Life After Breast Cancer: 
A Physical Wellness Program for Women in Puerto Rico (PWPW)

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Clinical Applications
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Abstract

Background/Purpose

Regular exercise and physical activity are important for preventing breast cancer, reducing risk factors, and promoting quality of life in breast cancer survivors. The main purpose of this project was to encourage breast cancer survivors to begin exercising on a regular basis, at least three times per week. Exercise can improve breast cancer survivors’ health and general physical wellness.

Population and Methodology

A total of 100 women living in Puerto Rico who survived breast cancer participated in this study. Participants completed a questionnaire after acquiring an Instructional DVD containing an exercise program designed especially for breast cancer survivors. Participants watched the Instructional DVD in their homes and followed the exercise program. After one month, they completed a second questionnaire about the product and their attitude toward exercise.

Expected Results

More than half of the participants (79%) responded that they have been exercising after watching the DVD. Among these, 21% responded that they are exercising three times per week, 20% four times per week, and 46% five times per week.

Discussion and Conclusion

Women breast cancer survivors who participated in this exercise program improved their attitude toward exercise and physical activity by increasing exercise frequency. An interactive wellness program in Instructional DVD format may help women breast cancer survivors begin a regular exercise program, promoting their health and physical wellness.
Introduction

Background/Rationale:
Currently, women who undergo medical treatment after being diagnosed with breast cancer present good expectations of surviving the condition;\(^1\) however, for many patients the possibility of recurrence is always present.\(^2\) According to several studies, physical activity and exercise have been shown to have positive implications for the reduction of risk factors for this population and in enhancing the quality of life\(^3,5\) of women who are undergoing cancer treatment as well as cancer survivors.\(^6,7\) There are diverse tutorials on the Internet about breast cancer, but none focus on exercise and physical activity for preventing recurrence and promoting health.\(^8,9\) Consequently, there is a need for educational software that promotes physical activity and exercise to help prevent recurrence and promote physical wellness throughout the lifespan of women cancer survivors.\(^10\) As physical therapist, I can contribute to this purpose by developing an Instructional Digital Video Disc (DVD) that contains important information about the condition and a special section with specific exercises and physical activities.

Project Objectives:
1. Develop an Instructional DVD to promote physical wellness for women breast cancer survivors who do not undergo radical mastectomy.
2. Market the wellness program to breast cancer survivors, physical therapists, physicians and the general community.
3. After viewing the Instructional DVD, breast cancer survivors will begin to exercise regularly at least three days per week or continue exercising regularly.

Brief Description of Product:
An Instructional DVD containing information about breast cancer and specific exercises and physical activities will be created to promote physical wellness among breast cancer survivors. This product will be designed especially for breast cancer survivors without radical mastectomies and for health care providers such as physical therapists, physicians and others for the promotion of physical wellness for their breast cancer clients. Physical therapy educators may also use this product as interactive educational material to complement course contents. This product can be used at diverse locations: in patients’ homes; in clinical settings by physical therapists and other health care providers; and, at higher education institutions that teach physical therapy. Finally, the Instructional DVD may be used as a visual interactive guide for those who are interested in health promotion and prevention.
Literature Review

Pathophysiology
Breast cancer, which can begin in the breast lobules or breast ducts, is categorized as different types of cancer.\textsuperscript{11} It can spread to nearby lymph nodes and/or to the bloodstream,\textsuperscript{12} as well as to other parts of the body such as bone, lungs, liver, skin and brain by metastasis.\textsuperscript{11,12} The causes of breast cancer are unknown, but scientists have discovered a relationship between the mutations of tumor suppressor genes (retinoblastoma (RB), BRCA1, BRCA2 and p53) and the development of the disease.\textsuperscript{11-14} It is thought that the mutations of BRCA1 and BRCA2 can occur at any moment of a woman’s life or can be inherited. Transformations in the receptors of the human epidermal growth factor 2 (HER2), progesterone and estrogen have also been associated with the onset of breast cancer, but the mechanism of action is still under investigation.\textsuperscript{12,15,16}

Epidemiology
Risk factors for the development of breast cancer include:\textsuperscript{11,12}
- History of breast cancer in the family
- Mutations of BRCA1 and BRCA2
- History of breast cancer
- History of abnormal breast changes
- History of contraceptive use
- Exposure to radiation therapy
- Inadequate diet, for example, a high-fat diet.
- Gender
- Age
- Ethnicity
- Nulliparity or infertility
- Late menopause
- Postmenopausal weight gain

Breast cancer, the most common cancer among women in Puerto Rico, had an incidence rate of 66.28 per 100,000 women in 2003 with a mortality rate of 17.73 per 100,000 women in 2004.\textsuperscript{17-19} Current statistics indicate that there are about 1,540 new cases of invasive breast cancer and 363 deaths each year in Puerto Rico.

Clinical Diagnosis and Prognosis
A mass in a breast may be the first sign that warns women that something abnormal may be happening. However, a definite diagnosis will only occur after a physician detects the mass during a clinical examination and orders imaging studies such as mammography and sonomammography. Prior to surgery, a magnetic resonance imaging (MRI) and a positron
emission tomography (PET) are performed to distinguish between malignant and benign tumors. Further, tissue biopsy and sentinel lymph node mapping are performed to confirm the presence of malignant cells while ductal lavage is used to detect transformations in the ductal cells.11

Prognosis prediction for women with breast cancer will depend on many factors: early diagnosis, age, tumor stage, number and location of malignant nodes, type of breast cancer, absence of estrogen and progesterone receptors, over expressed HER2, and presence of BRCA1 and BRCA2 genes. The five-year survival rate for localized tumors is 92%, while ten-year survival rate varies from 85% to 7% depending on the cancer stage.11,12

Physical Therapy Diagnosis and Prognosis
Preferred practice patterns:11,20
   4B: Impaired posture
   4C: Impaired muscle performance
   6H: Impaired circulation and anthropometric dimensions associated with lymphatic system disorders.

The prognosis in physical therapy depends on the overall patient health status. If the patient is in adjuvant therapy, she can present signs of fatigue and low tolerance to exercises.11 After completing the physical therapy assessment process, physical therapists can establish the appropriate physical therapy diagnosis, prognosis, plan of care and expected outcomes.20

Medical Management11,12
   Surgery
   Chemotherapy
   Radiation therapy
   Hormone therapy
   Transtuzumab (biologic therapy)
   Other pharmacological agents:
    o tamoxifen
    o raloxifene
   Prevention, especially for those with breast cancer history:
    o periodic clinical breast examination
    o mammography
    o chemoprevention
       tamoxifen
       raloxifene
    o nutritional supplements (vitamin D)
**Current PT Intervention**
Physical therapy interventions have been shown to have positive implications for women with breast cancer, and regimens of regular moderate intensity exercises have demonstrated a positive effect in reduction of fatigue, as well as in improving functional ability and strength. Scientific literature supports the fact that exercise should be performed at least three times per week for 30-60 minutes, with an intensity between 3 and 5 METs, and at maximal heart rate of 40% to 65%. Recommended exercises include cardiovascular exercises, stretching, and strengthening exercises.

**Problem Statement**
Since there has not been available an interactive product for Puerto Rican breast cancer survivors that can be used at their homes for the promotion of exercises and physical activity, it is necessary and appropriate to create an Instructional DVD for that purpose. Presently, an extensive amount of research has emphasized the importance of exercises and physical activity for health promotion. The Instructional DVD will be an interactive product designed to help prevent recurrence of breast cancer and to promote physical wellness throughout the lifespan of female breast cancer survivors. It is expected that the user of the Instructional DVD will begin to exercise regularly at least three days per week or continue exercising regularly throughout their lifespan.

**Methods and Materials**

**Population**
The subjects for this project are female breast cancer survivors in Puerto Rico who have finished their radiotherapy and chemotherapy treatments. This project does not discriminate between social classes because its objective is to promote physical wellness in all female breast cancer survivors in Puerto Rico regardless of economic or social background. Since this product is designed as a home exercise program to be performed independently by the participant, the exclusion criteria for the use of this product are patients who have undergone radical mastectomy, and who, therefore, need an individualized physical therapy intervention to address their needs after surgery. Exercise affects the cardiopulmonary system, among others, and the purpose of this program is to promote physical wellness without exacerbating any preexisting health conditions. Consequently, the patient’s physician must give written consent for exercise before the use of this product.

**Decision Making Process**
The importance and positive effects of exercise and physical activity in female breast cancer survivors is supported in the scientific literature. All studies evidence the recommendation of moderate exercise. During interviews with several breast cancer survivors in Puerto Rico, they
expressed the need of an instrument to stimulate them to begin or continue an exercise program to enhance their quality of life. They also stated that, although brochures and written material were available, these were not sufficient to motivate them. Physical therapists also expressed their concern that breast cancer survivors should start and continue physical activity and/or exercises after discharge.

Studies have demonstrated that a diet high in fat is an important modifiable risk factor associated with the development of female breast cancer.\textsuperscript{11,12} This project does not underestimate the importance of this factor, but rather focuses on promoting the general quality of life in breast cancer survivors through an exercise program. The physical wellness program for female breast cancer survivors is based on diverse types of exercises and physical activities described in the literature.\textsuperscript{22,23,26-28} This Instructional DVD will be an instrument that breast cancer survivors may take with them, follow the recommendations and begin the program in the comfort of their homes. This can minimize the risk that the subject will not perform the exercises due to lack of interest or time, procrastination, or because it is not a priority. These barriers, identified in the study of Rogers et al,\textsuperscript{29} were the most frequent reason for not exercising. Based on the evidence from the research, there is a need for promotion of exercises and physical activity among breast cancer survivors.\textsuperscript{30} Appendix A presents a strengths, weakness, opportunities and threats (SWOT) analysis related to the instructional DVD.

\textit{Development of an Instructional DVD}

The process for the development of the Instructional DVD included the creation of PowerPoint templates and subsequently saving them as images to serve as the background for the video on DVD. All written material and information about breast cancer were written on a PowerPoint presentation and then every slide was saved as an image in Joint Photographic Experts Group (JPEG) format (Appendix B). A flowchart was designed to organize all of the content of the DVD prior to the construction of the final product. The content material included slides with titles, an exercise program, images, recorded voice sounds and music. After obtaining the model’s consent, original photos were taken to demonstrate stretching and strengthening exercises. The entire exercise program was designed after the review of literature,\textsuperscript{22,23,26-28} and the final product was created using the WinDVD Creator software.

The technology used for the development of this Instructional DVD consisted of two laptop computers (HP Pavilion, one with Windows Vista operative system and the other with Windows XP); Microsoft Office PowerPoint 2007; WinDVD Creator; one HP Photosmart 6.2 megapixels digital camera with video recorder; voice and sound recorder.
**Marketing Efforts**
A marketing plan and a budget (Appendix C and D) were developed to fulfill the need for distribution of the product. This product will be marketed among community organizations, physical therapy clinics and oncologists’ offices.

**Outcomes Measurement**
After female breast cancer survivors acquire the Instructional DVD, it is expected that they will begin to exercise regularly at least 3 days per week or continue exercising regularly. Two questionnaires (Appendix E) were developed to measure the changes in exercise habits. When the subjects acquire the DVD, they will complete a baseline questionnaire and provide contact information for follow-up. The subject will complete a follow-up questionnaire one month later and return it by mail or answer it either by phone or email to determine if she began exercising and the frequency, among others. The intention is to obtain data during two periods of time, at baseline and during follow-up. For this project, it will not be necessary to use any other measurement tool to assess users’ attitudes toward exercising after utilizing the Instructional DVD for one month.

**Expected Results**

*Note: Hypothetical data was used to make this report.*

One hundred female breast cancer survivors acquired the Instructional DVD with one-hundred percent completing both the initial and follow-up questionnaires. The average age of the participants was between 46-55 years old and all were breast cancer survivors, as illustrated in Figure 1.

![Percentage by Group of Age](image)

Figure 1. Participant Age Groups.
The results regarding motivation, exercising habits and frequency of exercising are presented in Figures 2, 3 and 4. Figure 5 illustrates that participants were more likely to perform exercises with the DVD. Figure 6 shows the perception regarding the usefulness of the Instructional DVD.

Only one participant answered the questions 7 and 8. For question 7, what motivates her to begin exercising, the answer was: “I do not like exercises”. For question 8, the only suggestion to improving the instructional DVD was to “make it more interactive.”

![Motivation to Exercise Regularly](image)

Figure 2. Motivation to exercise regularly, pre and post DVD viewing.
Figure 3. Percentage of participants who exercise pre and post DVD viewing.

Figure 4. Frequency of Exercising.
Figure 5. Percentage of participants who perform exercises using the DVD.

Figure 6. Perception regarding the usefulness of the Instructional DVD.
**Discussion/Conclusion**

In this study of promotion of physical wellness through an Instructional DVD with an exercise program, most participants reported an increase in their motivation to exercise regularly. It was also notable that a majority of the participants improved their exercising habits and increased their frequency of exercising after watching the DVD. More than half of the participants reported that they had been exercising three or more times per week using the DVD. These hypothetical outcomes demonstrate the great potential of the use of technology in the promotion of wellness among breast cancer survivors and show that the Instructional DVD is a useful tool to help breast cancer survivors to begin an exercise program in the comfort of their homes. To further evidence this, in the study of Rogers et al. it is reported that people were more likely interested in receiving information in written and videotape form about how to exercise.

However, not all participants were performing exercises after acquiring the DVD, and this could be the result of external factors. Rogers and colleagues’ study, present in their research several barriers that cancer patients expressed for not exercising during treatment. This may explain why not all participants began to exercise regularly. This study evaluated the utility of the product to promote physical activity and exercises in cancer survivors; however, it did not examine the physiological effects in participants after exercising. It is recommended that future studies evaluate the performance of participants after using the product in the areas of cardiorespiratory, muscular strength, flexibility and quality of life, among others. The results of this project are important since they serve as the basis for future studies regarding the promotion of physical activity and exercise in cancer survivors. Developing effective products to promote physical health should be a priority in the physical therapy field in order to achieve the goal that everyone, especially cancer survivors, exercise regularly.

At present, studies on the impact of an Instructional DVD for the promotion of physical activity and exercise in cancer survivors were not found in databases since most of the reviewed studies evaluate the effectiveness of exercise programs among breast cancer survivors. The results of this study present clearly that regular exercising among cancer survivors may be promoted through the use of technology in an instructional DVD.

**Improvements/Limitations**

One of the limitations of this study was that it was conducted among a limited number of breast cancer survivors. Further, the Instructional DVD only presented static images with written instructions, and this may have limited the response of participants to begin to perform the exercise program regularly. Another limitation that may have affected the response was that the evaluation was conducted only one month after the participants acquired the product rather than after a longer period of time.
In order to improve these limitations, it is recommended that the exercise program include videos where women demonstrate the exercises while a narrator explains the instructions. Also, participants should be surveyed at intervals of one month, three months, six months, and one year after acquiring the DVD.

**Clinical Applications:**
This product will serve as a tool in the clinical area for the promotion of exercise and physical activity in cancer survivors and will provide useful information and current statistics about breast cancer. It may also serve to educate the patient/client about how to conduct the exercises correctly and systematically. Further, this study may be continued by following up on the participants’ progress in terms of their attitude toward exercise and physical activity.

A wellness program Instructional DVD is a real alternative for the promotion of exercises and regular physical activity among breast cancer survivors. Physical therapists must be willing to offer viable alternatives so that when breast cancer survivor patients/clients are discharged from our clinics, they have the necessary tools to continue a regular exercise program in the comfort of their homes. Additional studies regarding the impact of this program on the physiological state of participants should be conducted.
Appendix A

SWOT Analysis
Strengths/Weaknesses/Opportunities/Threats

Strengths:

- This product is a useful guide of exercises for breast cancer survivors.
- The physical wellness program for breast cancer survivors is an evidence based product.
- The Instructional DVD is a user friendly product. Users easily access their area of interest.
- The exercise program is specific and detailed in all of its areas: strengthening, stretching and aerobic exercises.
- The product has the latest information about breast cancer.
- Users can begin the exercise program in the comfort of their home.
- People can contact me by phone or email.

Weaknesses:

- The women can perform the exercise program without supervision and may commit mistakes if they do not follow instructions.
- The DVD does not include exercise videos.
- The users need a DVD player or computer to watch the Instructional DVD.

Opportunities:

- After analyzing the results of the questionnaire, I can use the data and suggestions to improve the product to better meet the needs of this population.
- Videos of breast cancer survivors performing the exercises may be included in the DVD.

Threats:

- Lack of motivation by the user to watch this product to begin exercising.
- Users can alter the exercise program and get injured.
Appendix B

Life After Breast Cancer
A Physical Wellness Program for Women in Puerto Rico
(PWPW)

Submitted by:
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Appendix B
Continued

Life After Breast Cancer
A physical wellness program for women in Puerto Rico.

Main Menu

Introduction

Objectives

Breast Cancer
• Risk Factors
• Clinical Diagnosis
• Prognosis
• Medical Management

Physical Therapy (PT) Intervention

Exercise Program
• Guide for success
• Stretching exercises
  • Upper Body
  • Lower Body
• Strengthening exercises
  • Upper Body
  • Lower Body
• Aerobic exercises

Contact Info.
References
Appendix B
Continued

Introduction

- Breast cancer is the most common cancer among women in Puerto Rico.¹
- There are about 1,540 new cases of invasive breast cancer and 363 deaths each year in Puerto Rico.¹
- The five-year survival rate for localized tumors is 92%.²
Appendix B
Continued

Introduction

- Physical activity and exercise have been shown to have positive implications for the reduction of risk factors.³⁻⁵

- This Instructional DVD contains important information about the condition and a special section with specific exercises and physical activities for breast cancer survivors.

- This Instructional DVD has been designed especially for you.
Appendix B
Continued

Objectives

This Instructional DVD will:

- present clinical information about breast cancer.
- provide an exercise protocol for female breast cancer survivors.
- help you understand the importance of exercise for breast cancer survivors.
- motivate you to begin to exercise regularly.
Appendix B
Continued

Breast Cancer and its Causes

- Breast cancer, which can begin in the breast lobules or breast ducts, is categorized as different types of cancer.²

- It can spread to nearby lymph nodes and/or to the bloodstream,⁶ as well as to other parts of the body such as bone, lungs, liver, skin and brain by metastasis.²,⁶
Appendix B
Continued

Breast Cancer and its Causes

The causes of breast cancer are unknown:

- Scientists have discovered a relationship between the mutations of tumor suppressor genes (retinoblastoma (RB), BRCA1, BRCA2 and p53) and the development of the disease.\(^2,6-8\)

- It is thought that the mutations of BRCA1 and BRCA2 can occur at any moment of a woman's life or can be inherited.
Appendix B
Continued

Breast Cancer and its Causes

- Transformations in the receptors of the human epidermal growth factor 2 (HER2), progesterone and estrogen have also been associated with the onset of breast cancer, but the mechanism of action is still under investigation.\textsuperscript{6,9,10}
Appendix B
Continued

Risk Factors\textsuperscript{2,6}

- History of breast cancer
- Exposure to radiation therapy
- Gene Mutations
  - BRCA1 and BRCA2
- History of breast cancer in the family
- History of abnormal breast changes
- History of contraceptive use
Appendix B
Continued

Risk Factors

- Inadequate Diet
  - High fat diet
- Age
- Gender
- Ethnicity
- Nulliparity or infertility
- Late menopause
- Postmenopausal weight gain
Appendix B
Continued

Clinical Diagnosis

- A mass in a breast may be the first sign that warns women that something abnormal may be happening.

- However, a definite diagnosis will only occur after a physician detects the mass during a clinical examination and orders imaging studies such as mammography and sonomammography.
Appendix B
Continued

Clinical Diagnosis

- Prior to surgery, a magnetic resonance imaging (MRI) and a positron emission tomography (PET) are performed to distinguish between malignant and benign tumors.

- Further, tissue biopsy and sentinel lymph node mapping are performed to confirm the presence of malignant cells while ductal lavage is used to detect transformations in the ductal cells.
Appendix B
Continued

Prognosis

- Prognosis prediction for women with breast cancer will depend on many factors:
  - early diagnosis
  - age
  - tumor stage
  - number and location of malignant nodes
  - type of breast cancer
  - absence of estrogen and progesterone receptors
  - over expressed HER2
  - presence of BRCA1 and BRCA2 genes
Appendix B
Continued

Prognosis

The five-year survival rate for localized tumors is 92%, while ten-year survival rate varies from 85% to 7% depending on the cancer stage.
Appendix B
Continued

Medical Management^{2,6}

- Surgery
- Chemotherapy
- Radiation therapy
- Hormone therapy
- Transtuzumab (biologic therapy)
- Other pharmacological agents:
  - tamoxifen
  - raloxifene
Appendix B
Continued

Medical Management

- Prevention, especially for those with breast cancer history:
  - periodic clinical breast examination
  - mammography
  - chemoprevention
    - tamoxifen
    - raloxifene
  - nutritional supplements (vitamin D)
Appendix B
Continued

Current PT Intervention

- Physical therapy interventions have been shown to have positive implications for women with breast cancer,\(^2\) and regimens of regular moderate intensity exercises have demonstrated a positive effect in reduction of fatigue, as well as in improving functional ability and strength.
Appendix B
Continued

Current PT Intervention

- Scientific literature supports the fact that exercise should be performed at least three times per week for 30-60 minutes, with an intensity between 3 and 5 METs, and at maximal heart rate of 40% to 65%. Recommended exercises include cardiovascular exercises, stretching, and strengthening exercises.⁵,¹¹-¹³
Appendix B
Continued

Current PT Intervention

- As a physical therapist and after extensive review of literature, I present you an exercise program to follow in the comfort of your home.

- Remember that, in addition to this wellness program, other physical activities are recommended: gardening, social dancing, and bicycling for at least 15-30 minutes.¹²
Appendix B
Continued

Exercise Program 12-15

Content:
- Guide to success
- Stretching exercises
  - Upper Body
  - Lower Body
- Strengthening exercises
  - Upper Body
  - Lower Body
- Aerobic exercises
Appendix B
Continued

Guide to success

- It is recommended that you perform these exercises at the same time each day, at least 5 days per week.
- Begin with 10 repetitions of each exercise. Progress to 15 repetitions during the 2nd week as tolerated.
- These exercises should not cause pain. Perform the exercises as instructed to avoid injury.
Appendix B
Continued

Guide to success

- If you have any doubt about an exercise, contact the support line.
- Do not perform these exercises if you have an infectious disease.
- Maintain your normal breathing pattern while you exercise. DO NOT HOLD YOUR BREATH.
Appendix B
Continued

Guide to success

- Perform all exercises smoothly and uniformly throughout their entirety and return to the starting position.

- Enjoy the exercise program every time you perform it.

- Be in a comfortable position to perform these exercises.
Appendix B
Continued

Guide to success

- Remember to begin with 10 repetitions of each exercise.

- The duration of this exercise program is between 30 to 60 minutes. Always try to finish the exercise routine when time permits.

- It is recommended that you watch the DVD in its entirety at least once before using it to begin your exercises. Remember: Some exercise is better than none.
Appendix B
Continued

Stretching Exercises

Instructions

- Always perform these exercises before and after the exercise routine.
- You may perform the stretching exercises every day.
- Always stretch your muscles to the point of tightness. You should not feel pain, but you must feel the muscle tension.
Appendix B
Continued

Stretching Exercises

Instructions continue

- Move smoothly through the available range of motion.
- Hold each stretch for 20 seconds and then progress to 30 seconds.
- Maintain your normal breathing pattern while you exercise. DO NOT HOLD YOUR BREATH.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise standing or sitting on a chair.
Appendix B

Upper Body

- Smoothly bend your head forward. Keep your shoulders relaxed.
- Hold this position for a count of 20 seconds.
- Slowly return to the starting position.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise standing or sitting on a chair.
Appendix B
Continued

Upper Body

- Smoothly bend your head backward. Keep your shoulders relaxed.
- Hold this position for a count of 20 seconds.
- Slowly return to the starting position.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise standing or sitting on a chair.
Appendix B
Continued

Upper Body

- Smoothly tilt your head toward your left shoulder. That is, try to touch your left shoulder with your left ear. Keep your shoulders relaxed and do not turn your head.
- Hold this position for a count of 20 seconds.
- Slowly return to the starting position.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise standing or sitting on a chair.
Appendix B
Continued

Upper Body

- Smoothly tilt your head toward your right shoulder. That is, try to touch your right shoulder with your right ear. Keep your shoulders relaxed and do not turn your head.
- Hold this position for a count of 20 seconds.
- Slowly return to the starting position.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise in a standing position or sitting on a chair.
Appendix B
Continued

Upper Body

- Smoothly turn your head to the left side. That is, try to touch your left shoulder with your chin. Keep your shoulders relaxed and do not tilt your head.
- Hold this position for a count of 20 seconds.
- Slowly return to the starting position.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise in a standing position or sitting on a chair.
Appendix B
Continued

Upper Body

- Smoothly turn your head to the right side. That is, try to touch your right shoulder with your chin. Keep your shoulders relaxed and do not tilt your head.
- Hold this position for a count of 20 seconds.
- Slowly return to the starting position.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Sit on a chair. Maintain a good posture and keep your feet on the floor. Place your arms at your sides.

- Interlace your fingers in front of your chest.
Appendix B
Continued

Upper Body

- Extend your elbows with the palms facing out. Gently lift your arms up toward the ceiling until you feel the stretch. Keep your back straight at all times.

- Hold this position for a count of 20 seconds. Remember: breathe normally.

- Slowly return your arms to the starting position.
Appendix B
Continued

Upper Body

Starting Position:
Sit on a chair without a back rest. Maintain a good posture and keep your feet on the floor. Place your arms at your sides.

- Interlace your fingers behind your back.
Appendix B
Continued

Upper Body

- Gently extend your arms, moving your hands off your back until you feel the stretch on your upper back and shoulders. Keep your elbows extended and your back straight at all times.

- Hold this position for a count of 20 seconds. Remember: breathe normally.

- Slowly return your arms to the starting position.
Appendix B
Continued

Upper Body

Starting Position:
Sit on a chair. Maintain a good posture and keep your feet on the floor. Place your arms at your sides.

- Gently place your hands on the back of your head. Maintain your head straight and your elbows at shoulder level.
Appendix B
Continued

Upper Body

- Move your elbows backward until you feel the stretch in your shoulder and chest. Keep your back straight at all times.

- Hold this position for a count of 20 seconds. Remember: breathe normally.

- Slowly return your arms to the starting position.
Appendix B
Continued

Upper Body (core/trunk)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

Upper Body (core/trunk)

- Gently extend your left leg until it is completely straight. Keep your heel and back in contact with the floor.

- Hold this position for a count of 20 seconds.

- Slowly return your leg to the starting position.

- Remember: breathe normally
Appendix B
Continued

Upper Body (core/trunk)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

Upper Body (core/trunk)

- Gently extend your right leg until your leg is completely straight. Keep your heel and back in contact with the floor.
- Hold this position for a count of 20 seconds.
- Slowly return your leg to the starting position.
- Remember: breathe normally
Appendix B
Continued

Upper Body (arms and core/trunk)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

Upper Body (arms and core/trunk)

- Gently extend both legs until they are completely stretched. Keep your heels and back in contact with the floor.
Appendix B
Continued

**Upper Body (arms and core/trunk)**

- Gently lift your arms overhead until both hands touch the floor. Keep your elbows extended.
- Hold this position for a 20 seconds. Remember: breathe normally.
- Slowly return to the starting position. First return your arms to the starting position and then your legs.
Appendix B
Continued

Lower Body (lower back)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

Lower Body (lower back)

Slowly bring both knees toward your chest and grasp both legs below the knees.
Appendix B
Continued

**Lower Body** (lower back)

- Gently, pull your knees with your arms toward your chest.
- Remember: breathe normally.
- Hold this position for a count of 20 seconds.
- Slowly return your legs to the starting position.
Appendix B
Continued

Lower Body (hip flexors)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

Lower Body (hip flexors)

- Slowly bring your right knee toward your chest and hold it with your hands.
Appendix B
Continued

Lower Body (hip flexors)

- Extend the left leg; flatten the posterior part of the knee against the floor. You should feel the stretch in front of the hip.
- Keep your back in contact with the floor.
- Hold this position for a count of 20 seconds. Remember: breathe normally.
- Slowly return your legs to the starting position.
Appendix B
Continued

Lower Body (hip flexors)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

**Lower Body (hip flexors)**

- Slowly bring your left knee toward your chest and hold it with your hands.
Appendix B
Continued

Lower Body (hip flexors)

- Extend the right leg; flatten the posterior part of the knee against the floor. You should feel the stretch in front of the hip.
- Keep your back in contact with the floor.
- Hold this position for a count of 20 seconds. Remember: breathe normally.
- Slowly return your legs to the starting position.
Appendix B
Continued

Lower Body (hip adductors)

Starting Position:
Begin the exercise sitting on the floor. Keep the soles of your feet together and your back and head in a good position. Grasp your feet with your hands.
Appendix B
Continued

Lower Body
(hip adductors)

- Flex the hips, that is, lean forward as far as you can. Keep your back straight. You should feel the stretch on the inner thighs.
- Remember: breathe normally.
- Hold this position for a count of 20 seconds.
- Slowly return to the starting position.
Appendix B
Continued

Lower Body
(calf muscles)

Starting Position:
Begin the exercise standing with your arms on the back of a chair and your feet 12 inches from the chair.
Appendix B
Continued

Lower Body
(calf muscles)

- Bend the right knee at the same time you move the left leg backward until you feel the stretch on the calf. Keep both heels in contact with the floor. Avoid bending your left knee.
- Remember: breathe normally.
- Hold this position for a count of 20 seconds.
Appendix B
Continued

Lower Body (calf muscles)

Starting Position:
Begin the exercise standing with your arms on the back of a chair and your feet 12 inches from the chair.
Appendix B
Continued

Lower Body
(calf muscles)

- Bend the left knee and right hip at the same time you move the right leg backward until you feel the stretch on the calf. Keep both heels in contact with the floor. Avoid bending your right knee.
- Remember: breathe normally.
- Hold this position for a count of 20 seconds.
Appendix B
Continued

Stretching Exercises

Congratulations!
- You have successfully completed the Stretching Exercises.
- Now you can progress to the Strengthening Exercises or to the Aerobic Exercises.
- You should perform these stretching exercises every day to maintain a normal range of motion in all of your extremities.
Appendix B
Continued

Strengthening Exercises

Instructions
- Begin this Strengthening Exercise program after Week 2.
- Perform the exercises at least 3 times per week, during alternate weekdays. To obtain better results, allow only 24 to 48 hours between exercise days.
Appendix B
Continued

Strengthening Exercises

Instructions (continued)

- Duration: at least 30 minutes.
- Repetitions: from 8 to 10-15 repetitions of each exercise.
- Always stretch before the exercises.
- Move smoothly through the available range of motion.
Appendix B
Continued

Strengthening Exercises

Instructions (continued)
- Hold for a count of 5 seconds at the end position.
- You can increase the difficulty of this exercises by: counting 10 or 15 seconds at the end position; performing two or three sets of each exercise.
Appendix B
Continued

Strengthening Exercises

Instructions (continued)

- Maintain your normal breathing pattern while you exercise. DO NOT HOLD YOUR BREATH.

- These exercises should not cause pain. Perform the exercises as instructed to avoid injury.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise in a standing position. Place your arms at your sides.
Appendix B
Continued

Upper Body

- Smoothly raise your arms forward and toward the ceiling until you reach the shoulder level, with your palms facing the floor. Hold this position and count out loud from 0 to 5 (seconds). Keep your shoulders relaxed.

- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise in a standing position. Place your arms at your sides.
Appendix B
Continued

Upper Body

- Smoothly raise your arms out to your sides, up to the shoulder level, with your palms facing the floor. Hold this position and count out loud from 0 to 5 (seconds). Keep your shoulders relaxed.
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise in a standing position. Place your arms at your sides.
Appendix B
Continued

Upper Body

- Smoothly raise your arms forward up to the shoulder level, with your palms facing the floor. At that position, close your hands tightly.
Appendix B
Continued

Upper Body

- Then, open your hands tightly. Count out loud from 0 to 5 (seconds). Keep your shoulders relaxed.
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise in a standing position. Place your arms at your sides.
Appendix B
Continued

Upper Body

- Smoothly raise your arms forward up to the shoulder level.
Appendix B
Continued

Upper Body

- Then, fully bend your elbows tightly. Count out loud from 0 to 5 (seconds). Keep your shoulders relaxed.
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Upper Body

Starting Position:
Begin the exercise in a standing position with both knees slightly bent. Place your arms at your waist.
Appendix B
Continued

Upper Body

- Smoothly twist your upper body from the waist to the left side. Hold this position and count out loud from 0 to 5 (seconds). Keep both feet in contact with the floor and do not permit rotation of the pelvis.

- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Upper Body

Starting Position:
Begin the exercise in a standing position with both knees slightly bent. Place your arms at your waist.
Appendix B
Continued

Upper Body

- Smoothly twist your upper body to the right side. Hold this position and count out loud from 0 to 5 (seconds). Keep both feet in contact with the floor and do not permit rotation of the pelvis.
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Lower Body

Starting Position:
Begin the exercise standing next to a chair, with your right arm on the back rest of the chair.
Appendix B
Continued

Lower Body

- Lift forward your left leg without bending your right knee. Hold this position and count out loud from 0 to 5 (seconds).
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember to breathe normally.
Appendix B
Continued

Lower Body

Starting Position:
Begin the exercise standing next to a chair, with your left arm on the backrest of the chair.
Appendix B
Continued

Lower Body

- Lift forward your right leg without bending your left knee. Hold this position and count out loud from 0 to 5 (seconds).
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Lower Body

Starting Position:
Begin the exercise standing next to a chair, with the right arm on the back rest of the chair.
Appendix B
Continued

Lower Body

- Extend your left leg backward without bending your right knee. Hold this position and count out loud from 0 to 5 (seconds).

- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember to breathe normally.
Appendix B
Continued

Lower Body

Starting Position:
Begin the exercise standing next to a chair, with the left arm on the back rest of the chair.
Appendix B
Continued

Lower Body

- Extend your right leg backward without bending your left knee. Hold this position and count out loud from 0 to 5 (seconds).
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Lower Body

Starting Position:
Begin the exercise standing next to a chair, with the right arm on the back rest of the chair.
Appendix B  
Continued

Lower Body

- Extend your left leg toward your left. Hold this position and count out loud from 0 to 5 (seconds).
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Lower Body

Starting Position:
Begin the exercise standing next to a chair, with the left arm on the back rest of the chair.
Appendix B
Continued

Lower Body

- Extend your right leg toward your right. Hold this position and count out loud from 0 to 5 (seconds).
  - Slowly return to the starting position.
  - Repeat this exercise 8 more times.
  - Remember: breathe normally.
Appendix B
Continued

Lower Body

Starting Position: Begin the exercise in a standing position. Place your arms at your sides.

- Walk in place for two minutes (like marching in place).
- Remember: breathe normally.
Appendix B
Continued

Walk in place for two minutes (like marching in place).
Appendix B
Continued

Lower Body

Strengthening Exercises

Walk in place
- Slowly return to the starting position.
- Remember: breathe normally.
- Rest for one minute.
Appendix B
Continued

Lower Body (core)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

Lower Body (core)

- Contract your abdominal and gluteus muscles. That is, tense your stomach muscles and your buttocks.

- Hold this position and count out loud from 0 to 5 (seconds).
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Lower Body (core)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

Lower Body (core)

- Contract your abdominal and gluteus muscles. That is, tense your stomach muscles and your buttocks.
Appendix B
Continued

Lower Body (core)

- Now elevate your pelvis from the floor, like forming a bridge.
- Hold this position and count out loud from 0 to 5 (seconds).
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Lower Body
(core)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

Lower Body
(core)

- Extend your left leg.
Appendix B
Continued

Lower Body
(core)

- Then, raise your left arm and try to touch your right knee with your left hand.
- Hold this position and count out loud from 0 to 5 (seconds). Do not press against the floor with your right arm; keep your arm relaxed.
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Lower Body (core)

Starting Position:
Place a mat or a towel on the floor, lie on your back and bend your knees keeping your feet flat on the floor. Place your arms at your sides.
Appendix B
Continued

Lower Body
(core)

- Extend your left leg.
Appendix B
Continued

Lower Body (core)

- Then, raise your right arm and try to touch your left knee with your right hand.
- Hold this position and count out loud from 0 to 5 (seconds). Do not press against the floor with your right arm, keep your arm relaxed.
- Slowly return to the starting position.
- Repeat this exercise 8 more times.
- Remember: breathe normally.
Appendix B
Continued

Strengthening Exercises

Congratulations!
- You have successfully completed the Strengthening Exercises.

- Now it is time for Stretching Exercises. Always remember to stretch before and after strengthening exercises to avoid injuries.

- My recommendation is that you should perform these strengthening exercises at least three times a week.
Appendix B
Continued

Aerobic Exercises

- Always warm up and stretch before aerobic exercises.
- The aerobic exercise program presented here is for walking, but if you prefer you can perform other types of aerobic exercises such as stepping, cycling or swimming.
Appendix B
Continued

Aerobic Exercises continue

- Perform this walking program as recommended:
  - Week 1 to 4: perform 2 to 3 times per week.
  - Week 4 to 8: perform 3 to 5 times per week.

- Always cool down at the end.
Appendix B
Continued

Aerobic Exercise – a walking program

General Instructions:
- Warm up phase
  - Slow walking
- Aerobic phase
  - Walk at a moderate pace. Walk briskly, but comfortably. You should be able to talk at the same time as you walk.
Appendix B
Continued

Aerobic Exercise – a walking program

General Instructions continue:

- Cool-down phase
  - Slow your pace to a slow walking.

- Duration in minutes will vary from week to week.
Appendix B
Continued

Aerobic Walking - Week 1

- **Warm up phase**
  - Slow walking
  - 5 min.

- **Aerobic phase**
  - Walk at a moderate pace. Walk briskly, but comfortably. You should be able to talk at the same time as you walk.
  - 5 min.

- **Cool-down phase**
  - Slow down your pace to a slow walking.
  - 5 min.
Appendix B
Continued

Aerobic Walking - Week 2

- **Warm up phase**
  - Slow walking
  - 5 min.

- **Aerobic phase**
  - Walk at a moderate pace. Walk briskly, but comfortably. You should be able to talk at the same time as you walk.
  - 7 min.

- **Cool-down phase**
  - Slow down your pace to a slow walking.
  - 5 min.
Appendix B
Continued

Aerobic Walking - Week 3

- **Warm up phase**
  - Slow walking
  - 5 min.

- **Aerobic phase**
  - Walk at a moderate pace. Walk briskly, but comfortably. You should be able to talk at the same time as you walk.
  - 9 min.

- **Cool-down phase**
  - Slow down your pace to a slow walking.
  - 5 min.
Appendix B
Continued

Aerobic Walking - Week 4

- **Warm up phase**
  - Slow walking
  - 5 min.

- **Aerobic phase**
  - Walk at a moderate pace. Walk briskly, but comfortably. You should be able to talk at the same time as you walk.
  - 11 min.

- **Cool-down phase**
  - Slow down your pace to a slow walking.
  - 5 min.
Appendix B
Continued

Aerobic Walking - Week 5

- **Warm up phase**
  - Slow walking
  - 5 min.

- **Aerobic phase**
  - Walk at a moderate pace. Walk briskly, but comfortably. You should be able to talk at the same time as you walk.
  - 13 min.

- **Cool-down phase**
  - Slow down your pace to a slow walking.
  - 5 min.
Appendix B
Continued

Aerobic Walking - Week 6

- **Warm up phase**
  - Slow walking
  - 5 min.

- **Aerobic phase**
  - Walk at a moderate pace. Walk briskly, but comfortably. You should be able to talk at the same time as you walk.
  - 15 min.

- **Cool-down phase**
  - Slow down your pace to a slow walking.
  - 5 min.
Appendix B
Continued

Aerobic Walking - Week 7

- Warm up phase
  - Slow walking
  - 5 min.

- Aerobic phase
  - Walk at a moderate pace. Walk briskly, but comfortably. You should be able to talk at the same time as you walk.
  - 18 min.

- Cool-down phase
  - Slow down your pace to a slow walking.
  - 5 min.
Appendix B
Continued

Aerobic Walking - Week 8

- **Warm up phase**
  - Slow walking
  - 5 min.

- **Aerobic phase**
  - Walk at a moderate pace. Walk briskly, but comfortably. You should be able to talk at the same time as you walk.
  - 20 min.

- **Cool-down phase**
  - Slow down your pace to a slow walking.
  - 5 min.
Appendix B
Continued

Aerobic Exercise

Congratulations!
- You have successfully completed the Aerobic Exercise Section.
- Now it is time for Stretching Exercises. Always remember to stretch after exercising to avoid injuries.
Appendix B
Continued

Contact Information

MOISÉS CARTAGENA, PT

- HC-01
  Box 6513
  Las Piedras,
  Puerto Rico
  0077
- Phone: 787-317-3977
- Email: Moises.Cartagena@dmu.edu
Appendix B
Continued

Acknowledgement

This project was translated from Spanish to English with the assistance of Prof. Esther Alemán. Mrs. Brenda L. Sánchez served as the model for the photographic sections of the exercises presented and consented to their publication. Also, Prof. Marisol Gómez Mouakad, a breast cancer survivor, served as consultant in the development of the Instructional DVD. I appreciate and recognize their collaboration in the production of this project for the benefit of women breast cancer survivors.
Appendix B
Continued

Thank you for using this product.
Appendix B
Continued

References


Appendix B

Continued

References


Appendix B
Continued

References


Appendix C

Marketing Plan/Tools

Our stakeholders are female breast cancer survivors that may need motivation to begin exercising regularly and who expect a high quality product that fulfills their need concerning exercises. To be successful in our efforts, an Instructional DVD was created with that in mind.

**Marketing Mix:** Five Ps of our marketing mix: product, promotion, place, price, and packaging

**Product:**
- The product will be the Instructional DVD: Life After Breast Cancer - A Physical Wellness Program for Women in Puerto Rico. The consumers will evaluate the product one month after watching the DVD.

2. **Promotion:**

   **Public Relations:**
   - I will contact personnel of the American Cancer Society in Puerto Rico to meet with the director of the local office in the city of Caguas. I will present him the content of the product and explain how this product may be useful for breast cancer survivors. Further, I will seek the American Cancer Society’s support for the promotion of this product and future projects. I hope to obtain their collaboration for the distribution of the Instructional DVD among between their participants. Since they have a support group for female breast cancer survivors that meet at their location, my objective is that these should be the first women to acquire the product. The following is the American Cancer Society local office telephone number: 787-743-4040.
   - I will also be contacting oncologist and physical therapist offices for the promotion and distribution of this product using the same procedure as with the American Cancer Society.

   **Advertising:**
   - Create and design bookmarks for advertising that will be distributed at the local office of American Cancer Society as well as at other sites. See Figure 1 and 2.
   - Create a logotype for this product. See Figure 3.
Appendix C
Continued

3. **Place:**
   - The product will be available at the regional office of the American Cancer Society, oncologist offices and physical therapy offices and centers.

4. **Price:**
   - The Instructional DVD will be available for breast cancer survivors through a donation of $2.42. This donation will be used to cover incurred expenses during the creation and production of the DVD.

5. **Packaging:**
   - DVD consumers will receive personalized support services when requested. They will be able to contact the services by telephone and/or e-mail for all questions and doubts regarding the product.

Figure 1. Figure 2. Figure 3. Logotype

Marketing Plan/Tools – Page 2 of 2
## Appendix D

### Budget/Financial Planning

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Budget/Financial Planning Page 1 of 1
Appendix E

Questionnaire for PWPW Users
Welcome to the PWPW

Introduction
The purpose of this Instructional DVD is to promote physical wellness among breast cancer survivors. The Instructional DVD contains information about breast cancer and specific exercises and physical activities that will guide you to begin an exercise program in the comfort of your home. By completing this questionnaire, you will provide useful information to determine the efficacy of this product for promoting exercise in breast cancer survivors. Please, feel free to ask questions at any time.

*For the following questions, place a mark in the box that indicates your response.*

Questions:
1. How motivated are you to exercise regularly?
   - □ Not at all
   - □ Somewhat
   - □ Very much

2. Do you currently perform any kind of exercise?
   - □ Yes
   - □ No
Continue to question #3, if you answered “Yes.”

3. How frequently do you exercise?
   - □ One day a week
   - □ Two days a week
   - □ Three days a week
   - □ Four days a week
   - □ Five days a week
   - □ Six days a week
   - □ Seven days a week
Demographic Information

What is your age group?

☐ 20-30
☐ 31-40
☐ 41-50
☐ 51-60
☐ 61-70
☐ 71-80
☐ Over 80

Help us improve by providing contact information:

Email: _____________________ Phone: _____________________

Thank-you for completing this questionnaire.
Appendix E  
Continued

Questionnaire for PWPW Users, After One month  
Welcome to the PWPW

Introduction
The purpose of this Instructional DVD is to promote physical wellness among breast cancer survivors. The Instructional DVD contains information about breast cancer and specific exercises and physical activities that will guide you to begin an exercise program in the comfort of your home. By completing this questionnaire, you will provide useful information to determine the efficacy of this product for promoting exercise in breast cancer survivors. Answer the following questions, one month after seeing the Instructional DVD for the first time.

For the following questions, place a mark in the box that indicates your response.

Questions:

1. Now, how motivated are you now to exercise regularly?
   □ Not at all
   □ Somewhat
   □ Very much

2. How useful did you find this Instructional DVD?
   a. Not at all
   b. Slightly useful
   c. Somewhat useful
   d. Mostly useful
   e. Completely useful

3. How often did you perform exercises using the Instructional DVD?
   a. Never
   b. 1-2 days a week
   c. 3-4 days a week
   d. 5-6 days a week
   e. 7 days a week
4. Are you currently performing any kind of exercise?
   □ Yes
   □ No
   Continue to question #6 if you answered “No.”

5. If you answered “Yes” to the previous question, how frequently do you exercise?
   □ One day a week
   □ Two days a week
   □ Three days a week
   □ Four days a week
   □ Five days a week
   □ Six days a week
   □ Seven days a week

6. How much did the Instructional DVD motivate you to begin exercising?
   □ Not at all
   □ Somewhat
   □ Very much

7. If the answer to the previous question is “Not at all,” what motivates you to begin exercising?
   □ ____________________________________________________________
   ____________________________________________________________

8. What suggestions do you have to improve this Instructional DVD? (Optional)
   □ ____________________________________________________________
   ____________________________________________________________

Help us improve by providing contact information:

Email: _____________________  Phone: _____________________

Thank-you for completing this questionnaire. Please mail the completed questionnaire to the address below.
References


**Narrative Reflection**

There are three steps that I will take to remain current in my practice. First of all, I will continue attending continuing education courses to keep up-to-date in everything related to physical therapy practice inside and outside Puerto Rico. Secondly, I will maintain my membership in the American Physical Therapy Association to keep informed about the latest research projects, advocacy and legislation, among others. In the third place, as an active member of the Puerto Rican Physiotherapy Association, I will promote clinical research in physical therapy to be conducted in clinical centers in Puerto Rico.

After completion of this program, I will continue my life-long learning in diverse ways. As professor in a physical therapy program in Puerto Rico, I will remain informed about the latest publications in the area of physical therapy. Further, I will participate in continuing education courses in Puerto Rico offered by the Puerto Rican Physiotherapy Association. I expect to attend the “16th International WCPT Congress” in Amsterdam (2011), as well as future congresses. Lastly, I expect to attend the Annual Conference and Exposition of APTA next June after graduation and in upcoming years.

This program will assist me by providing me with the foundations to begin an evidence-based practice. Understanding its importance is vital to promote life-long learning, and I have been able to achieve this through this program. The program has also helped me to develop critical analysis skills and to recognize that continuing education and research are vital to my profession. Finally, understanding and achieving the program’s objectives has helped me realize the importance of remaining current in my practice and continuing my life-long learning.
# Program Outcomes Matrix

Please indicate with an X and the page number (s) each of the program outcome goals that you have included in your project.

<p>| Page number (s) | Develop a Clinical Decision Making Process | Demonstrate the use of critical inquiry in the practice of physical therapy | Implement therapeutic POC | Demonstrate knowledge base identified with MS, NM, cardio and integumentary | Use the disablement model to provide PT to pts. across the life span | Evaluate delivery of care based upon outcome measures | Serve as a patient advocate | Serve as a consultant | Promote the use of physical therapy services | Use of epi. Principles and data to plan and provide appropriate services for pts. | Respectively treat each patient as an individual |
|-----------------|-------------------------------------------|-------------------------------------------------|---------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------|---------------------|---------------------|---------------------------------------------------------------|---------------------------------------------------------------|
| 2               | X                                         | X                                               | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 3               | X                                         | X                                               | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 4               | X                                         |                                                 | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 5               | X                                         | X                                               | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 6               | X                                         | X                                               | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 7               | X                                         | X                                               | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 8               | X                                         |                                                 | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 9               | X                                         |                                                 | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 12              | X                                         | X                                               | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 13              | X                                         | X                                               | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |
| 14              | X                                         |                                                 | X                         | X                                                             | X                                                             | X                   | X                   | X                   | X                                                             | X                                                             |</p>
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