

A RETROSPECTIVE DESCRIPTIVE COMPARISON OF THE CANCER SYMPTOM EXPERIENCE OF TWO GROUPS OF PATIENTS PARTICIPATING IN AN 8 WEEK AMBULATORY CANCER NUTRITION REHABILITATION (CNR) SERVICE

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BACKGROUND

Patients with cancer are at high risk for multiple intense symptom experiences which impact on their mobility. Fatigue, decreased appetite, worry and pain that are common to this population, can limit the patient's ability to participate in an intense physically active program. The CNR Multidisciplinary team performs through symptom and functional assessments that are used to guide recommendations tailored to patients' needs. Two different programs have evolved to meet the different supportive care/rehabilitation needs of each group. An individualized home exercise program, telephone support, appointments for symptom management and community nursing follow-up are offered to persons whose fatigue and other symptoms affect their walking. For those whose fatigue and other symptoms is not described as affecting their walking, a full group program of physiotherapy, educational support sessions as well as symptom management follow-up is more suitable.



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OBJECTIVE

To describe the development of an Ambulatory CNR Service for patients experiencing decreased appetite, weight loss, fatigue and/or functional losses due to cancer and/or anticancer treatment over the first year (Jan 2006-2007)

CONCLUSION

The findings provide preliminary empirical evidence to support the use of measures to clinically guide practice decisions related to rehabilitation based on patients' appetite, nausea, fatigue levels and walking abilities

INTRODUCTION

There is little research evidence about the symptom description scores that can guide or help practitioners discriminate which patients will tolerate a more active program of exercise and rehabilitation and which will need a program with lower level energy expenditure.

PURPOSE

is to describe whether patient self report data from the Modified Edmonton Symptom Assessment Scale (ESAS), the Brief Fatigue Inventory (BFI), and performance during the "6 min Walk", can determine the allocation to either an individual or full rehabilitation program. A second purpose is to study the symptom patterns in relation to prevalence and severity and the possibility of their interference with mobility particularly at the initial evaluation.

LITERATURE

Cancer a significant health concern around the world, is estimated in Canada this year, to be the cause of 159,900 new cases and 72,700 deaths (National Cancer Institute of Canada [NCIC], 2007). Quebec, has the second largest population behind Ontario, and the second highest incidence of estimated new cases (20,900) projected for men and (20,100) for women in the country. Currently in Quebec, about 85% of all cancers are from Lung, Breast, Prostate and Colorectal cancers. These cancers are associated with many symptom patterns from both the disease and its treatments. In addition cancers involving the Esophagus, Gastric, Hepato-biliary and Pancreas systems, although less frequent are commonly associated with cachexia, weight loss, muscle wasting and loss of function. Cancer because of its prevalence is now a leading cause of illness and death (19,500) in Quebec and therefore is a major health care concern for our population and with in University Medical centers such as the MUHC.

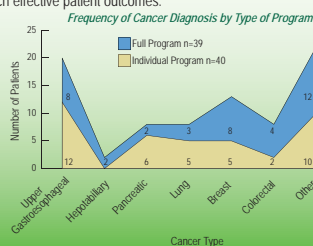
Importance of Unrelieved Cancer Symptoms Experiences:

- "Symptoms are subjective physical or psychological phenomena that arise from pathological states or disorders..." They are inherently subjective perceptions expressed through language (Ingham & Portenoy, 1999).

- Cancer related symptoms resulting from the disease and/or anticancer treatments can include one or more of the following: fatigue, anxiety, constipation, depression, nausea, anorexia, pain, problems concentrating, sleep disturbances, shortness of breath. Patterns of symptoms change and symptoms can overlap or occur in clusters (e.g. fatigue, pain & sleep disruption)
- Understanding the impact of the lived symptom experience is important because of the consequences for patient well-being, and for caregiver burden and health.
- The measurement of symptoms is challenging because of a wide range of meanings from person to person, nuances of the language, as well as a lack of clear definitions. Survey findings studying pain severity in cancer patients have demonstrated that the relationship between severity and interference on function appears to be non-linear. Therefore it may be that severity of the symptoms may not predict the degree of loss of function directly
- Multidimensional measures can provide information regarding symptom characteristics such as frequency, severity and distress associated with the symptom that can be important for planning care. Measures are not meant to replace a thorough symptom assessment done by a trained health care professional.

A MODEL FOR SYMPTOM MANAGEMENT (SMM):

- Symptom Management Model (Larson et al. 1994) is a framework illustrating the many relevant aspects to arriving at effective management of patient symptoms. This model describes the relationship of the symptom experience, symptom management strategies, and outcomes.
- This SMM is used as a research framework studying symptom management strategies through patient education, self-care skills and support (Miskowski et al. 1995-1999).
- The SMM is selected as a clinical practice framework for its importance to understanding the patient and family care giver's experience, of adjusting our differing professional roles in assessing, evaluating the nature of the whole symptom experience and its impact and to understand the collaborative relationship with the patient and family caregiver to reach effective patient outcomes.



METHODS

This retrospective descriptive study of our CNR patients, approved by the institutional review, is explained to participants who provide signed consent. Patients complete the following measures (Edmonton Symptom Assessment Scale (ESAS), Brief Fatigue Inventory (BFI)) of perceived symptom severity and a 6 minute walk at initial evaluation. Over the first year 79 patients aged 15-84; with cancer involving the Gastro-intestinal, Breast, and Lung sites were admitted to the CNR after initial evaluation. Over time we realized that not all participants were able to participate in an intense physical program. 23 participants died during the year.

RESULTS

Data were analyzed using descriptive statistics, correlations, t-tests and ANOVA analyses. Results suggest that the 2 groups were significantly different in terms of loss of appetite ($p < .003$) and presence of nausea ($p < .037$) as well as the distance covered during the 6 minute walk ($t = -4.19, p < .001$). The 2 groups were not different in terms of any items of the BFI Fatigue Scores. However results of analysis using all the participants scores supports the notion that the greater the perceived interference of fatigue on ability to walk the less distance walked ($p = .04$) during the 6 minute walk test.

DESCRIPTION OF REHABILITATION PROGRAM:

TWO TYPES OF CANCER NUTRITION REHABILITATION PROGRAMS OF ACTIVITIES

Individual	Full
Tailored Home exercises	Daily Walking and Home exercises
Decreased number of clinic visits per week	Gym exercise with patient twice per week
Increased telephone follow-up by Pivot Nurse (IPO)	Education Support Group (1hr per week)
Increased symptom monitoring & teaching self-care	Caregiver invited to group with Patient
Follow-up Q 2-3 week (OT, Dietician, IPO Nurse, Doctor, Psychologist)	Follow-up as needed Q 2-3 week (OT, Dietician, Nurse, Doctor, Psychologist, Social Worker)
Request for Home nursing	Symptom monitoring & teaching self-care

The results of the team members initial evaluations are discussed together and a plan of care activities are selected and offered to the patient. The liaison oncology nurse calls the patient at home the next day, explains the plan of activities and negotiates an agreement and a schedule. When the program was reviewed at the end of one year it was observed that the Individual group had many persons with ongoing symptoms, reduced energy resources for activities and low tolerance for even moderate physical activity. The Full group although they described being fatigued, and less active since their diagnosis, participated in the full range of available activities that was adapted into a relatively vigorous schedule of physical activities and clinic appointments. Symptom assessment and management was provided to both groups.

MEASURES:

Brief Fatigue Inventory (BFI) (Mendoza et al. 1999): is a one page self report measure of 9 questions about fatigue using an 11 point numeric scale ranging from 0 (not at all) to 10 (worst possible) to score each item. The first 3 items ask the scorer to rate their level of fatigue from the different perspectives fatigue now, usual, and worst. The next section asks the scorer to rate how during the last 24 hours fatigue interfered with 6 aspects: general activity, mood, walking ability, normal work, relations with others and enjoyment of life. This paper and pencil measure can be completed in 5 min or less. Cronbach coefficient alpha was 0.95 and 0.96. The BFI has been used in some clinical settings.

Modified Edmonton Symptom Assessment Scale (ESAS) (Bruera, et al. 1991; Chang, Hwang, & Feuerman, 2000): is a one page self report measure of 13 symptoms. The person is asked to assess their perceived subjective experience for the previous 48 hrs, in relation to each separate item and score it on a 11 point numeric scale ranging from 0 (not at all) to 10 (worst possible) to score each item. This paper and pencil measure can be completed in 5 min or less. Cronbach's coefficient alpha was .81. The ESAS has been used mostly in the Palliative Care clinical setting.

6 Minute Walk (Guyatt et al. 1985a, b; (Adapted from 12 min walk test) McGavin et al. 1976; (Based on 12 minute run) Cooper 1968.): The Physiotherapist assesses and once the test is explained, asks the patient "to walk as fast as you can for as long as you can in 6 minutes" in a pre-measured distance. This is done under supervision, using pulse oximetry monitoring (heart rate, and O2 Saturation) before and after the walk to determine time to recovery. Patients can stop at any time to rest and have access to a chair. The distance walked for each patient is compared (using a table of norms) to the distance expected according to gender and age. Guyatt validated the 6 Minute Walk with chronic heart and chronic lung disease populations. This measure is used in clinical practice settings and takes about 10 to 15 min to prepare the patient and complete all the assessments.

METHODS

Design: Retrospective Descriptive Study

Analyses:

Sample:

Seventy nine patients entered into the 8 week program. The study has institutional review board approval.

Descriptive measures were used to summarize the data and correlations, t-tests and ANOVA were used to look for differences between groups.

RESULTS

Patient ages ranged from 15-84 with a mean age of 57.4 (S.D 14.9); 48 were between 18-65 years old; 29 were > 65 years old; 49 men enrolled in the study. Table 1 gives the descriptive statistics of the 3 measures used. An ANOVA suggest that the 2 groups were significantly different in terms of loss of appetite ($p < .003$) and presence of nausea ($p < .037$) (Table 2) as well as the distance covered during the 6 minute walk ($t = -4.19, p < .001$). The 2 groups were not different in terms of any items of the BFI Fatigue Scores. It is reasonable to assume that perceived fatigue levels were similar for both groups in this study and the means of the fatigue scores ranged from 3.5-5.76 representing moderate range of intensity. However, results of analysis using all the participants scores showed that the greater the perceived impact of fatigue on walking, the less distance walked ($r = -.236, p = .04$).

TABLE 2 ANOVA OF SYMPTOMS (ESAS) TO SEE GROUP (INDIVIDUAL VS FULL) DIFFERENCES

		Sum of Squares	df	Mean Square	F
Strength	Between Groups	.225	1	.225	.047
	Within Groups	341.556	71	4.811	
Appetite	Between Groups	78.221	1	78.221	9.2100**
	Within Groups	619.966	73	8.493	
Nausea	Between Groups	19.856	1	19.856	4.497*
	Within Groups	322.331	73	4.415	
Vomiting	Between Groups	3.460	1	3.460	2.005
	Within Groups	115.613	67	1.726	
Sleepiness	Between Groups	1.095	1	.628	.066
	Within Groups	606.270	67	9.465	

TABLE 1

	Groups	Number	Mean	Std. Deviation
Quality of Life	Individual	37	4.38	2.151
	Full	37	4.65	2.226
Pain	Individual	38	3.92	2.755
	Full	37	3.08	2.454
Strength	Individual	37	6.00	2.321
	Full	36	5.89	2.053
Appetite	Individual	38	5.42	2.956
	Full	37	3.38	2.871
Nausea	Individual	38	1.92	2.454
	Full	37	0.89	1.663
Vomiting	Individual	35	0.77	1.699
	Full	34	0.32	0.727
Constipation	Individual	35	2.49	2.964
	Full	34	2.68	3.188
Sleepiness	Individual	37	4.03	2.833
	Full	37	4.27	2.969
Shortness of Breath	Individual	38	3.37	2.880
	Full	37	2.97	3.210
Depression	Individual	38	3.63	2.686
	Full	37	4.05	2.990
Nervousness	Individual	36	3.39	2.578
	Full	36	4.03	2.903
BFI	Individual	38	4.66	2.840
	Full	38	4.39	2.650
Fatigue Now	Individual	38	4.79	3.350
	Full	38	3.58	3.010
Walking ability	Individual	38	4.79	3.350
	Full	38	3.58	3.010
6 Minute Walk	Individual	39	253	170.0
	Full	39	371	180.0

CONCLUSION

The findings provide preliminary empirical evidence to support the use of measures to clinically guide practice decisions in planning activities for cancer rehabilitation for our patients in this program. Of particular importance are the patient's description of symptoms of appetite loss, nausea, and fatigue levels as well as evaluating the patient's walking abilities.

IMPLICATIONS FOR NURSING

New knowledge and understanding about cancer symptoms related to fatigue and walking ability is important information for nurses to incorporate into teaching patients to manage their symptoms at home.

Attention to issues of secondary prevention is important for the ongoing health and well-being of the cancer survivor. Health Care Professionals are well placed to assume active roles in educating and supporting this health work. Nurses have a vital role to play within the interdisciplinary cancer rehabilitation team in assessment, education and supporting patients as they learn symptom management, monitor effectiveness of interventions and help the patient develop skill in problem solving around strategies for symptom relief.

IMPORTANCE TO FUTURE RESEARCH:

The usefulness of measures for clinical practice needs further evaluation.

Research is needed to achieve better understanding of the relationship of symptoms to their interference with abilities for walking and participation in rehabilitation program for advanced cancer patients.

