

SUBJECT: ICS Physical Activity Programme/Pilot Study

DATE: February 1, 2011

INTRODUCTION

As of January 22nd 2011 the Physical Activity Programme/Pilot Study was officially completed. Marie Murphy, the programme designer and director contracted by the Irish Cancer Society August 24th 2010, implemented her work as Exercise Specialist, to train women diagnosed with breast cancer. Marie trained a total of 48 women in both cardiovascular exercise and resistance training exercise for a period of four months. 42 women completed the training and met or surpassed the goals of the programme.

The following documents/data were recorded by the Exercise Specialist for each of the participants to show their progress throughout the course of the Physical Activity Programme, which began on September 25th 2010.

Data:

- Weekly training schedule (Mon.-Tues-Thurs-Sat.)
- Weekly training METs (15 weeks)
- Fitness testing(1st-5th-10th-15th week)
- VO2 progress chart (1st-5th-10th-15th week)
- Body Fat Analysis (1st-8th-16th week)
- Arm Measurements Lymphedema (1st-6th-12th week)
- Resistance training appointments (ICS-ARC)
- Resistance training workouts (supervised)
- Resistance training volume (progress chart)
- Resistance training 2nd workout (at home)

REFLECTION ON PILOT STUDY

There are four areas on which I would like to reflect regarding the Physical Activity Programme, which are;

- Aims
- Objectives
- Performance
- Projective future

AIMS

The aims of the Physical Activity Programme was to safely train each woman in achieving a minimum of 9 MET/hours a week of cardiovascular exercise. Studies have shown that women who have been diagnosed with breast cancer and exercise at least 9 MET/hours a week lower their risk of recurrence by as much as 64%-67% two years after diagnosis and 94%-97% five years after a diagnosis. A fifteen week walking programme was designed specifically for each woman, based on the results of her fitness test. As the enclosed data shows, all women achieved the goal by accomplishing an average of ≥ 9 MET/hours a week over the course of the fifteen weeks training and an average of 14 MET/hours a week for the combined 42 women who completed the programme. We should also keep in mind that the guidelines for prevention of disease from the USA Surgeon General is 15-20 MET/hours a week and of those partaking in the programme, two thirds achieved such fitness level successfully.

The aims of the Resistance Training Programme was initially to recruit at least 25 women, with or at risk for lymphedema, to engage in a two day a week weight training programme for a period of 12 weeks. 41 women signed up and 36 completed the programme.

The programme was designed to safely improve each woman's flexibility, range of motion and muscular endurance. One weekly workout was supervised by the Exercise Specialist and a second by the women at their own homes. There were a total of ten exercises in this workout which incorporated the ten major muscles of the upper body. Each woman progressed at her own pace in reps, sets and weight lifted; and no woman had a lymphedema flare-up throughout the entire programme (which was the main priority in the resistance programme).

The data enclosed shows each of the women's progress throughout the programme, the volume of weight achieved over the period of twelve weeks and the positive changes that occurred in their body composition. Two thirds of the women lifted above a volume of 4,000lbs in a given workout by the end of the programme. To put this in perspective, the same women started the programme lifting a volume of 440lbs. It is also worth mentioning that the programme saw substantial positive changes in the women's effected arm.

OBJECTIVES

The main objective of the Exercise Specialist was to empower each woman in her health and well-being and to help those overcome their fears in relation to resistance training and lymphedema.

On completion of the cardiovascular programme Marie's objectives were for each woman to have a greater understanding of METs, in relation to prevention/recurrence of disease and be given the tools to maintain or improve upon her fitness level, to lower her risk of a breast cancer recurrence.

On completion of the resistance training programme Marie's objectives were for all who engaged in the programme to have a greater knowledge on the safety issues of resistance training and breast cancer, the importance of maintaining proper technique to lower the risk of injuries and the tools to confidently continue on with their programme, to improve their strength and decrease side effects that may be associated with treatment/surgery.

PERFORMANCE

The Exercise Specialist was able to perform her duties at the highest standards due to her receiving full support and communication from the Irish Cancer Society (ICS). Compliance to the programme was a team effort from ICS, ARC Cancer Support Centre and Marie Murphy combined.

Appointments for resistance training took place every Monday and Thursday at the ICS and Tuesday's at ARC for a total of fifteen weeks. Marie supervised smaller groups (4-7 women) at a time for her appointments at the ICS while at ARC on Tuesday's she supervised up to 15 women at a given time. In Marie's estimation she would say that the evaluation process and conditioning phase of the programme went smoother at the ICS due to the smaller groups. Things took a little more time with the larger group in making sure everyone's technique was correct and that everyone felt comfortable with what was being asked of them. Once the evaluation process and condition phase of the programme was complete (approximately four weeks) things moved equally well at both locations.

The schedule for the cardiovascular programme took place every Saturday morning at 10:00am in the Phoenix Park and every Tuesday afternoons at 2:00pm at a local park (Blessington St Basin) near ARC. Fitness testing took place at both locations where each woman walked a mile as fast as she could and was evaluated for her fitness level measured in VO₂/METs (volume of oxygen used for a given work-load). Women were assigned a training programme (1-2-3) and level (beginner-intermediate-advanced) based on the results of their fitness test, which we saw change as their fitness improved (Data enclosed shows all women's cardiovascular improvements and changes in their programme levels).

Saturday mornings was where the majority of women came to train and began their programme by walking 30 minutes, advancing to one hour and thirty minutes by programme end. The Phoenix Park was a perfect environment and our group thoroughly enjoyed meeting and training there. The beauty of the park could be taken into consideration as an added bonus for the consistency in the women's attendance. For Tuesday afternoons the women walked approximately 30 minutes at Blessington St Basin before their resistance training. The women commented that the surroundings of this park with its bird and plant life, gave them a safe and uplifting feeling. In the Exercise Specialist's estimation both locations worked very well for the programme and everything that was needed to perform at our best was enhanced by these locations.

It should also be noted that the success of the Pilot Study was very much collaboration, with important and valued input by Ms. Joanne Vance and Ms. Eimear Cotter of ICS, without whom the role of the Exercise Specialist could not have been performed to the levels achieved.

PROJECTED FUTURE

Overall, as the Exercise Specialist, I am very happy with the results of the Physical Activity Programme/Pilot Study. The women did a wonderful job in maintaining their commitment to the programme which carried through the Christmas season and severe weather conditions. An additional two weeks were added to compensate for any time lost. The women achieved/surpassed the goal of ≥ 9 MET/hours a week of cardiovascular exercise to lower their risk of a recurrence with breast cancer.

The original cardiovascular programme is designed for one year which allows an individual adequate time to accomplish 15-20 MET/hours a week and achieve the goal of prevention of disease as mentioned above. Two thirds of the women in the Pilot Study achieved this level of fitness over the course of the fifteen weeks while the remaining one third needed more time to accomplish this level. Considerations for the future are for these women to join in with the new programme beginning in March, which could run parallel to each other. This would enhance the programme and add a mentor support system to help alleviate any concerns newcomers may have. As mentioned in the initial proposal to the ICS, this programme can be rolled out as an online programme to target a greater audience.

The resistance training programme saw 36 women achieve wonderful improvements in their flexibility, range of motion, and muscular endurance. However, although the programme has shown positive benefits and new to all, certain concerns arise for one third of the women going forward with their programme, without having their technique, in each of the ten exercises reviewed. In view of this, review dates could be set up for the near future. In addition consideration may be given for 'teaching instructors' to guide the women through resistance training classes, which can be discussed.

A nutrition seminar was given by the Exercise Specialist/Sports Nutritionist during the second phase of the training programme. The seminar covered a great deal of information and provided tools which the women could apply. The women may benefit more however by having this seminar in the first phase of the programme, with a review seminar in the second phase. This would provide an opportunity for feedback from the women and also allow for nutrition to be taken into account, when analyzing differences in performance and body composition.