styles that inhibit their patients from honest disclosure of the burden that treatment is imposing. Patients may deny that they are having serious problems coping with side effects. Reasons for this include such things as fear of appearing weak, a desire to protect family and friends from distress, and a misguided view that the clinician may withdraw

Table 1. Side effects of chemotherapy experienced by patients

Side effects		
Alopecia	Nausea	Vomiting
Fatigue	Anorexia	Stomatitis
Diarrhoea	Peripheral neuropathy	Sexual dysfunction
Anxiety	Depression	Immunosuppression
Social, sexual and occupational disruption		

All will vary depending on:

Drug combination Dosage Number of cycles Other therapy

life-saving treatment or reduce the dose if complaints are made. Furthermore, too many patients who have not had a realistic discussion about the true therapeutic benefits of treatment may believe that the more awful the side effects the more good the treatment must be doing them - an outmoded "if it hurts then it must help" philosophy. It is therefore extremely important that clinicians encourage patients to disclose side effects and that they are honest about the likely benefits of treatment.

Refusal to embark on chemotherapy

A significant number of patients (an estimated 30%-50%) may never even start chemotherapy. Reasons for refusal include a lack of faith in the doctor [2], a belief that side effects are inevitable, a desire to preserve their quality of life, uncertainty about the benefits of treatment and an illusion that complementary or alternative therapies can cure malignant disease.

Compliance

Other patients may start chemotherapy but give up without completing the full course. One U.S. study, for example, found

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Table 2. Patients most likely to experience severe emesis

High trait anxiety
History of motion sickness
Those who expect to be sick
Those with food aversions or allergies
Younger patients

that 10% of patients refused further treatment because of the distress caused by side effects [3]. Factors that can affect compliance include a prior psychiatric history or one of drug or alcohol abuse. Poor compliance is also common amongst young adults or adolescents, especially males [4]. However, toxicity during treatment, especially uncontrolled emesis, is one of the primary reasons that patients may abandon treatment [5]. Invariably studies show nausea and vomiting to be amongst the most common and distressing symptoms [2].

Fortunately, there are some new antiemetics and anxiolytics which in combination with various behavioural interventions can reduce anxiety and ameliorate nausea and vomiting. The high cost of some recently developed antiemetics has made it difficult for some clinicians to offer these routinely to all patients about to undergo chemotherapy. However, it may be possible to identify those patients most at risk of developing severe uncontrolled emesis, so that prophylactic control could be offered.

Patients most at risk of experiencing severe emesis

The characteristics of patients most likely to experience severe problems can be seen in Table 2. Even healthy individuals may vomit when anxious. Athletes, for example, often report nausea before a stressful race or important game [6]. Not surprisingly, patients who are very anxious and/or expect to be sick usually experience pre- and post-treatment nausea [7]. At least two studies [7, 8] have reported a greater tendency to gastrointestinal upset during chemotherapy in patients who report a history of motion sickness and in those with food aversions or allergies. Some investigators have suggested that females are more prone to uncontrolled emesis but there is very little scientific evidence to support this assertion.

Anticipatory nausea and vomiting

One underestimated and troubling side effect of emetogenic chemotherapy is anticipatory nausea and vomiting. Some cytotoxics produce such powerfully emetic effects that the behaviour quickly becomes a classically conditioned response. Any previously neutral stimuli associated with the administration of chemotherapy such as the presence of nurses, the name of the hospital, the smell of a medi-swab or even the thought of going for treatment, is sufficient to elicit nausea and vomiting. This distressing experience can persist long after treatment ceases [9]. Cella and Tross [10] reported that even up to 140 months post-treatment 63% of 60 Hodgkin's disease survivors who had experienced anticipatory nausea still reported nausea and 80% complained of continued anxiety in response to reminders about the treatment.

Table 3. Patients most likely to develop anticipatory nausea and vomiting

Those who experience longer, more frequent or more severe nausea and vomiting post-treatment [11]
Those with high trait anxiety [12]
Anxiety during initial treatments [12]
Those treated in large wards with other patients [12]

Patients most likely to develop anticipatory nausea and vomiting

The characteristics of patients most susceptible to the classically conditioned negative responses of nausea, vomiting and anxiety are shown in Table 3 [11, 12]. The particularly strong association of anticipatory nausea and vomiting in patients who have experienced longer, more frequent and more severe nausea and vomiting post-treatment highlights the necessity to ensure adequate control of emesis right at the start of treatment. Some researchers have shown how antiemetics given after the development of problems become inadvertently aversely conditioned and produce the very symptoms they are prescribed to reduce [13].

Behavioural interventions

A wide variety of behavioural interventions have been used either alone or in combination with pharmacological preparations in order to ameliorate the side effects of chemotherapy (Table 4). Some of the possible factors that underlie the effectiveness of these interventions are non-specific or poorly understood, but it seems likely that benefits arise from such things as (1) their ability to produce physiological relaxation, (2) the perceived sense of control that patients experience, and (3) counter-conditioning processes or attentional distraction. There is plenty of evidence, in a recent comprehensive review [14], that behavioural interventions may reduce post-treatment nausea or vomiting and help prevent the development of anticipatory nausea and vomiting. Systematic desensitisation, which is a well-known counter-conditioning technique for the treatment of phobic and anxiety disorders has been successfully used in patients with anticipatory nausea and vomiting [15].

Relaxation therapy

The provision of relaxation therapy for patients would seem a sensible prerequisite for good overall care. Alleviating anxiety helps to lower physiological arousal and can lower subjective anxiety during stressful medical procedures used in cancer therapy. It also helps to distract patients from the negatively conditioned stimuli associated with chemotherapy. Another important reason for giving patients relaxation therapy training is that it is a low-cost intervention without any negative side effects.

Table 4. Behavioural interventions

Progressive muscular relaxation therapy (active relaxation)
Systematic desensitisation
Cognitive or attentional distraction
Hypnosis (passive relaxation)
EMG and biofeedback

SUMMARY

The most distressing side effects of chemotherapy, in particular nausea, vomiting and anxiety, can be ameliorated or prevented. Quality of life can be enhanced and the ability of patients to complete treatment successfully is more likely with effective management. This should include good communication between clinicians and patients, with clear information given about the true therapeutic benefits of treatment and likely side effects. Patients most at risk of experiencing severe emesis can be identified early and appropriate drugs to control this should be given as first line therapy to prevent the development of anticipatory nausea and vomiting.

Finally, good counselling support and staff able to provide various behavioural interventions especially relaxation therapy should be made available to all patients with cancer.

1. Fallowfield LJ. *Breast Cancer*. London, Routledge, 1991.
2. Penman D, Holland JC, Bahna GF, *et al*. Informed consent for investigational chemotherapy. Patients' and physicians' perceptions. *J Clin Oncol* 1984, 2, 849-855.
3. Penta JS, Poster DS, Bruno S, Jacobs EM. Cancer chemotherapy induced nausea and vomiting in adult and paediatric patients. *Am Soc Clin Oncol* 1981, 4, 396.
4. Holland JC, Lesko LM. Chemotherapy, endocrine therapy and immunotherapy. In: Holland JC, Rowland JH, eds. *Handbook of Psychology*. Oxford, Oxford University Press, 1989, 146-162.
5. Love R, Leventhal H, Easterling D, *et al*. Side-effects and emotional distress during cancer chemotherapy. *Cancer* 1989, 63, 604-612.
6. Scogna D, Smalley R. Chemotherapy-induced nausea and vomiting. *Am J Nurs* 1979, 79, 1562-1564.
7. Redd WH, Jacobsen PB, Andrykowski MA. Behavioural side-effects of adjuvant chemotherapy. In: *Recent Results in Cancer Research* Vol 115. Berlin - Heidelberg, Springer-Verlag, 1989, 272-278.
8. Morrow GR. The effect of a susceptibility to motion sickness on the side-effects of cancer chemotherapy. *Cancer* 1985, 55, 2766-2770.
9. Fallowfield LJ. *The quality of Life: The Missing Measurement in Health Care*. London, Souvenir Press, 1990.
10. Cella DF, Tross S. Psychological adjustment to survival from Hodgkin's disease. *J Consult Clin Psychol* 1986, 54, 618-622.
11. Redd WH, Andrykowski MA. Behavioural intervention in cancer treatment: Controlling aversion reactions to chemotherapy. *J Consult Clin Psychol* 1982, 50, 595-600.
12. Van Komen R, Redd WH. Personality factors associated with anticipatory nausea/vomiting in patients receiving cancer chemotherapy. *Health Psychol* 1985, 4, 189-202.
13. Morrow GR, Arseneau JC, Asbury JM, Bennet JM, Boros L. Anticipatory nausea and vomiting with chemotherapy. *N Engl J Med* 1982, 306, 431-432.
14. Black PM, Morrow GR. Anticipating nausea and emesis: behavioural interventions. In: Watson M, ed. *Cancer Patient Care: Psychosocial Treatment Methods* Cambridge, Cambridge University Press, 1991, 45-72.
15. Morrow GR, Morrell BS. Behavioural treatment for the anticipatory nausea and vomiting induced by cancer chemotherapy. *N Engl J Med* 1982, 307, 1476-1480.