

The eighteenth-century English poet, James Thompson, wrote: Health is the vital principle of bliss, and exercise, of health." It is widely accepted that regular exercise improves health, and many acknowledge that exercise positively impacts psychological as well as physical well-being. Despite its many benefits, however, exercise may be the last thing on the minds of women who are undergoing or have recently undergone adjuvant therapy for breast cancer.



Helping Breast Cancer Survivors Stay Fit and Healthy

“While recovery rates for women diagnosed with breast cancer are comparatively high, a new set of challenges arises for survivors after treatment ends.”



Previous page: In-Shape Fitness member Antonia Masotta, with Dr. Tish Knobf Above: In-Shape Fitness employee Todd Degree with Dr. Tish Knobf

Breast cancer survivors represent 22 percent of the 9 million cancer survivors, making them the largest cancer survivor population. While recovery rates for women diagnosed with breast cancer are comparatively high, a new set of challenges arises for survivors after treatment ends. Women who have undergone adjuvant chemotherapy often report physical and psychological symptom distress that persists after treatment. Cancer treatment related fatigue is almost universal, and many women decrease their normal physical activity following diagnosis. In addition, women often experience fear of recurrence and anxiety about the future. Many women also gain weight during treatment, and have concerns about their physical appearance. Research suggests that gains of 5–14 lbs. are common among women treated for breast cancer, and this weight gain persists following therapy. Finally, premature induced menopause, a common side-effect of adjunct chemotherapy in younger women, may be associated with bone loss, increasing a woman’s lifetime risk for osteoporosis.

The Yale School of Nursing is collaborating with local fitness centers to implement an exercise intervention study for breast cancer survivors. Dr. Tish Knobf is the principal investigator for the study titled “A Pilot Exercise Intervention in Breast Cancer Survivors.” Along with Dr. Karl Insogna from the Yale School of Medicine, and Dr. Loretta DiPetro from the Yale School of Epidemiology and Public Health, Dr. Knobf will evaluate the feasibility and effect of a progressive walking, resistive exercise intervention on bone mass, weight, body composition, general health, physical functioning and physical and psychological symptoms in mid-life women following breast cancer treatment. While conducting research for her master’s thesis in 1982, Dr. Knobf observed that at the end of treatment, breast cancer survivors experienced a mixed and complex set of emotions. “While breast cancer patients are receiving adjuvant chemotherapy treatment, they experience a sense of safety in knowing that the treatment is preventing cancer from recurring,” explained Dr. Knobf. “They also form a close bond with their healthcare providers—physicians and nurses—whom they interact with regularly during treatment. Their family and friends provide additional support while treatment is taking place. When treatment ends, survivors are relieved to be done with the stress and physical discomfort of therapy, but experience anxiety and uncertainty due to fear of recurrence.”

Dr. Knobf went on to explain that during treatment patients come to rely on the

support of their healthcare providers. As visits to health care facilities become less frequent after treatment ends, that support system disintegrates. Family and friends too, reassured that the patient is doing better physically, often put less emphasis on emotional support following treatment. “Suddenly, the patient feels more alone with the experience of their illness that they had while receiving treatment,” Dr. Knobf said.

Participants of the 16-week intervention program are women with breast cancer who have completed therapy within the past 12–24 months. During the initial phase of the intervention, women will begin walking on a treadmill at their own pace three times a week. All women will progress toward a goal of three weekly 45 minute sessions. All exercise will be supervised by a master’s prepared exercise physiologist.

“One of the most significant health concerns these women face after therapy is loss of bone mass due to an early onset of menopause,” said Dr. Knobf. “One of this study’s goals is to determine whether resistive exercise intervention has a positive effect on bone mass, specifically bone re-modeling.” Participants will wear weighted waist/hip belts and upper back packs during exercise. It is hoped that regular exercise with weights might preserve or increase bone mass and thus minimize the risk of osteoporosis.

Dr. Knobf will also be looking at whether these women will continue to exercise after the 16-week intervention ends. Study participants will be interviewed 6 weeks post intervention to determine how successfully exercise has been integrated into their lifestyle. “We are hoping that the intervention program will have a positive impact on these women’s lives emotionally and psychologically, as well as physically,” Dr. Knobf said. “If the social interaction with other participants reduces their anxiety level, makes them more physically fit and makes them feel better about themselves, we think these women will choose to continue to exercise even after the intervention ends.”

The idea for the partnership between ysn and local fitness centers was first conceived by A. Siobhan Thompson, research associate at ysn. In search of a practical option that could promote and sustain enrollment in the study, Siobhan conceptualized a partnership with fitness facilities in the areas where the study participants live. “The idea was to leverage and develop community resources in conducting interventions that can sustain healthy behaviors after project completion.” Siobhan said. “This project provides options in exercise training for women that are easily transferable to routine lifestyle activities.” Siobhan discussed her idea with colleagues at ysn and exercise professionals assigned to the study. She also spoke with exercise professionals at In-Shape, her local gym that has facilities in Branford and North Haven, Connecticut. “In-Shape staff were very eager to provide support for this project,” she said.

In-Shape agreed to match ysn dollar for dollar to subsidize monthly membership costs to the study participants. Rob Acquavella, In-Shape Chief Operations Officer, explained why: “In-Shape has been in business of improving people’s health and physical fitness for many years. Many of us have loved ones whose lives have been impacted by breast cancer. In partnering with ysn we have been presented with an excellent opportunity to improve the quality of life of breast cancer survivors and to reaffirm our commitment to the health of people in our community.”

The relationship model with In-Shape was used to establish another partnership with Venus, a full-service fitness facility for women in Milford, Connecticut. “The collaboration with Venus has expanded the reach of our study to include breast cancer survivors in Milford and the surrounding area,” said Dr. Knobf. She plans to apply this intervention model to engage more fitness facilities and involve an even larger number of participants. “This type of intervention model may create the motivation and the support system breast cancer survivors need to improve their psychological and physical health,” Dr. Knobf said. “Engaging partners from the local community will also help emphasize to the community at large the positive impact of exercise on their lives.”

Building leadership in family nursing research



From July 26–August 1, 2003, ysn hosted researchers, doctoral students, and advanced practice clinicians who share an interest in family research for a week of intensive study and discussion of conceptual, methodological, policy, and practice issues related to family. A total of 28 scholars and practitioners from North America and Asia participated in this program. The Summer Institute on Family Nursing Research combined didactic sessions, seminar discussions, and individualized consultations and included leaders in family nursing research as well as experts in research design and policy analysis. ysn faculty, as well as faculty from University of California, San Francisco and University of Pennsylvania schools of nursing led the discussions.

The institute provided participants with an opportunity to network with others interested in family research, explore issues and trends in family research, and receive individualized input on their own projects. “One of the most valuable aspects of the institute was the interaction that took place among faculty and participants who shared their insights and experiences related to the design and implementation of family studies,” said Dr. Kathleen Knafl who directed the program.

The evaluations handed out at the end of the week were replete with superlatives. Comments included:

“Wonderful exchange of ideas from various backgrounds in family research!”

“Wonderful mix of participants; very stimulating group.”

“Kudos; this was a spectacular event!”

The program was co-sponsored by ysn’s Center of Excellence in Chronic Illness Care and the Center for Health Policy and Ethics. “The focus of the institute was in keeping with ysn’s overall emphasis on self and family management of chronic illness and risk for illness,” said Dr. Knafl. “It is another reflection of ysn’s leadership role in this critical area of inquiry.”