Breast Cancer: Can we help?

Introduction

Breast cancer takes the lives of at least 600 men and women in New Zealand each year (Brown, Winters-Stone, Lee & Schmitz, 2012). Breast cancer often requires a variety of treatments, including radiation therapy, surgery and chemotherapy amongst other treatments (Brown et al., 2012). Over the last ten years, there has been a notable increase in the amount of research suggesting that physical activity during cancer treatment improves the quality of life of the patient, as well as possibly increasing survival. This has lead me to further investigate if physical activity improves the side effects of breast cancer treatment in patients aged 18 to 60 years olds.

Practice Issue

Physical activity is not being utilised as a treatment in breast cancer patients to improve side effects and quality of life.

Supporting Evidence

Fatigue

- Physical activity significantly improves fatigue in patients who participate in activity three to four times per week, for at least 30 minutes (Kirshbaum, 2005).
- This is related to increased peak oxygen levels, improved mental wellbeing, improved sleep patterns and weight control (Kirshbaum, 2005).

Nausea

- It is believed that nausea has a strong psychological component involved, and physical activity takes an individuals attention away from treatments and illness, relieving the nausea (Brown et al., 2012).
- Physical activity relieves gastric irritation and inhibits activation of emetic centers in the brain (Kirshbaum, 2005).

Muscle fatigue and Lymphedema

- Research shows that resistance and aerobic training improves muscle fatigue and lymphedema.
- This is related to improved lymphatic flow, and decreased lymphatic pooling (Kirshbaum, 2005).

Anxiety and Depression

- Research indicates that exercise is as effective as meditation and psychotherapy when it came to improving mood, anxiety and stress in breast cancer patients (Kirshbaum, 2005).
- Breast cancer often leaves individuals helpless and unable to control their own lives. Physical activity gives the patients a sense of control, and hence improves their mental wellbeing (Brown et al., 2012).

Recommendations

Prevention

- Prevention is the one of the best forms of nursing practice as it saves money, resources and prevents the suffering of individuals and their families (Makic, Rauen, Watson & Poteet, 2014).
- The evidence suggests this may be due to physical activity increase in cytotoxic and phagocytic activity of natural killer lymphocytes. It also may be related to the way in which physical activity assists the regulation of steroidal hormones in the body (Kirshbaum, 2005).

Education

- Nurses require further education regarding the benefits of physical activity in breast cancer patients, safe ways to be physically active and resources or groups that patients can contact for further education and assistance.
- Research demonstrates patients are more inclined to follow nursing suggestions in comparison with other health professionals (Makic et al., 2014).
- Through education, nurses benefit the power to promote and educate the discussed benefits of physical, thus preventing future hospitalisations, improving patient quality of life and stimulating direct change in the breast cancer population.

Promotion

- Nurses are in an ideal position to promote and advocate for physical activity and provide encouragement, motivation and stimulate adherence strategies.
- Nurses can aid patients to set goals, and join group based physical activity. Those who participate in group activities are a lot more likely to achieve long term adherence compared to those who exercise alone (Kirshbaum, 2005).

Conclusion

There is strong evidence demonstrating physical activity can significantly improve the side effects of breast cancer treatment, and therefore considerably improves patient quality of life. Improved energy levels, decreased nausea and improved mental and emotional health are some improvements that are reported by breast cancer patients. Because the incidents of breast cancer are prevalent in New Zealand, it is important that this evidence is utilised as an opportunity to improve clinical settings. With appropriate education and resources, nurses are in a position to make a considerable improvement in the quality of life of patients, and save future hospital resources and funds.

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References:

Brown, J. C., Winters-Stone, K., Lee, A., & Schmitz, K. H. (2012). Cancer, physical activity, and exercise. *2, Comprehensive Physiology*.

Kirshbaum, M. (2005). Promoting physical exercise in breast cancer care. *Nursing standard*, *19*(41), 41-48.

Makic, M. B. F., Rauen, C., Watson, R., & Poteet, A. W. (2014). Examining the Evidence to Guide Practice: Challenging Practice Habits. *Critical care Nurse*,*34*(2), 28-45.

Rationale

My literature review I chose a topic that I was interested in, but also one that I had not heard a lot about. Due to breast cancer being an interest of mine, I did some research and initiated a meeting with a Professor at the University of Otago that has a PHD in medical science, and conducts physical activity sessions with breast cancer patients every week. She has completed a range of research into this topic and enlightened me about some of the benefits the patients reap from incorporating physical activity into their treatment. She assisted me with some articles, which all contained significant information about the benefits, but lacked details about the exact physical activity combination that is required to provide the most beneficial and tested outcomes for the patients. For example Brown, Winters-Stone, Lee and Schmitz, 2012 discussed the relief of a wide range of side effects that the patients experienced due to being physically active, but the exact method of physical activity was unknown. There are also factors such as the stage of cancer, and degree of treatment that the patients are receiving that need to be considered for their physical activity programs (Brown et al, 2012). With this awareness, I chose to create a poster that will drive nurses to begin to ask questions about this topic, and initiate further research and education into how we as nurses can help cancer patients eliminate their debilitating side effects, and improve overall quality of life.

Table One: *The PECOT Model* (Whitehead, 2013)

PECOT category	Information relating to question	Explanation
Population	Patients undergoing breast cancer treatment, aged between 18 to 60 years old.	Different types of cancer come with different signs, symptoms and burdens. By choosing breast cancer, I am ensuring my findings are more representative. Patients over 60 years old often have other health problems, which would make my findings unrepresentative.
Exposure (Intervention)	Those who are participating in physical activity during breast cancer treatment.	We will be looking at articles that have used an experimental design in which physical activity has been prescribed, and the side effects and symptoms of the patients have been recorded.
Comparison / Control	Patients undergoing breast cancer treatment who are not doing physical activity.	We are interested in if physical activity is something that should be prescribed to every patient undergoing breast cancer treat as an alternate treatment of the side effects.
Outcome	Improvement in the side effects of breast cancer treatment.	There are multiple side effects that are caused by the different types of breast cancer treatment. We want to know whether this can be improved by physical activity.
Time	N/A	N/A

References:

Brown, J. C., Winters-Stone, K., Lee, A., & Schmitz, K. H. (2012). Cancer, physical activity, and exercise. *2, Comprehensive Physiology*.

Whitehead, D. (2013). Searching and reviewing the research literature (pg 35-56). In Z. Schneider and D. Whitehead (Eds). *Nursing and midwifery research methods and appraisal for Evidence Based Practice*. (4th edition). Australia, Elsevier.