

# Providing Psycho-Education to Combat Fatigue



## *A quality improvement pilot study with radiation oncology patients*

Cancer-related fatigue is one of the most common symptoms associated with cancer and its treatment, specifically radiation treatment.<sup>1</sup> The National Comprehensive Cancer Network (NCCN) defines *cancer-related fatigue* as a distressing, persistent, and subjective sense of physical, emotional, and/or cognitive tiredness and exhaustion related to cancer that interferes with usual functioning.<sup>2</sup> Cancer-related fatigue can persist for months or years after the completion of treatment, and it occurs across a range of cancer types. Despite the prevalence of cancer-related fatigue, it remains underreported, underdiagnosed, and undertreated.<sup>2</sup> The impact of cancer-related fatigue on a patient's ability to function is significant, making the symptom distressing. Because fatigue is categorized as a distressing symptom for many patients with cancer, attention to interventions to decrease cancer-related fatigue is needed.<sup>3</sup>

### **Non-Pharmacologic Interventions**

Of the non-pharmacologic interventions for cancer-related fatigue, exercise has had the strongest evidence of a therapeutic benefit. Exercise improves a wide range of biopsychosocial outcomes in patients with cancer, but further research is needed to better understand the scope of benefits. Studies have demonstrated that patients who exercise are less tired, less depressed, and sleep better.<sup>4</sup> Patients with cancer significantly reduce the amount of exercise they perform during treatment due to disease-induced fatigue and side effects of treatment; however, exercise during cancer treatment has many positive effects.<sup>4-6</sup> NCCN consensus panel guidelines advise that patients and families be provided

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with anticipatory guidance about fatigue and recommendations for self-management, especially when beginning fatigue-inducing treatments such as radiation.<sup>2</sup> Two studies demonstrated that patients welcome psycho-educational interventions related to fatigue and will apply the skills they learn in order to manage fatigue.<sup>7,8</sup> Mitchell and colleagues suggest that interventions should also be directed at strengthening healthcare team members' skills in intervening with cancer-related fatigue.<sup>9</sup> A systematic and meta-analytic review of non-pharmacological therapies for patients with cancer suggested that both psychosocial and exercise-based therapies demonstrated potential for effectively decreasing cancer-related fatigue.<sup>10</sup>

## Our Quality Improvement Pilot Study: Materials and Methods

Although it seems counterintuitive to many patients, increasing physical activity may reduce fatigue. Therefore, it was our goal to create a quality improvement (QI) initiative to address this misconception by educating patients on the positive impact of exercise during treatment. Oncology social workers at Mount Sinai Downtown Cancer Centers, which includes three distinct outpatient oncology practices within one hospital system, utilized the PDSA (Plan, Do, Study, Act) quality improvement tool for testing change. This model is implemented by developing a method to test the change (Plan), carrying out the test (Do), observing and learning from the consequences (Study), and determining what modifications should be made to the test (Act).

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Oncology social workers met with patients during their first 10 days of radiation treatment to provide psycho-education. Patients were given a folder that included an aerobics DVD tailored for patients with cancer (Move for Life), educational information on fatigue, and information on free exercise programs offered onsite and in the community. Free exercise classes were available to patients in all five boroughs of New York City, and yoga and tai chi were available onsite in the cancer center. During this initial meeting, patients were also asked whether they exercised. Exercise was defined by the patients' self-definition and therefore varied between patients.

Social workers spoke with patients a second time for a post-treatment follow-up phone call one week after completing radiation. At the time of the post-treatment call, social workers asked patients several questions about their exercise routines during treatment. This information allowed social workers to understand patients' exercise habits, as well as any barriers to exercising during treatment.

NCCN guidelines recommend that patients be evaluated regularly for fatigue using a brief screening instrument.<sup>2</sup> Our team selected the Brief Fatigue Inventory (BFI) to measure patients' fatigue.<sup>11</sup> The screening was administered during the social worker's initial visit with the patient and again over the phone one week post-treatment. The social workers first met with patients during the beginning of treatment, because the occurrence of fatigue increases with the number of weeks patients are treated with radiotherapy.<sup>12</sup> The purpose of the BFI is to assess severity of fatigue and the impact of fatigue on daily functioning in patients with cancer. The survey takes less than five minutes to complete. Patients are asked to rate their level of fatigue from 0, which indicates no fatigue, to 10, which indicates the worst fatigue imaginable. A global fatigue score is obtained by averaging all the items on the BFI.

Oncology social workers at our three outpatient cancer centers in New York City met with patients during their first week of radiation treatment in radiation oncology waiting rooms and treatment areas. From October 2016 through December 2017, patients with all cancer diagnoses were targeted for this QI pilot study. In January 2018, we implemented the PDSA quality improvement worksheet to test the changes made by the initial pilot and to help focus social work efforts in identifying target populations. As a result, patients receiving radiation therapy for breast or prostate cancer were targeted, because these individuals were more likely to participate in exercise programs. Only patients receiving at least six weeks of radiation treatment and who were able to communicate in either English or Spanish were included in the pilot. Patients with comorbid medical or psychological conditions that could limit the patient's ability to exercise were also excluded from participating. Social workers experienced difficulty reaching patients by telephone at the time of follow-up and therefore the number of post-treatment BFI scores was reduced. Due to space constraints, social workers were sometimes only able to meet with patients in waiting areas. There were no costs associated with implementing this program.

### QI Pilot Study Findings

Complete data were gathered for 38 patients. Of those patients, 30 participants were female and 8 were male. The average age of our participating patients was 60; however, patient age ranged from 34 to 83 years old. Sixty-eight percent of the patients had breast cancer, 16 percent had prostate cancer, 13 percent had head and neck cancers, and 3 percent had gynecological cancers (see Table 1, page 49).

Patients who reported exercise during treatment had an average initial BFI score of 2.0 and average post-treatment score of 2.5. Patients who reported no exercise during treatment had an average initial BFI score of 3.1 and an average post-treatment BFI score of 2.9. The difference in post-treatment scores demonstrates that patients participating in exercise during radiation treatment report lower average BFI scores than patients who are not participating in exercise during radiation treatment. This is consistent with

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Table 1. Patient Demographics of the QI Pilot Study

Demographics	N	Percentage
Male	8	21
Female	30	79
<b>Age</b>		
30-40	2	5
41-50	5	13
51-60	10	26
61-70	15	39
71-80	5	13
81+	1	3
<b>Diagnosis</b>		
Breast	26	68
Prostate	6	16
Head and neck	5	13
Gynecological	1	3

Table 2. BFI Scores Pre- and Post-treatment

	N	Average Initial BFI Score	Average Post-treatment BFI Score
Patients who reported exercise during treatment	22	2.0	2.5
Patients who reported no exercise during treatment	16	3.1	2.9

Table 3. Self-Reported Barriers to Exercise

Self-Reported Barrier	N	Percentage
No barrier	16	42
Fatigue	8	21
Time constraints	7	18
Physical limitation	5	13
Dislike of exercise	2	5



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findings of other cancer-related fatigue studies, although it is not statistically significant. The data also showed that patients who exercised during treatment had an increase in fatigue post-treatment, whereas people who did not exercise had a decrease in fatigue post-treatment. One could infer that having a lower baseline BFI score might make patients more susceptible to experiencing fatigue during treatment and that exercise may prevent them from becoming as fatigued as they would had they not exercised (see Table 2, page 49).


Data were gathered on patients' methods and frequency of exercise. Patients most commonly reported walking and exercise classes as their preferred exercise, and most patients reported that they exercised two to three times per week. Patients also reported barriers to exercise during treatment, including time constraints, fatigue, dislike of exercise, and physical limitations. Patients also frequently expressed having no barriers to exercise but chose to not exercise during treatment (see Table 3, page 49).

Currently, our QI pilot only gathered two BFI data points for 38 patients. More participants are needed in order to generalize the findings and to assess the impact of our initiative. We experienced difficulties reaching patients post-treatment for the follow-up BFI assessment and, as a result, we were unable to gather full data on many patients for whom we obtained baseline data.

### Closing Thoughts

It is important for physicians and other healthcare professionals to recognize and assess their patients for cancer-related fatigue so that interventions can be offered. At many cancer programs, exercise and wellness programs are offered free of charge, and patients need to be notified of the availability of existing resources at the center where they are receiving treatment and/or in the community. Oncology social workers, patient navigators, and advanced practice nurses often have access to this type of information. Furthermore, finding effective QI methods to test and evaluate interventions is essential for delivery of high-quality and high-value care. It is also important to highlight the role of exercise during cancer prevention, treatment, and survivorship. Oncologists should be encouraged to explain the health benefits, safety, and risks associated with exercise during treatment.

A future direction for this QI initiative may include collaboration with additional providers, such as nurses, to increase the dissemination of information to patients and to provide important clinical perspectives. Although this QI pilot project was limited

by its small sample size, it has resulted in enough encouraging information to embark on a larger study. Our hope is to continue this initiative with the goal of reaching a greater number of patients. 

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