2018

Educating Oncology Nurses About the Emotional Impact of Cancer Diagnosis

Jonnell Ortiz Zayas
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Jonnell Ortiz Zayas

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Joanne Minnick, Committee Chairperson, Nursing Faculty
Dr. Tracy Wright, Committee Member, Nursing Faculty
Dr. Sue Bell, University Reviewer, Nursing Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2018

Abstract

Educating Oncology Nurses About the Emotional Impact of Cancer Diagnosis

by

Jonnell Ortiz-Zayas

MSN, Metropolitan University, 2015

BSN, Interamerican University, 2011

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2018

Abstract

Anxiety and depression are common mood disorders in cancer patients, regardless of mental state prior to diagnosis. A gap in the education of oncology nurses in an eastern Caribbean island was discovered regarding their ability to identify anxiety and depression symptoms and to help patients who suffered from these disorders. The purpose of this project was to improve oncology nurses' assessment skills by reviewing appropriate use of the Hospital Anxiety and Depression Scale (HADS) tool and familiarizing nurses with resources to help patients who score high on the HADS. The Levine conservation model was the theoretical framework for this project. The research question addressed whether a staff education module regarding the use of the HADS tool would improve staff knowledge about screening cancer patients for mood disorders in a clinic setting. This project involved a staff education module with a pretest/posttest assessment and evaluation of the responses and levels of improvement. A total of 10 oncology nurses with varying academic degrees and years of experience participated in the project. The pretest showed that many had inadequate knowledge of the HADS tool. Based on posteducation assessment scores, all participants understood how to use the tool to screen for mood disorders. The implication of this study for positive social change is that oncology nurses will be able to use a screening tool to identify undiagnosed anxiety and depression symptoms in cancer patients and provide patients with appropriate resources.

Educating Oncology Nurses About the Emotional Impact of Cancer Diagnosis

by

Jonnell Ortiz-Zayas

MSN, Metropolitan University, 2015

BSN, Interamerican University, 2011

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2018

Dedication

I dedicate this DNP project to my whole family, especially to my mother, Gladys, and to the love of my life, Jorge, because without their support and unconditional love, this achievement would not have been possible. I also dedicate this project to Dr. Evelyn Pedreira (RIP) who always believed in me and gave me all her support and encouragement when I started this adventure. Wherever you are, I know you must be very proud of me.

Acknowledgments

I owe my deepest gratitude to almighty God and St. Francis of Assisi for having prepared me to complete this DNP project.

I would like to express my thanks to Dr. Jody Minnick, Dr. Tracy Wright, and Dr. Sue Bell who provided me with all the necessary tools to complete this long and arduous work. I will be eternally grateful. Last but not least, Dr. Mayra Pedroza, my friend and colleague, for her unconditional help throughout this process.

Table of Contents

List of Tables

Section 1: Nature of the Project

Introduction

A diagnosis of cancer, along with the adverse characteristics of medical treatments such as surgery, radiotherapy, chemotherapy, and hormone therapy have the potential to generate stress that can lead to an intense emotional reaction, including symptoms of anxiety and depression (Nikbakhsh, Moudi, Abbasian, & Khafri, 2014). Frequently, these reactions appear in the early stages of the disease and may be accompanied by other phenomena, such as low self-esteem, damage to body image, fear of illness and death, anxiety about the future, problems with isolation and sexual functioning, and deterioration of health (Fernandes, Alves, Santos, Mota, & Fernández, 2013). These reactions make it difficult for patients to adapt to new situations, even years after the treatment ends and the patient is free of the disease. There is a need to have effective intervention strategies to deal with emotional reactions, which psychologically affect newly diagnosed patients.

Each person reacts differently to the diagnosis and treatment of cancer, and many factors influence their responses. Siegal, Miller, and Jemal (2016) showed that regardless of the patient's previous mood, reactions of anxiety and depression usually occur after a diagnosis of cancer, as well as sadness, helplessness, hopelessness, hostility, decreased self-esteem, loss of control, and other reactions. These reactions are transient and eventually resolve, but may be prolonged (Jimenez et al., 2018). Therefore, it is important that nurses understand that each person reacts differently, it takes time to deal with the

disease, and patients can sometimes suffer from a mood disorder, long after their cancer diagnosis and treatment (Jimenez et al., 2018). The only aspect that can be measured is staff knowledge because attitudes, feelings, and beliefs can not be accurately measured by stakeholders. Cancer patients' development of depression and anxiety when first diagnosed with the disease is normal and adaptive. It is always positive when patients are able to handle their reactions adequately and integrate them into the cancer disease process (de Almeida Macêdo, Appenzeller, & Costallat, 2017).

To combat this problem for patients, evidence has shown that early identification and management of mood disorders, like depression and anxiety, in patients with a new diagnosis of cancer is of great help to the patients during the recovery process (Siesling, Kwast, Gavin, Baili, & Otter, 2013). Early detection of emotional problems would increase the number of patients who could benefit from the psychological resources already available in many institutions (Fu et al., 2016). Other benefits of early detection are to improve patients' adherence to medical treatment, provide them with adaptation strategies, and specifically address possible psychopathological disorders or symptoms to improve their clinical course and the quality of their lives (Fu et al., 2016).

The psychological problems of these patients may go unnoticed for several reasons, which could include: the patients themselves, their physical conditions, state of health, or failure to express a desire to be helped psychologically, as well as the attribution of symptoms to the effects of treatment, refusal to talk about their discomfort, and treatment consideration and medical care priorities (Gudenkauf et al., 2015). Health

providers may not detect certain psychological symptoms or do not understand that patients are confused with the sequence of the disease or treatments. Also, health providers may not comprehend that patients' psychological symptoms are normal reactions to their cancer diagnosis.

The nature of this doctoral project is a staff educational module on the Hospital Anxiety and Depression Screening (HADS) tool for oncology nurses that will greatly benefit nurses as well as cancer patients. This educational module is in the form of an educational PowerPoint presentation for oncology nurses regarding the benefits that patients would receive with the early identification of mood disorders, such as depression and anxiety. Introducing an assessment tool to assess depression and anxiety levels in cancer patients may help promote social change by identifying cancer patients who are not being treated for mental health concerns and suffer silently (de Almeida Macêdo et al., 2017). Educating nurses about this tool and its benefits for use in the management of cancer patients will lead to better management of mental health issues and the symptoms associated with these issues; it also helps support patients and increase knowledge of nurses on how to manage the emotional aftermath following a diagnosis of cancer (O'Sullivan & Mansour, 2015). Coming up with a staff educational module was essential in improving the ability and knowledge of nurses to deal with the psychiatric and psychological issues of newly diagnosed patients.

The implementation of this project has the potential for positive social change due to its beneficial impact on the health of the population of patients diagnosed with cancer.

When patients are treating their anxiety and depression, they are more likely to follow through with cancer treatments and doctors' instructions. The social impact of this project for nurses is that it will improve staff knowledge, which will help nurses better treat their patients.

Problem Statement

Adaptive mood disorders, such as anxiety and depression, are the most frequent psychopathologies among cancer patients (Thalén-Lindström, Larsson, Glimelius, & Johansson, 2013). The early identification and management of these disorders has a beneficial impact on the health and recovery of patients diagnosed with cancer. The focus and importance of this DNP project was to address an educational gap in nursing practice by implementing a formal educational program for oncology nurses on the early identification of mood disorders (anxiety and depression) that will help nurses plan and implement interventions for the management of such mood disorders.

Addressing this educational gap would also lead to nurses developing patient education on anxiety and depression in cancer patients. The project is important in the field of nursing because it can be applied to other areas of nursing practice, where nurses work with other diagnoses that can also lead to mood disorders. Education on assessing and identifying the problems and using the HADS can contribute to other areas of nursing care as well, since the HADS is an assessment tool for patients with all kinds of diseases (Rishi et al., 2017).

Purpose Statement

The purpose of this project was to educate nursing staff on the HADS tool to screen for anxiety and depression in cancer patients in a clinical setting in a clinic and hospital setting in a Eastern Caribbean island. Another purpose of this project was to improve oncology nurses' mood assessment skills by reviewing appropriate use of the Hospital Anxiety and Depression Scale (HADS) tool and familiarizing nurses with resources to help patients who score high on the HADS. The guidelines from the joint position statement from the American Psychosocial Oncology Society, Association of Oncology Social Work, and Oncology Nursing Society established that since 2015, the American College of Surgeons Commission on Cancer (ACoS-CoC) requires cancer centers to implement screening programs for psychosocial distress as a new criterion for accreditation. This statement recognized that distress is an indicator of suffering and a predictor of poor health and quality of life outcomes throughout the disease trajectory, and it is common and treatable (Andersen et al., 2014). The screening requirement is based on research that screening for and addressing distress not only enhances quality of life but may also be associated with improved cancer treatment outcomes. The implementation of this project, a staff education module on using the HADS, was to help increase staff knowledge on how to assess and identify depression and anxiety in the clinical setting. This helps nurses, patients, and care organizations become compliant with the ACoS-CoC requirements in the joint position statement (Andersen et al., 2014).

It was expected for oncology nurses to show an improvement in their knowledge regarding the benefits of early identification and the management of mood disorders that can accompany a cancer diagnosis. This improvement was measured comparatively pre-education and immediately post-education, using pre- and postassessments (see Appendices B and C). The objective of this project was to educate staff on the HADS tool to screen for anxiety and depression in cancer patients in a clinical setting in Puerto Rico, an Eastern Caribbean island. It is of great importance to provide education to oncology nurses that includes evidence-based practice literature regarding the uses, application, interpretation, and benefits of the HADS tool, so professionals can use these findings as guides when working with newly diagnosed cancer patients to identify and manage mood disorders among that population.

Nature of the Doctoral Project

The nature of this project was to improve the Puerto Rican clinic staff's knowledge regarding the management of patients diagnosed with cancer and utilizing the HADS tool through a staff educational project. The goal of this project was to improve the knowledge of nurses in oncology at the clinic about the benefits of early identification and management of mood disorders that can accompany a cancer diagnosis. This emotional response to cancer diagnosis requires health professionals who can adequately identify and manage the emotional state of cancer patients, which is often overlooked or minimized in terms of importance.

For this purpose, the sources of evidence gathered included literature regarding the uses and benefits of the HADS and its application to patients. Also, it is important to note that correct interpretation of HADS results can lead to designing interventions, which can greatly benefit patients with several diseases, including the focus of this project, cancer. Also, evidence was gathered about how a cancer diagnosis can deeply affect the patient emotionally, and how often this fact is overlooked, favoring the physical aspect of care over the mental. The information was from different relevant databases such as PubMed and CINAHL. This project included a plan with the short-term goal of improving nursing knowledge and the long-term goal of improving healthcare services for patients diagnosed with cancer.

Significance

This project contributes to the practice of nursing through the application of information to improve staff knowledge. This leads to addressing the problem of the emotional impact that a cancer diagnosis has on patients. Oncology nurses may not understand the emotional impact a diagnosis of cancer has on patients and how to effectively provide care for them. Therefore, it is necessary to educate oncology nurses on this phenomenon.

The stakeholders of this project are oncology nurses and cancer patients, who directly benefit from the knowledge about HADS use and its significance for cancer patients. All nursing professionals who can use the results from HADS and apply this understanding to other patients suffering from serious conditions and life-threatening

diseases are also stakeholders on this project. Other important stakeholders are the patients cared for by those nurses.

The implementation of this project has the potential for positive social change due to its beneficial impact on increased staff knowledge and understanding of the whole health, physical and mental, of patients diagnosed with cancer. The oncological nurses are better prepared to work with these patients because they can assess not only their physical needs, but their emotional needs as well, and work accordingly to meet these needs.

Summary

There is empirical evidence that the diagnosis of cancer influences the emotional state of adult patients, and that can significantly affect the health and general wellbeing of adults suffering from this disease (O'Sullivan & Mansour, 2015). A diagnosis of cancer is related to negative emotions, such as anxiety and depression, which can have different manifestations in each patient, such as feeling despair or overwhelmed, suicidal thoughts, lack of adherence to treatment, and abandonment of treatment (Sengul, Kaya, Sen, & Kaya, 2014). Health professionals are responsible for providing comprehensive care to patients with cancer in which emotional care is included.

With this DNP project, this identified gap in nursing practice was addressed by educating clinical nursing staff about early identification of mood disorders, using HADS, and management of mood disorders in patients with newly diagnosed cancer, which serves as a help to these patients during the recovery process. Therefore, the

oncological nurses were educated on the use of the HADS tool, a questionnaire that is administered to patients to assess if they are suffering from anxiety, depression, or both. Nurses will be able to determine the level of mood disorder regarding cancer patients under their care when they administer this tool and evaluate the responses correctly. This information is useful for them to develop nursing interventions that address these emotional issues.

The nature of the project was educational, and its objective was to improve the quality of nursing care through staff education. Oncology nurses who participated in this project received education that could be passed on to patients, so that they could effectively administer HADS and make appropriate referrals, once results were determined, that would be important in managing patient emotions. In the next section of the project, the context of the problem is discussed, along with the background of support and theoretical approaches to further address the problem.

Section 2: Background and Context

Concepts, Models, and Theories

The selection of an appropriate conceptual model or framework is an important step in the development of research because it provides a pattern of reasoning to guide the researcher (Saunders, Gray, Tosey, & Sadler-Smith, 2015). The Levine conservation model was selected for this project because it includes principles that explain the emotional state of the patient diagnosed with cancer, resulting from the struggle to maintain their conservation status (Abumaria, Hastings-Tolsma, & Sakraida, 2015). In this case, conservation is a complex individual's capacity to maintain day-to-day living in the face of adverse circumstances (Levine, 1973). Through conservation, individuals can cope with obstacles, adapt, and maintain their integrity. As Levine (1973) explained, "In conservation, the objective is the health and the strength to face the disabilities, and the norms of conservation and integrity intervene" (p. 50).

The Levine conservation model places emphasis on interactions with patients and nursing interventions that seek to maintain and promote what Levine terms globality adaptation (Abumaria et al., 2015). What Levine means by globality adaptation is that individuals need a balance between the demand for their energy and the supply they have, and this supply and demand relationship is unique to a patient's reality (Levine, 1973). If a patient's reality is undergoing cancer treatments, then his supply and demand for energy may be unbalanced.

When it comes to adult patients, according to Levine's model, a diagnosis of cancer begins a process of preserving personal integrity. Personal integrity involves being honest with oneself and others. With a cancer diagnosis, conservation is the self-assessment of the identity of the person. Being diagnosed with a disease like cancer can result in an alteration of an individual's understanding of what personal integrity means to them. This alteration may begin with the destruction of intimacy and the onset of anxiety or depression (Sengul et al., 2014).

Identity and Social Issues

To address the problem of potential loss of identity, Levine (1996) suggested that nursing professionals should show respect for patients by calling them by name, acknowledging their desires, valuing their personal belongings, providing them with intimacy during procedures, defending their beliefs, and teaching them that "the nurse's goal is to impart knowledge and give strength in the way that the individual can resume their personal preservation and regain their independence" (p. 39). Just as important, the degree of a patient's adaptation to the realities of their diagnosis affects their social relationships, especially with their loved ones or significant others (Abumaria et al., 2015).

Levine (1973) recognized the integration of social conservation into the treatment process as an important part of the environment of human interactions for the patient facing a cancer diagnosis. The preservation of social conservation refers to living successfully in a social environment that consists of family, community, and labor

relations (Hahn, Joo, Chae, Lee, & Kim, 2017). Cancer treatment creates significant physiological and environmental challenges that affect patients' social roles and quality of life, including reduced tolerance for normal activity levels. For nursing, the conservation of a patient's personal integrity implies recognition of the global nature of each person (Hahn et al., 2017). For this reason, oncology nursing interventions are focused on helping families, aiding with religious needs, and using interpersonal relationships to preserve social integrity, which are all part of the globality of the patient. Nurses providing necessary support to patients influences their emotions. Oncology nurses have a core responsibility of recognizing and dealing with challenges facing their patients: both physical and mental.

As part of Levine's conservation model, globality is a holistic model suggesting that individuals are open and interrelated systems that are based on a progressive mutual relationship between various functions and parts of a whole (Fu et al., 2016). When nurses treat patients globally, they maintain patient integrity. A patient diagnosed with cancer may suffer from a high level of stress and depression due to fear of the unknown (Fu et al., 2016). Nurses using Levine's conservation model, and specifically the understanding of the globality of patients, maintain the person's preservation of identity through adaptation (Abumaria et al., 2015). Conservation for a cancer patient is the result of various adaptations nurses and doctors implement during cancer treatments. Some adaptations work to keep a person's integrity and energy balanced, and some do not.

Further, adaptations are gradual because when they are first introduced, the medical staff and the patient do not know if these will work to maintain conservation.

However, for Levine, there can be no maladaptation. This is because the characteristics of adaptation are historicity, redundancy, and specificity. Historicity refers to adaptations made against past environmental stimuli. Redundancy is when one system or pathway in the body fails and is unable to perform its functions, so then another pathway might be able to take over. Specificity is changes in patients' genetic makeup based on previous environmental stimuli (Levine, 1973).

Psychological and Emotional Issues

The Levine conservation model informs the concept of psycho-oncology, which incorporates the psychological, social, spiritual, and existential dimensions of a patient's experience with cancer and focuses on the way the mind is suffering that occurs with a disease, such as cancer (Klafke et al., 2015). Like with Levine's conservation model, psycho-oncology means acknowledging that in order for patients to adapt to their new reality of a cancer diagnosis, they must find a way to tolerate the presence of an intrusive disease that threatens their future (Klafke et al., 2015). Currently, however, there is no unifying model that incorporates all factors that influence suffering or the emotions that result from a diagnosis of cancer.

The Levine model has been used to unify the concepts related to emotions and their management by oncology nurses for their newly diagnosed cancer patients (Abumaria et al., 2015). Levine's approach has been adapted for cancer patients by

providing a framework that allows medical staff to understand the emotional process that accompanies coping with a fatal disease and the losses involved. Through the Levine model, professional nurses may provide psychosocial care that maintains the globalization of patients and staff conservation because of an adaptive response that facilitates patients' unity and integrity (Abumaria et al., 2015). For the purposes of this study, Levine's components of personal and social preservation of patients diagnosed with cancer will be applied to measure and manage the information obtained from the patients themselves.

According to Levine (1973), the aim of any individual is to conserve or preserve an integrated and balanced whole, and nursing interventions should be aimed at promoting and supporting this adaptation. The diagnosis of cancer and subsequent surgery, chemotherapy, and radiotherapy treatments produce an altered biochemical environment or a threat to the individual's structural integrity and creates psychosocial distress related to survival and quality of life, such as threats to personal and social integrity (Faller et al., 2016). The diagnosis and treatment processes are usually long and evoke emotional responses that deplete energy.

Depression and Anxiety After Diagnosis

When environmental and psychological stress is prolonged, depression often appears to complicate the emotional picture of the patient (Al Aseri et al., 2015). Typically, patients who are notified that they have cancer reduce their usual levels of physical activity and focus on their feelings of frustration and restlessness, which may be

prolonged, triggering high levels of anxiety and deep depression (Bergstrom & Meacham, 2016). This process can threaten personal and social emotional balance by affecting integrity, social roles, and quality of life related to health. There is accumulating evidence showing that interventions, such as speaking with a trained therapist for patients who are emotionally affected by anxiety and depression after being diagnosed with cancer, can help patients adapt to physical and psychological stress and related cancer treatments (Gudenkauf et al., 2015). The management of anxiety and depression can improve patients' emotional responses and provide them with energy for social interactions. In the Levine model, this is considered to foster social and personal integrity.

Notifying a patient of a diagnosis of cancer (the event) threatens their retention of personal integrity (appreciation), resulting in emotional adaptation (adaptation). This adaptation will be influenced by age, gender, religion, education, family support, cancer type, and stage of cancer. Adaptation is an attempt by the patient to retain their health and globalization (holistic integrity). The result of adaptation, according to Levine, may be favorable or unfavorable. If it is favorable, emotions that arise from the news of a cancer diagnosis are positive, for example, acceptance, optimism, and hope; while negative emotions, such as anxiety and depression, arise if the adaptation is unfavorable (Florez Ramos, 2013). Whether the patient's adaptation is favorable or unfavorable, the nursing intervention should be aimed at promoting the conservation of the integrity of the patient

and their adaptation, which directly affects their personal and social integrity, in turn helping them to recover or stabilize their emotional state.

A patient who is diagnosed with cancer is more vulnerable to anxiety and depression than patients with other chronic diseases in the general population. In addition, patients with breast and stomach cancer have the highest levels of anxiety and depression (Nikbakhsh et al., 2014). This vulnerability to anxiety and depression makes the patient prone to discontinue treatment or not to seek help when aid is required. To respond appropriately, nurses must have scientifically valid tools to identify and diagnose the emotional state of the patient who is diagnosed with cancer, such as the HADS instrument.

The Nursing Practice Roles

After the selection of the Levine conservation model, the primary endpoint of the study and the tools used for data collection were selected to be consistent with this model. This approach ensured the use of appropriate outcome variables (anxiety and depression) for measurement, as well as the appropriate influences on adaptation, which include the variables of age, gender, religion, education, family support, cancer type, and stage of cancer. To measure these variables, the HADS was taught to the staff for use in the clinical setting.

A project of this kind contributes to better understanding of the dynamics that occur in the psycho-oncological process of a patient who is newly diagnosed with some form of cancer. As such, the data contributes to a better approach from professional

nurses to understanding and managing the emotional states of their patients (Moon, Chih, Shah, Yoo, & Gustafson, 2017). This study on the emotional impact of cancer diagnosis in adult patients in Puerto Rico, an Eastern Caribbean island, was most relevant, considering the high incidence of this disease on the island.

Nurses, at some point in their career, find themselves caring for an adult patient who has been diagnosed with cancer or a family member of a patient suffering from this condition. For this reason, it is important for nurses to know about cancer and the implications of this type of diagnosis on the patient's emotions. According to Whitaker et al. (2016), diagnosis of adult patients leads to mixed emotions as a result of a harsh reality for which they were not prepared, and they live moments full of desperation marked by the fear of death.

This desperation creates a psychic shock, where ignorance of what it means to have cancer provokes an internal conflict (American Cancer Society, 2018). It is quite shocking for the patient when he or she is diagnosed; the person feels fear because this disease is related with death. The patients feel that life is cut short and what their future was supposed to hold is no longer meant to be (American Cancer Society, 2018). The nurse, as Fernandes at al. (2013) suggested, should consider that the notification of this diagnosis places a high emotional weight on the patient. Patients that have cancer will always think of death (American Cancer Society, 2018), and this reality produces a series of changes that affects patients' perceptions of themselves and their lives. This fear of death has a very strong, disabling impact, making them extremely vulnerable to an

intense desire to improve their health status. From the moment people are diagnosed with some form of adult cancer, nurses must work closely with patients to help maintain their emotional integrity. The early diagnosis of an emotional situation in which the patient shows anxiety or depression is a very important aspect of the cancer treatment. A lack of recognizing these negative emotions could contribute to slowing down recovery and causing complications instead of ensuring an improved quality of life (Bergstrom & Meacham, 2016).

Depression and anxiety have negative effects on the quality of life of cancer patients; thus, HADS is a useful instrument for screening these problems (Nikbakhsh et al., 2014). Because of this, the HADS instrument will be useful for identifying the level of anxiety and depression of cancer patients. Understanding the context in which the patient lives is also important to understand their emotional responses to cancer and to accurately identify the emotional state of the patient. The meeting between the nurse and the patient is the beginning of a more concrete and specific plan to manage the patient's health and care. In addition, data yielded from this study may serve as a base of knowledge for nurses about the emotions of cancer patients. This knowledge will facilitate therapeutic links between the patient and the nurse by helping them to develop care plans founded on evidence-based interventions.

Relevance of Levine's Model for the Project

The Levine conservation model aims to promote the adaptation and maintenance of integrity, using the principles of conservation. The model guides the nurse to focus on

the influences and responses at the organic level. The nurse carries out the objectives of the model through the conservation of energy, structure, and personal and social integrity. Levine's theory can be applied in nursing practice in diverse settings, such as the ICU, long-term care, burns unit, and emergency room. It can also be used with community care, the homeless, and pediatrics and geriatric nursing. The model can be applied to patients of any age, from the newborn to the elderly client. Nursing interventions must be related to the adaptation pathways. It is applied in the provision of integral nursing care incorporated in the nursing process.

Relevance to Nursing Practice

Nursing interventions using HADS and an appropriate interpretation of the data prevent errors in the management of patients with a recent cancer diagnosis (Bocéréan & Dupret, 2014). With this knowledge, the nursing professional can develop the necessary clinical and training skills to understand depression and anxiety in newly diagnosed cancer patients, thereby recommending changes in care using the context of the patient's culture to work with them in an efficient way. The main elements of evidence-based practice considered in this study are: the clinical data obtained by the HADS, scientific evidence on the use and interpretation of HADS, and the values of the patient with cancer in the given cultural context. In relation to the institutional framework in which the research is developed, the nursing professional has sufficient authority and autonomy to change health care based on the scientific evidence obtained through the HADS.

Local Background and Context

Cancer is one of the most well-known diseases of our time, both because of its high incidence and because of its consequences. In western countries, cancer is one of the three most common causes of death, with heart disease and traffic accidents as the other two (American Cancer Society, 2018). In an Eastern Caribbean island, according to information from the Central Registry of Cancer, it was estimated that, as of January 1, 2010, there were 61,928 cancer survivors (O'Neill et al., 2015). Of these, 30,108 were men and 31,820 were women. According to the report of the Planning Board, cancer was the leading cause of death in a small Eastern Caribbean island, overall, the leading cause of death among men and the second leading cause of death among women (Registro Central de Cáncer, 2013). In the case of men, prostate cancer is the leading cause of death, while, in women, breast cancer is the leading cause. Around the world, one in two men and one in three women will be diagnosed with cancer during their lifetime (Registro Central de Cáncer, 2013). By 2030, an estimated 22 million people will face a cancer diagnosis (Registro Central de Cáncer, 2013).

In a small Eastern Caribbean island, it is common for each family to have suffered directly or indirectly from the implications of a cancer diagnosis, with its significant impacts on close relatives, friends, or neighbors (O'Neil et al., 2015). Increasingly, given the high incidence of cancer in the small Eastern Caribbean island, patients are stunned and confused by the announcement of a diagnosis of the disease, which, culturally, is viewed as negative (Gonzalez-Mercado, McMillan, Pedro, Tirado-Gomez, & Saligan,

2018). Some people even classify it as a divine judgment and punishment from God, and this complicates the patients' emotional state with spiritual anxiety, resulting in both mental and spiritual stress (Gonzalez-Mercado et al., 2018).

The diagnosis of cancer begins with confusion, uncertainty, emotional distress, and communication problems between patients and their families (American Cancer Society, 2018). It may include circumstances that generate significant psychological distress, such as medical examinations, test results, confirmation of the diagnosis, surgical interventions, chemotherapy and/or radiotherapy, side effects, and additional tests.

Often, patients with a cancer diagnosis perceive many losses in health and life associated with this change. They might have a loss of identity from their usual image and feel a loss of control over events where they normally had control. Other losses in this case include the loss of self-esteem, significant relationships, normal lifestyles, hope, equality, and a previous schema of priorities and values (Fernandes et al., 2013). The loss of self-esteem has negative emotional effects on cancer patients. The latter effects are becoming more frequent. Up to 65% of patients diagnosed with cancer, when notified of their diagnosis, develop problems of anxiety, depression, disturbed sleep patterns, and irritability as well as a lack of concentration and appetite, among others (American Cancer Society, 2018). Sometimes, these emotional problems can disappear as patients accept the diagnosis and modify the way they view their illness and how they cope with

it. Other patients require psychological and psychiatric help to adapt to their new reality (Nikbakhsh et al., 2014).

It should not be forgotten that cancer does not affect all patients equally since there is a more complex level of traumatic experience influenced by another group of factors: previous personality and psychological disorders, personal history of life stressors, skills and adaptability, level of social support and environmental resources, cultural attitudes and beliefs, and ethical and spiritual or religious values, among others (Drageset, Lindstrøm, Giske, & Underlid, 2016). When there is an existing personality disorder, there may be a greater number of stressful situations in that patient's life.

Families with scarce resources find it difficult to cope with cancer. A high percentage of patients can overcome their illness and cope with it without a significant emotional impact; however, another variable percentage of patients, as several studies have found, show signs of stress, related to cancer or its treatment.

There is concern that a large number of cancer patients suffer from psychological and psychiatric disorders. This justifies the need for psychosocial support (Faller et al., 2016). Staff knowledge on mental health, therefore, becomes essential in dealing with patients newly diagnosed with cancer. Psychosocial support is of great importance in dealing with anxiety and depression. Although many people are diagnosed with cancer, there are no studies that demonstrate the impact of a cancer diagnosis on adult patients in Puerto Rico, an Eastern Caribbean island. Adaptive mood disorders, anxiety, and depression are the most frequent psychopathologies found among cancer patients

(American Cancer Society, 2018); but neither the prevalence and incidence of mental disorders in a large sample of patients with cancer nor the emotional impact of this disease on cancer patients in this area have been studied before.

Definition of Terms

Anxiety: The American Psychological Association (APA) defines anxiety as "an emotion characterized by feelings of tension, worried thoughts, and physical changes like increased blood pressure" (American Psychological Association, 2018).

Cancer: A term for diseases in which abnormal cells divide without control and can invade nearby tissues. Cancer cells can also spread to other parts of the body through the blood and lymph systems. There are several main types of cancer (National Cancer Institute, 2018).

Depression: Depression is a common mental disorder that causes people to experience depressed mood, loss of interest or pleasure, feelings of guilt or low self-worth, disturbed sleep or appetite, low energy, and poor concentration. A person experiencing depression will experience intense emotions of anxiety, hopelessness, negativity, and helplessness, and the feelings stay with them instead of going away (Mental Health Foundation, 2018).

Hospital Anxiety and Depression Scale (HADS): The HADS is a tool in the form of a questionnaire that was developed by Zigmond and Snaith in 1983 for the identification of depression and anxiety in hospitalized patients. It is intended to be used by healthcare professionals.

Role of the DNP Student

Recently, to handle the impact of cancer in a small Eastern Caribbean island, the government, in alliance with the local university, developed the first Comprehensive Cancer Center. The Comprehensive Cancer Center at the University is a public corporation created under Act 230 of August 26, 2004, as amended (Comprehensive Cancer Center University of Puerto Rico, 2018). It was created to address an urgent need among the population for the prevention, diagnosis, and treatment of cancer, a disease that affects about 16,000 islanders annually. Given this reality, it is important that the number of studies about cancer patients increase, not just those directed to treatment, but also studies focusing on the emotional impact of the disease on these cancer patients. As DNPs, we have a responsibility to review current clinical practice guidelines and evidence-based practice, so we can implement and offer change that will benefit these patients during their care and treatment of cancer. I believe that DNP nurses can make a difference on this matter, as I intended with this project.

There is a knowledge gap in a local clinic and hospital in the Eastern Caribbean island, regarding the emotional effects of a cancer diagnosis on patients, since investigations on cancer effects have focused on physical aspects, drug testing, quality of life, and the impact that cancer has on the family. As a doctoral student, my desire is to contribute as a future DNP to understand the emotional impact of cancer diagnoses in adult patients living on this small island. During my experience as a nurse I have met with hundreds of cancer patients for whom nurses and other health professionals focus on

relieving the physical signs and the symptoms that cause cancer, forgetting the psychological pain, which also needs attention.

With this project, I intended to help close the knowledge gap regarding the psychological issues of patients and the importance for nurses to be able to identify these issues. For this purpose, I intended to educate oncological nurses in the use of the HADS, so they can determine, when correctly used, if a cancer patient under their care is suffering from depression, anxiety, or both, and plan accordingly to address those issues.

I visualize myself as a DNP working within a health promotion model in which I contribute to the emotional support of patients with cancer in every interaction. As a future DNP, I will be practicing health promotion strategies and making use of the results obtained from this study to constantly propose protocols and models for education on the emotional care aimed at adult patients who have just been diagnosed with cancer to preserve their personal and social integrity, as Levine suggested. I believe that the recognition of these subtle, but effective, interactions are important for DNPs as health promoters and educators.

Summary

This project was framed on Levine's conservation model, which provides a basis for the intended educational project for nurses on the use of the HADS. This framework is important because it considers the necessary procedures and steps that promote patients' well-being. Patients who have a positive response to adverse events usually overcome the news of the diagnosis, while those that do not may succumb to sadness,

anxiety, and frustration. In fact, the literature of the National Cancer Institute (2016) indicates that if the levels of anxiety or depression are not detected in the early days of being diagnosed with cancer, the patient can experience long-term adjustment disorders to anxiety or depression. The purpose of this project was for nurses to learn to identify depression and anxiety by administering the HADS to patients, interpreting the results, and then caring for these patients according to their findings.

Section 3: Collection and Analysis of Evidence

Introduction

The HADS was selected as the instrument for this project to educate the staff in the clinic in a Eastern Caribbean island, on how to evaluate and measure if there are depression and anxiety symptoms in cancer patients under their care. The staff needs this knowledge to better care for their patients, since a diagnosis of cancer is generally a stressful life event that can generate intense emotional reactions, such as anxiety and depression (Thalén-Lindström, Larsson, Glimelius, & Johansson, 2013). Since the HADS scale has been suggested for use in patients with anxiety and/or depression in previous studies conducted with the oncology population, it aligns with the goals of this DNP project. In the staff education module, the HADS scale was explained to increase the staff knowledge associated with its use and applicability for cancer patients who are treated in cancer care services.

Practice-focused Question

As explained previously, the HADS is an assessment tool that is widely used among healthcare professionals to help them determine if patients are experiencing depression or anxiety due to their health conditions. This project was used to educate oncology nurses on the use of the HADS. This was guided by the research question, which focuses on practice, following the model of formulating questions to be answered with scientific evidence. The research question for this project was: Will a staff education module regarding use of the HADS anxiety and depression screening tool improve staff

knowledge on how to screen cancer patients for mood disorders in the clinical setting? The purpose of this project was to increase staff knowledge regarding the HADS tool to identify patients who have not been diagnosed or treated for anxiety or depression in the clinical setting.

Through this practice-focused question, oncology nurses were educated regarding identification of anxiety and depression symptoms in cancer patients by using the HADS tool correctly. Therefore, this project is relevant, due to the identified knowledge gap in nursing education on screening for depression and anxiety. There is no current tool used in the clinical setting for screening of cancer patients; and there is no educational module for nurses, so this project addresses the gap identified.

Description of the HADS Tool

The HADS scale consists of fourteen items divided into two subscales, one measuring anxiety and another measuring depression, each with seven items (see Appendix D). The content of the items refers to the patient's subjective perception of psychological aspects related to the presence of symptoms of anxiety and depression, during the previous week (Zigmond & Snaith, 1983). Each item has four response alternatives, which are valued in accordance with a Likert scale, with scores ranging from 0 (never) to 3 (very often) to measure the intensity of discomfort felt by the patient. Zigmond and Snaith, who developed the HADS in 1983, established the following cutoffs: 0 to 7 points, normal; between 8 and 10 points, doubtful; and more than 11 points, a clinical problem.

Illustrating the importance and reliability of using the HADS tool, researchers have used the scale in other studies. The HADS has a published level of reliability and validity. In past studies, the tool has demonstrated Cronbach's alpha coefficients of 0.80 for each of its subscales (Stafford, Judd, Gibson, Komiti, Quinn, & Mann, 2014).

Nikbakhsh et al. (2014) explained that depression and anxiety are not uncommon among people diagnosed with cancer. Stress is often a trigger for depression and anxiety, and cancer is one of the most stressful events that a person may experience (Nikbakhsh et al., 2014). The coefficient is at 0.80 in the Stafford et al. (2014) study, while the reliability analysis in the Nikbakhsh et al. (2014) study showed N a Cronbach's alpha of .762 for the anxiety scale and .749 for the depression scale. This means that there is a high level of accuracy and credibility while using this tool for measurement, as shown by these mentioned studies.

Description of the Educational Module Method

An educational module was created as a PowerPoint presentation lecture, case scenarios to use the HADS tool, and pre- and posttests to assess staff level knowledge at the beginning and completion of the educational module. The structure of the module had the participants completing a pretest to evaluate their knowledge on the subject prior to the module, and then the participants watched a PowerPoint presentation about using the HADS tool with cancer patients. As a postgraduate doctoral student and licensed and certified master’s degree nurse specialist with a background working with cancer patients, I gave the presentation to the participants. After the presentation, I gave an

explanatory lecture, and a question and answer session was conducted. The participants worked with hypothetical situations to complete the HADS tools and interpret the results. Finally, they completed a posttest to evaluate how much they learned after the educational module.

The module was given with an agreement with the clinic for it to be part of their nursing training. Nurses were required to participate in one of the sessions. There were three sessions on different days at the clinic during working hours, and arrangements were made for nurses to attend and be paid for this time, since it was a job requirement for their continued education.

Rationale for the HADS Education Module

The rationale for creating the educational module on administering the HADS tool in the clinic is there exists no current depression or anxiety-screening tool in place and oncology nurses are not familiar with it. After a review of literature, the HADS tool meets the requirement as a screening for anxiety and depression for newly diagnosed cancer patients. Although there are many questionnaires that assess depression and anxiety, HADS is considered very effective for evaluation of cancer patients (Rishi et al., 2017). Given the overlap of medical and psychological symptoms of cancer, this questionnaire is appropriate to use with cancer patinets since it focuses on the assessment of the cognitive aspects of anxiety and depression (Stafford et al., 2014). HADS is structured like a Likert scale, ranging from 0 to 3, where patients describe the feelings they have experienced over the last week. This brief scale consists of two subscales of

seven items each. The subscale of depression is centered on the concept of anhedonia as a nuclear symptom of the clinical picture, which differentiates anxiety from depression. Both for anxiety and depression, scores from 0 to 7 are considered normal, from 8 to 10 is doubtful, and from 11 or more is clinically problematic (Terol-Cantero et al., 2015). The original scale has been adapted and validated in diverse populations and cultures, showing its sensitivity in capturing anxiety and depression across cultural contexts. According to Terol-Cantero et al. (2015), studies have shown the usefulness of this instrument in the evaluation of cancer patients, where the sensitivity and specificity of the instrument varies with the cutoff points used in the subscales.

Sources of Evidence

The scientific evidence obtained in Section 2 and the review of current literature supports the use of the HADS instrument by oncology nurses to identify the emotional states of adult patients diagnosed with cancer. Supporting literature for the development of this educational module has been gathered from recognized sources and databases, comprising primary and secondary sources, most of them peer-reviewed and renowned. PubMed, WoS, Cochrane, CINAHL, Medline, Science Direct, EbscoHost, and ProQuest are all databases used in this work. The HADS tool is the basis of the educational module. Appenzeller, de Almeida Macêdo, and Costallat, (2017) have studied the use of the HADS and the emotional effects of cancer. This research supports the development of oncology nurses' education on the use of the HADS.

The primary sources for the educational module, the PowerPoint presentation, are the original materials. Examples of primary sources include: artifacts, audio recordings, diaries, Internet communications on email list servers, interviews, journal articles published in peer-reviewed publications, letters, newspaper articles written at the time, and websites (Hernández et al., 2010). Secondary sources are more difficult to define than primary sources. Examples include: bibliographies (also considered tertiary), biographies, commentaries, critiques, dictionaries, encyclopedias (also considered tertiary), stories, journal articles (also considered primary), journals and newspaper articles, monographs, books (also considered tertiary), and web pages (also considered primary) (Hernández et al., 2010).

I did searches in health and science databases, as PubMed, Medline, CINAHL, Web MD Science, Science Direct, EBSCO Host, ProQuest, and Cochrane. The search terms included *depression, anxiety, cancer, cancer patients, oncology, oncological, nurses, oncology nurses, depression diagnosis, depression symptoms, anxiety diagnosis, anxiety symptoms, cancer diagnosis, Hospital Anxiety and Depression Scale, HADS,* and *HAD Scale.* These terms were searched independently and combined. The time frame for the search was between 2013 and 2018, but older dates were included in some instances for their relevance.

Data Collection

After IRB approval, a flyer was created to notify the staff when the educational presentations would occur. Participation was voluntary and was done in conjunction with

the clinic administration, so that the staff could be educated during work hours. The participants were oncology nurses who consented in their participation and were willing to participate in the educational module. The participants completed pre-education and post-education tests with a course evaluation at the end. The tests were given and attendance taken, but the test results are private and were not given to the clinic administration. No information about results are published in any recognizable way nor included in employees' records. These tests measured how much they knew about the education topic before the module, and how much they learned after completing the education. They also received copies of the HADS tool and practiced to complete and interpret hypothetical results during the PowerPoint presentation. Once the participants completed the module, pre- and post-evaluations, as well as the practice HADS, results were tabulated and analyzed. A final course evaluation was provided to determine the effectiveness and overall reception of the educational module on the HADS tool.

Data Analysis and Synthesis

After the participants completed the modules, the completed pre-test, post-test, and practice HADS results were reviewed. The effectiveness of the educational module was determined based on improvement of knowledge. The need for education and the modification of the module was determined by the results of both the pre-test and the post-test and final course evaluation.

Protection of Human Rights and IRB Requirements

The module was designed to support and be part of an ethical and correct process during the project by compliance with the IRB and HIPAA certifications, related to the federal laws of confidentiality and protection of human rights. The IRB Committee of Walden University reviewed the project for approval. Participants signed the informed consent without being coerced by the provider, even if this was part of an employee training. Consents are kept separate from the pre- and post-assessments. It was explained in advance the potential benefits of being part of the project and the importance of it. There was no compensation for participating, other than the nurses were allowed to participate in the education during normal working hours, and they were paid their normal rate of pay by the institution since the participants did not receive financial compensation. I was available to answer questions or concerns about the module.

If the participants felt that their rights had been violated, they were provided with the telephone number of the IRB Committee of Walden University, so that they could communicate when they wished. I gave my telephone number for any questions that arose from participants, after having been part of the project and concluded the process of data collection in the clinic under study. As noted, the pre- and post-assessments were "de-identified" with no names or identifying characteristics. Once the evaluations were collected after the module, they were safely kept by me in a locked filing cabinet. Only I had access to the information. Consents were locked in a separate filing cabinet. These documents will be kept for a period of five (5) years after which they will be destroyed.

Summary

Section 3 has been developed to discuss the design and method of how the staff education module was conducted. The HADS tool was the primary tool the staff were educated on for screening cancer patients for anxiety and depression in the clinic.

The HADS tool is a short and easy-to-use tool for assessing depression and anxiety symptoms in patients. In the context of this project, the HADS tool is used to educate the staff on how to assess these symptoms in cancer patients. The project's purpose was to educate nurses on the correct use of this tool, so they can administer and interpret the results. An educational module was developed for this purpose, and it had the purpose of providing this education. A procedure that included a pretest, a posttest, a practice tool, and the education per se had been created and was implemented. This was very helpful for developing care interventions that address not only the physical aspects of the disease, but the emotional ones, to provide comprehensive care for cancer patients.

Section 4: Findings and Recommendations

Introduction

When patients are diagnosed with cancer and begin treatment, such as surgery, radiotherapy, chemotherapy, and hormone therapy, there is a chance for them to feel a large amount of stress, which can lead to symptoms of anxiety and depression (Nikbakhsh et al., 2014). Each patient will react differently depending on many factors, but it is common for people to feel sadness, helplessness, hopelessness, hostility, decreased self-esteem, and lack of control (Siegal et al., 2016). Therefore, early identification and management of mood disorders for patients with a new diagnosis of cancer can help during the recovery process (Siesling et al., 2013). Thus, it is crucial that oncology nurses learn to recognize symptoms of mood disorders by correctly giving and scoring the HADS tool. The purpose of this project was to create a staff educational module for oncology nurses to learn how to properly administer the HADS tool.

The local problem in the clinic was an educational gap that existed in the nursing practice for oncology nurses in terms of recognizing and identifying anxiety and depression in their patients due to cancer diagnoses. The purpose of this project was to create a module that could be used to educate oncology nurses regarding the HADS tool. The practice-focused question for the project was: Will oncology nurses show an improvement in terms of their knowledge regarding administering the HADS tool to newly diagnosed cancer patients when comparatively measuring pre-education and immediate post-education? The sources of evidence for evaluation of this project were

pre- and post-assessments completed by the nurses (see Appendices B and C). The educational module was a PowerPoint slide presentation presented to the nurses after they took the pretest (see Appendix A).

Findings and Implications

Findings

A total of 10 oncology nurses participated in the staff module education. One nurse had an ADN (associate's degree in nursing), seven nurses had a BSN (bachelor's degree in nursing), and two nurses had an MSN (master's degree in nursing). One nurse had between 1 and 5 years of experience, while four nurses had 6 to 10 years and five nurses had 11 or more years.

The answers to the preassessment are totaled and shown in Table 1. Before viewing the educational module, the only question that all 10 nurses marked correctly was number three (see Appendix B), which asked participants what a nurse can use the HADS to do. It was a fill in the blank/multiple choice question. The correct answer was "Determine whether a patient is depressed or anxious." The nurses in the study chose varying answers for the other four questions, before they participated in the training. It is clear from these results that at this site, these 10 nurses with various degrees and years of experience were not overly familiar with using the HADS tool with newly diagnosed cancer patients before undergoing this training. This shows the gap in education for nurses in this setting, which was identified by this project.

Question four on the preassessment, which none of the nurses answered correctly, focused on who could give the HADS tool to patients. The multiple-choice questions presented the choices of doctors, nurses, psychologists, or all of the above. The correct answer of all of the above (meaning all three of the careers listed) was chosen by none of the participants (see Table 1). It is interesting to note that some oncology nurses might not have realized that they could administer the HADS before participating in this study since five of them chose the answer of doctors. It is also possible that nurses did not realize how much they could help their cancer patients mentally and emotionally handle a cancer diagnosis and subsequent treatments.

Table 1

Participants' Answers to Questions on the Pre-Assessment Test for Oncology Nurses

	Choice A	Choice B	Choice C	Choice D
Question 1	2*	0	0	8
Question 2	10*	0	0	0
Question 3	2	6*	0	2
Question 4	5	5	0	0*
Question 5	8*	2	0	0

*Denotes correct answer to the question

The postassessment differed from the preassessment in that the posttest consisted of six open-ended questions for nurses to fill in their own answers (seeAppendix C). After listening to the presentation and viewing the PowerPoint slides, all students answered the questions correctly. This shows that this group of 10 students learned more about the HADS tool than they knew before the presentation, and they also learned how to properly administer and score it. Another benefit is that they realized how they could

use it with their oncology patients. All of them gained some knowledge of this important tool and its purpose for determining whether or not oncology patients were experiencing mood disorders. The educational module also discussed the importance of treating not only the physical symptoms of cancer, but also the mental and emotional states of each patient.

An open-ended test was used for the postasssessment instead of multiple choice because it was important for the nurses to write their own answers, instead of choosing from a list of answers, such as on the multiple choice preassessment. With multiple choice tests, there is always the possibility of guessing one or more answers correctly, even if the answer is not known. The postassessment for this study was designed with this in mind, and so the 10 oncology nurses could share what they learned in their own words. The open-ended postassessment was a better measurement of how well the educational intervention worked to give the nurses information on the HADS tool.

Implications

It is clear from this experience with the educational module that nurses at this site were not overly familiar with the HADS tool or how depression and anxiety could have a negative effect on a cancer patient's progress during treatment. Once they learned about the research surrounding these topics and how to administer and score the HADS tool, they knew to be aware of patients experiencing depression and anxiety and how they may need resources to help with mood disorders. Results from the project suggest that educational interventions on this topic are effective in the short term. This project is

limited in that there was no testing for long-term retention of the use of the HADS tool. The other limitation is that this project only took place on one site in on a small Eastern Caribbean island. The hypothesis of this project has not been tested at other sites in the Eastern Caribbean islands, or other countries, such as the United States to my knowledge or when the literature was reviewed.

Another step in this project would be to create a study for how nurses used the HADS tool to support patients with a great deal of anxiety and depression over their cancer diagnosis. Based on this small sample and research for this project, there is a need for oncology nurses to be educated on anxiety and depression and how to measure a patient's struggle with these mood disorders. Education will help nurses better serve their population of cancer patients. Positive social change could occur as a result of treating the whole patient: the mental, emotional, and physical states, as there may be more of a success rate for cancer going into remission and treatments succeeding.

The summative evaluation at the end of the educational intervention provided opportunity for participant feedback (see Appendix E). All 10 nurses rated each item on the evaluation a 5, which is the highest score on the evaluation scale. This shows that the presentation was clear and effective.

Recommendations

The gap identified for this project was that oncology nurses were not familiar with the HADS tool for identifying anxiety and depression, especially in newly diagnosed cancer patients. It makes sense that oncology nurses can be trained on using the HADS

tool (see Appendix D) and assess patients while they are waiting to see their physicians. There is a lot of information for doctors to discuss with patients, and so oncology nurses could be trained to talk with and assess patients before and after seeing doctors, specifically focusing on their patients' moods for any indications of mood disorders. It is also recommended to take this training one step further and educate nurses on resources they can recommend to patients in their community, such as support groups and therapists.

All nurses at the project site should receive the education provided in this project. Going one step further, if the project site has hospitals or other sites in its network, then those nurses should also be trained. If this extensive training shows success, then there is an argument to expand beyond these locations into other cities, regions and maybe even other countries. Perhaps colleges, universities, and training programs should consider making this type of education on the HADS tool available to nursing students, especially those who desire to work with patients who receive a diagnosis that could be terminal.

Contributions of the Doctoral Project Team

The doctoral project team helped by editing and providing guidance on all sections of this project and providing feedback on the logic of the project question and the research. They served as guides for how to conduct the research and solving a problem of the gap in education for oncology nurses.

The director of the cancer center where the survey was conducted was at all times willing to provide the space and resources necessary to carry out the educational activity. Only the 10 nurses took part in the survey.

Strength and Limitations of the Project

Strengths

The strengths of the project are that for these 10 nurses, the gap in education on assessing anxiety and depression in cancer patients and an opportunity to improve their knowledge was possible. From this educational intervention, there was a positive improvement in their knowledge about the HADS tool, and they may be more comfortable administering the test in their clinical environment. A follow-up study in approximately six months to a year would be beneficial to show they retained the information, and positive change was noted in a quality improvement (QI) project at a later date. Besides this positive change for nurses and patients, another benefit is the educational module did not take too much time for nurses to go through. Busy nurses could easily complete this training in one hour on a work day; and therefore, most nurses could be educated within a short amount of time, depending on how many oncology nurses work on staff. Besides oncology nurses, this project could also easily be used with nurses who specialize in other terminal or life-debilitating diseases. The adaption would be to simply change cancer to another disease name or revise the project to say terminal disease.

The oncology nurses who participated felt like the training was important and worth their time and that they would be able to use the HADS tools with patients when they were first checking them into their appointments. All nurses who took part in the training discussed these possibilities together with the DNP candidate during the educational module. They also realized that the HADS tool could be used to discover if the resources and strategies they provided to improve their patients' mental and emotional health were working. It seems like such a simple tool and short training for a strategy that could have positive change in how a cancer patient feels and how he or she is treated.

Limitations

However, there are also limitations to this project. Only 10 nurses participated in the project and at only one site. Although they varied in years of experience and nursing degrees, in order to make generalizations about nursing education and the HADS tool, more oncology nurses would need to be involved with different backgrounds and experience levels. Also, the project does not include what nurses should do if they administer the HADS and find that they have patients suffering from anxiety and depression. It was noted that the nurses were instructed to review all findings with the provider after completing the survey to utilize their role and scope of practice in this project. Finally, the postassessment took place immediately following the educational module. Therefore, there is no testing of long-term retention or if nurses will feel

comfortable using it with patients. Again, as mentioned before, a targeted QI initiative at a later date would resolve this.

Section 5: Dissemination Plan

Introduction

The plan to disseminate this project includes informing management at the site where the project was conducted of the results of the pre- and postassessment and asking them to consider training all staff at this one site. Discussions with management could include ideas for when the best time is to train staff and who could lead the training. If this goes well, then training could be considered at other sites in the hospital system and across the islands in the Caribbean.

Also, if there is any kind of educational fair or staff day, where there are tables or booths set up for nurse and doctor professional development, a display could show the pre-assessment, post-assessment, and a poster to stimulate interest in the subject. I (or other representatives) could speak with the attendees and let them know about the experience and how important it is for nurses to be educated on using the HADS tool with newly diagnosed cancer patients and other patients with terminal illnesses. I will have to check with management and/or an upcoming event schedule to see if anything like this is planned for the future. Another avenue is at a national conference or university educational symposium.

Analysis of Self

This project challenged me to step outside my comfort zone as a project manager, practitioner, and scholar. As a nurse practitioner, I learned that I must be more aware of patients with terminal diseases and their mood disorders. Through this project and my

research, I learned the importance of treating the whole body and the mind/spirit of patients. The HADS tool is only the beginning of discovering if any issues exist in the areas of anxiety and depression for patients, and it is a quick monitoring system that I could use with my patients in the future. It is a way I can help my team of healthcare professionals treating patients to have more success in helping patients who are going through a very difficult time. One of my professional goals is now to bring this important area of mood disorders and their treatment (as well as the physical treatment of the diseases) to the attention of the management in the facilities where I will work. I will always suggest using the HADS tool with patients throughout their treatment.

As a scholar, I learned how to research a problem and find evidence to support what I had already observed in nursing. Before this project, I did not realize how much research had already been conducted on the link between cancer diagnoses, anxiety and depression, and the success of cancer treatments for patients who were also facing anxiety and depression. Many researchers have discussed the importance of determining if news of a terminal illness, as well as the treatment plan, causes anxiety and depression, and treating the mood disorders alongside the physical illness. It was interesting to read research that supported what I had already witnessed in nursing with patients. In my career, I hope to be understanding of and sympathetic to these mood disorders and know when a diagnosis and treatment is affecting a person's mental state. It is also important to learn about resources that I can suggest patients look into. If there are doctors or nurses I come across, I can now suggest books or articles for them to read if they are also

interested in discovering more information about mood disorders in cancer patients or patients with other debilitating diseases.

Finally, as a project manager, I learned there are always a lot of details to pay attention to and much organizational time required to successfully run any program or educational intervention for healthcare professionals. Besides discovering the gap I would research and the problem that I would tackle in this project, I also had to secure permission from management to administer the pre-assessment, educational intervention, and post-assessment on a small sample of nurses. If I want to disseminate this project into a larger pool of nursing staff, I realize how many details I will need to arrange and how much time it will take. Although administering the intervention and tests do not take longer than an hour, as a project manager, there are many details to work out, such as who to train and when and where the training will be held as well as securing equipment to show the PowerPoint presentation. This experience will help me in my career because if I am put in charge of any kind of training as part of my future job, I can use the skills I learned to arrange this educational intervention to set up and conduct the training.

Finally, through this experience, I realized that nurses and physicians are very busy individuals who have already undergone a lot of training and education, although there are still gaps. In order to provide education to fill the gaps, doctors and nurses need to understand the reason and importance behind receiving more training. In my project, researchers have shown that helping cancer patients deal with their mood disorders can also help cancer treatments have success. Once healthcare professionals realize the

importance of treating the whole body and mind, it is hoped that educational modules like mine will be used in hospitals and treatment centers worldwide.

Summary

Among cancer patients, adaptive mood disorders, such as anxiety and depression, are the most frequent psychopathologies (Thalén-Lindström et al., 2013). When researching, it was discovered that there was a gap in education for oncology nurses on the early identification of mood disorders, especially for patients with cancer diagnoses. The HADS tool is an assessment for anxiety and depression for all types of diseases, so it will work for cancer patients (Rishi et al., 2017).

It would be simple to train nurses to use the HADS tool with patients when they came in for their physician appointments and/or their treatments. With this study and a small population of 10 nurses, a short PowerPoint presentation informed nurses with varying degrees how to use and score the HADS tool; and they understood, based on their performance on the postassessment, how to implement this into their nursing routine. If nurses could take one hour of their shift during the beginning of their careers to learn about the HADS tool, then this would be a positive step toward identifying patients suffering from mood disorders. After this, the next logical step is to have a resource section somewhere on site (hospitals, treatment centers, doctors' offices) where nurses could find information to help patients who score eight or above on the HADS tool in either category of depression or anxiety. Not only does depression and anxiety need to be identified, but it also needs to be treated.

Although it is important for nurses to have this education and to help their patients, the real goal of this project is to eventually help cancer patients have the best experience possible when undergoing a life-changing illness and the treatments that come with it. It is the hope that cancer patients will suffer less from mood disorder problems and receive help for anxiety and depression. This way, cancer treatments may be more affective.

References

Abumaria, I. M., Hastings-Tolsma, M., & Sakraida, T. J. (2015). Levine's conservation model: A framework for advanced gerontology nursing practice. *Nursing Forum, 50*(3), 179-188.

Al Aseri, Z. A., Owais Suriya, M., Hassan, H. A., Hasan, M., Sheikh, S. A., Tamimi, A. A., … Khalid, N. (2015). Reliability and validity of the Hospital Anxiety and Depression Scale in an emergency department in Saudi Arabia: A cross-sectional observational study. *BMC Emergency Medicine, 15*(28). doi:10.1186/s12873-015-0051-4

American Cancer Society. (2018). Emotions as you near the end of life. Retrieved from https://www.cancer.org/treatment/end-of-life-care/nearing-the-end-of-life/emotions.html

Andersen, B. L., DeRubeis, R. J., Berman, B. S., Gruman, J., Champion, V. L., Massie, M. J., … Rowland, J. H. (2014). Screening, assessment, and care of anxiety and depressive symptoms in adults with cancer: An American Society of Clinical Oncology guideline adaptation. *Journal of Clinical Oncology, 32*(15), 1605–1619. doi:10.1200/JCO.2013.52.4611

Bergstrom, C.T., & Meacham F. (2016). Depression and anxiety: Maladaptive byproducts of adaptive mechanisms. *Evolution, Medicine, and Public Health, 1*, 214-218. doi:10.1093/emph/eow019

Bocéréan, C., & Dupret, E. (2014). A validation study of the Hospital Anxiety and

Depression Scale (HADS) in a large sample of French employees. *BMC Psychiatry*, *14*, 354. doi:10.1186/s12888-014-0354-0

Comprehensive Cancer Center of the University of Puerto Rico (2018). Sobre nosotros. Retrieved from http://www.cccupr.org/perfil-cccupr/

de Almeida Macêdo, E., Appenzeller, S., & Costallat, L. T. L. (2017). Assessment of the Hospital Anxiety and Depression Scale (HADS) performance for the diagnosis of anxiety in patients with systemic lupus erythematosus. *Rheumatology International*, *37*(12), 1999-2004.

Drageset, S., Lindstrøm, T. C., Giske, T., & Underlid, K. (2016). Women's experiences of social support during the first year following primary breast cancer surgery. *Scandinavian Journal of Caring Sciences*, *30*(2), 340-348.

Faller, H., Weis, J., Koch, U., Brähler, E., Härter, M., Keller, M., ... Reuter, K. (2016). Perceived need for psychosocial support depending on emotional distress and mental comorbidity in men and women with cancer. *Journal of Psychosomatic Research*, *81*, 24-30.

Fernandes, M., Alves, P., Santos, M., Mota, E., & Fernández, A. (2013). Self-esteem of mastectomized women-application of the Rosenberg Scale. *Nursing Network Magazine of the Northeast*, *14*(1), 101–108.

Florez Ramos, J. M. (2013). *Respuesta de adaptación en modo fisiológico en paciente crítico cardiovascular durante el baño en cama* (Research thesis). Retrieved from http://bdigital.unal.edu.co/43115/1/8126987.2013.pdf

Fu, W. W., Popovic, M., Agarwal, A., Milakovic, M., Fu, T. S., McDonald, R., ... & Pulenzas, N. (2016). The impact of psychosocial intervention on survival in cancer: a meta-analysis. *Annals of Palliative Medicine*, *5*(2), 93-106.

González-Mercado, V. J., McMillan, S., Pedro, E., Tirado-Gómez, M., & Saligan, L. N. (2018).The health-related quality of life of Puerto Ricans during cancer treatments; a pilot study. *Puerto Rico Health Sciences Journal*, *37*(1), 46.

Gudenkauf, L. M., Antoni, M. H., Stagl, J. M., Lechner, S. C., Jutagir, D. R., Bouchard, L. C., ... & Avisar, E. (2015). Brief cognitive–behavioral and relaxation training interventions for breast cancer: A randomized controlled trial. *Journal of Consulting and Clinical Psychology*, *83*(4), 677.

Hahn, C., Joo, S. H., Chae, J. H., Lee, C. U., & Kim, T. S. (2017). Feasibility of psychosocial distress screening and management program for hospitalized cancer patients. *Psychiatry Investigation*, *14*(6), 734–745.

Jimenez, Y. A., Cumming, S., Wang, W., Stuart, K., Thwaites, D. I., & Lewis, S. J. (2018). Patient education using virtual reality increases knowledge and positive experience for breast cancer patients undergoing radiation therapy. *Supportive Care in Cancer*, *26*(8), 1-10. doi: 10.1007/s00520-018-4114-4

Klafke, N., Mahler, C., von Hagens, C., Blaser, G., Bentner, M., & Joos, S. (2015). Developing and implementing a complex Complementary and Alternative (CAM) nursing intervention for breast and gynecologic cancer patients undergoing

chemotherapy-report from the CONGO (complementary nursing in gynecologic oncology) study. *Support Care Cancer*, *24*(5). doi: 10.1007/s00520-015-3038-5

Levine, M.E. (1973). *Introduction to clinical nursing.* Philadelphia, PA: FA Davis.

Levine, M.E. (1996). The conservation principles in nursing: A retrospective. *Nursing Science Quarterly*, *9*, 3–41.

Moon, T. J., Chih, M. Y., Shah, D. V., Yoo, W., & Gustafson, D. H. (2017). Breast cancer survivors' contribution to psychosocial adjustment of newly diagnosed breast cancer patients in a computer-mediated social support group. *Journalism & Mass Communication Quarterly*, *94*(2), 486-514.

Nikbakhsh, N., Moudi, S., Abbasian, S., & Khafri, S. (2014). Prevalence of depression and anxiety among cancer patients. *Caspian Journal of Internal Medicine*, *5*(3), 167–170.

O'Neil, M. E., Henley, S. J., Singh, S. D., Wilson, R. J., Ortiz-Ortiz, K. J., Ríos, N. P., ... & Ryerson, A. B. (2015). Invasive cancer incidence-Puerto Rico, 2007-2011. *MMWR Morb Mortal Weekly Report*, *64*, 389-393.

O'Sullivan, D., & Mansour, M. (2015). The nurse's role in managing the psychological and emotional impact on women diagnosed with breast cancer. *Clinical Nursing Studies*, *3*(4), 29–37.

Polit, D. F., & Beck, C. T. (2017). *Nursing research: Generating and assessing evidence for nursing practice* (10th ed.). London, England: Wolters Kluwer.

Porro, M. L., Andrés, M. L., & Rodríguez-Espínola, S. (2012). Regulación emocional y cáncer: Utilización diferencial de la expresión y supresión emocional en pacientes oncológicos. *Avances en Psicología Latinoamericana*, *30*(2), 341–355.

Registro Central de Cáncer. (2013). *Incidencia de cáncer en Puerto Rico, 1*(2), 1–4. Retrieved from http://www.estadisticas.gobierno.pr/iepr/LinkClick.aspx?fileticket=XNd4xX_dMjg%3d&tabid=186

Rishi, P., Rishi, E., Maitray, A., Agarwal, A., Nair, S., & Gopalakrishnan, S. (2017). Hospital anxiety and depression scale assessment of 100 patients before and after using low vision care: A prospective study in a tertiary eye-care setting. *Indian Journal of Ophthalmology*, *65*(11), 1203–1208. doi: 10.4103/ijo.IJO_436_17

Saunders, M. N. K., Gray, D. E., Tosey, P. & Sadler-Smith, E. (2015). Concepts and theory building. In Anderson, L., Gold, J., Stewart, J., & Thorpe, R. (Eds.), *A guide to professional doctorates in business and management*. London, England: Sage.

Şengül, M. C. B., Kaya, V., Şen, C. A., & Kaya, K. (2014). Association between suicidal ideation and behavior, and depression, anxiety, and perceived social support in cancer patients. *Medical Science MoMonitor: International Medical Journal of Experimental Clinical Research*, *20*, 329–336. doi: 10.12659/MSM.889989

Siegel, R. L., Miller, K. D., & Jemal, A. (2016). Cancer statistics, 2016. *CA: A Cancer Journal for Clinicians*, *66*(1), 7-30.

Siesling, S., Kwast, A., Gavin, A., Baili, P., & Otter, R. (2013). Availability of stage at diagnosis, cancer treatment delay and compliance with cancer guidelines as cancer registry indicators for cancer care: Results of EUROCHIP-3 survey. *International Journal of Cancer, 132* (12), 2910-2917.

Stafford, L., Judd, F., Gibson, P., Komiti, A., Quinn, M., & Mann, G. B. (2014). Comparison of the Hospital Anxiety and Depression Scale and the Center for Epidemiological Studies Depression Scale for detecting depression in women with breast or gynecologic cancer. *General Hospital Psychiatry*, *36*(1), 74-80.

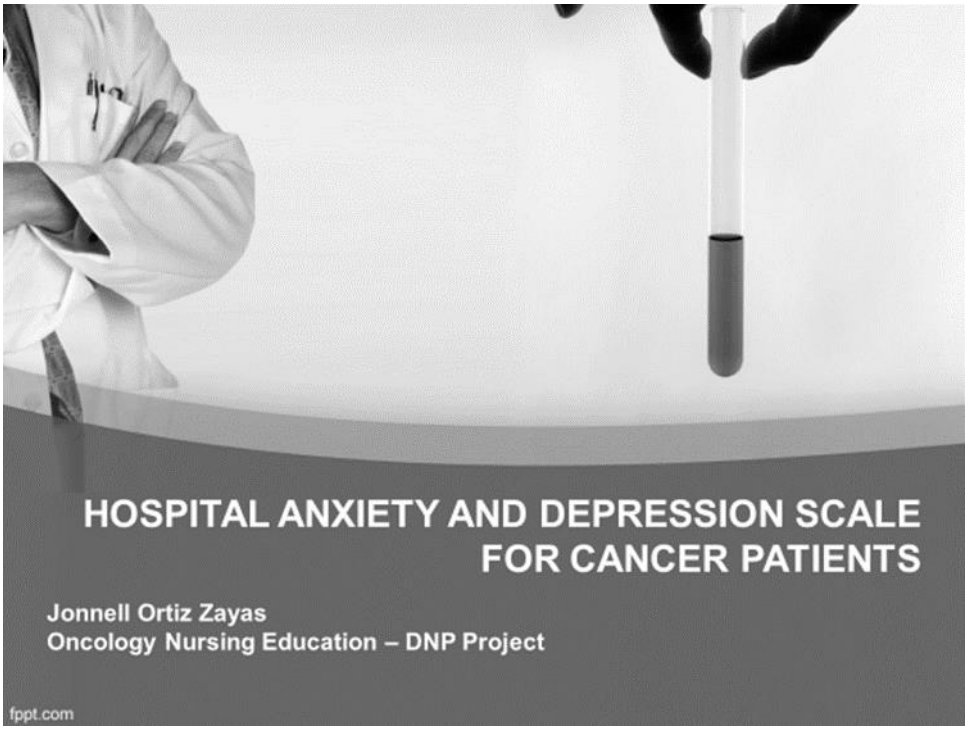
Terol-Cantero, M. C., Cabrera-Perona, V. & Martín-Aragón, M. (2015). Hospital Anxiety and Depression Scale (HADS) review in Spanish samples. *Anales de Psicología*, *31*(2).

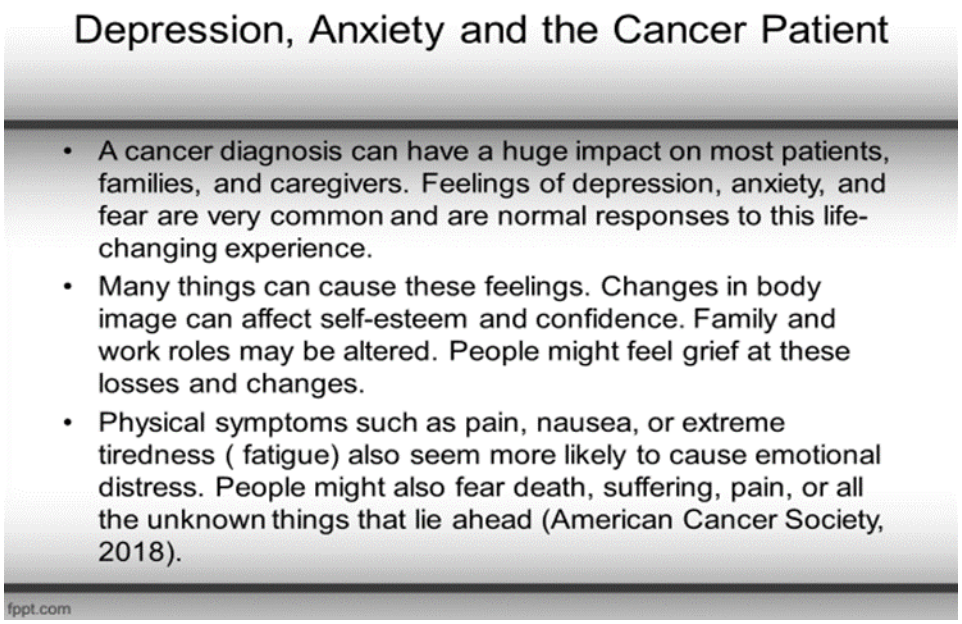
Thalén-Lindström, A., Larsson, G., Glimelius, B., & Johansson, B. (2013). Anxiety and depression in oncology patients; a longitudinal study of a screening, assessment and psychosocial support intervention. *Acta Oncologica*, *52*(1), 118-127.

Whitaker, K. L., Cromme, S., Winstanley, K., Renzi, C., & Wardle, J. (2016). Emotional responses to the experience of cancer "alarm" symptoms. *Psycho-Oncology*, *25*(5), 567–573. doi: 10.1002/pon.3964

Zigmond, A.S. & Snaith, R.P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandina*, *67*(6), 361-370.

Appendix A: Educational Intervention





Depression Symptoms

Symptoms of depression can include:

- sadness
- loss of interest or pleasure in activities you used to enjoy
- change in weight
- difficulty sleeping or sleeping all the time
- energy loss
- feeling worthless, helpless, or hopeless
- thoughts of death or suicide

(American Cancer Society, 2018)

Anxiety Symptoms

- Ongoing sad, hopeless, or “empty” mood for most of the day
- Loss of interest or pleasure in almost all activities most of the time
- Major weight loss (when not dieting) or weight gain
- Being slowed down or restless and agitated almost every day, enough for others to notice
- Extreme tiredness (fatigue) or loss of energy
- Trouble sleeping with early waking, sleeping too much, or not being able to sleep.

(American Cancer Society, 2018)

Importance of knowing if a patient is suffering from depression and/or anxiety

- Khalil, et al (2016) performed a study among 300 cancer patients at the Shifa International Hospital Islamabad and Nuclear Medicine, Oncology, and Radiotherapy Institute [NORI]. Their results showed that 146 (48.7%) of the patients had anxiety and depression.
- Kahlil, et al (2016) say that the prevalence of anxiety and depression amongst the cancer patients was high and education remained an important significant factor for it.
- They concluded that this research shows the importance of counseling for anxiety and depression to the patients as means of effectively improving their psychological disorders and ultimately improving the quality of medical care provided in the field of oncology.

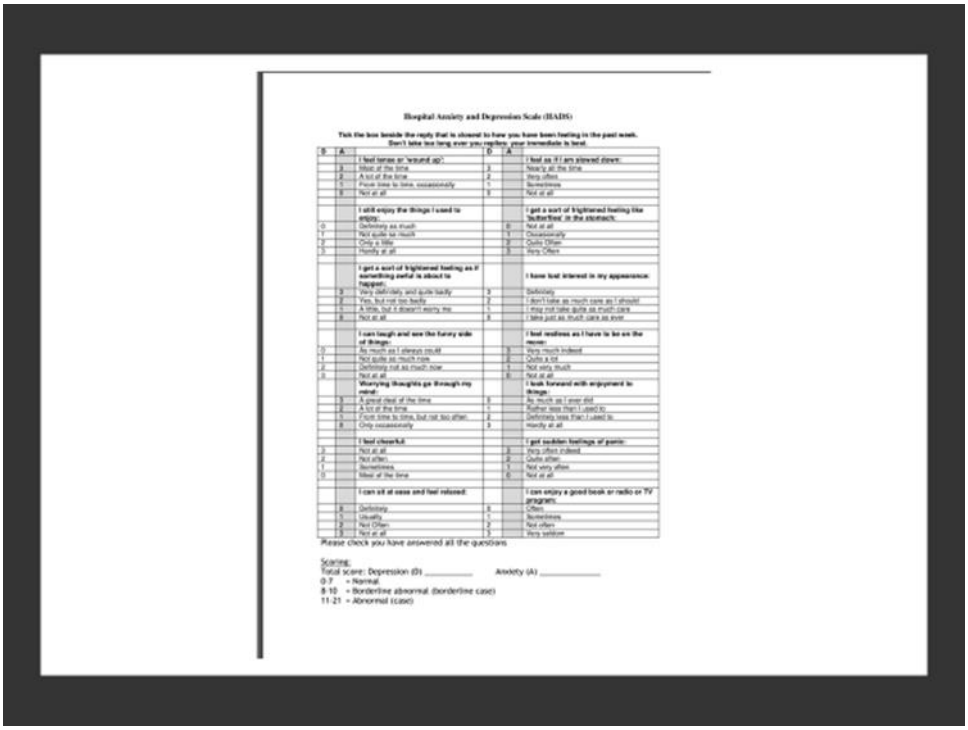
Hospital Depresion and Anxiety Scale (HADS)

- The Hospital Anxiety and Depression Scale (HADS) was devised 30 years ago by Zigmond and Snaith to measure anxiety and depression in a general medical population of patients.
- The questionnaire comprises seven questions for anxiety and seven questions for depression, and takes 2–5min to complete. Although the anxiety and depression questions are interspersed within the questionnaire, it is vital that these are scored separately.

(Stern, 2014)

HADS Overview

- ***Interpretability:*** The results are easy to interpret with higher scores on each individual scale or the entire scale indicating greater anxiety, depression or mood disorders.
- ***Acceptability:*** The HADS is widely accepted and used with most patient populations.
- ***Feasibility:*** It takes only a few minutes to complete, no specialized training is need to administer the test and may be completed by the patients themselves.



Hospital Anxiety and Depression Scale (HADS)

Tick the box beside the reply that is closest to how you have been feeling in the past week.
Don't take too long over your replies: your immediate is best.

D	A		D	A	
		I feel tense or 'wound up':			I feel as if I am slowed down:
	3	Most of the time	3		Nearly all the time
	2	A lot of the time	2		Very often
	1	From time to time, occasionally	1		Sometimes
	0	Not at all	0		Not at all
		I still enjoy the things I used to enjoy:			I get a sort of frightened feeling like 'butterflies' in the stomach:
0		Definitely as much		0	Not at all
1		Not quite so much		1	Occasionally
2		Only a little		2	Quite Often
3		Hardly at all		3	Very Often
		I get a sort of frightened feeling as if something awful is about to happen:			I have lost interest in my appearance:
	3	Very definitely and quite badly	3		Definitely
	2	Yes, but not too badly	2		I don't take as much care as I should
	1	A little, but it doesn't worry me	1		I may not take quite as much care
	0	Not at all	0		I take just as much care as ever
		I can laugh and see the funny side of things:			I feel restless as I have to be on the move:
0		As much as I always could		3	Very much indeed
1		Not quite so much now		2	Quite a lot
2		Definitely not so much now		1	Not very much
3		Not at all		0	Not at all
		Worrying thoughts go through my mind:			I look forward with enjoyment to things:
	3	A great deal of the time	0		As much as I ever did
	2	A lot of the time	1		Rather less than I used to
	1	From time to time, but not too often	2		Definitely less than I used to
	0	Only occasionally	3		Hardly at all
		I feel cheerful:			I get sudden feelings of panic:
3		Not at all		3	Very often indeed
2		Not often		2	Quite often
1		Sometimes		1	Not very often
0		Most of the time		0	Not at all
		I can sit at ease and feel relaxed:			I can enjoy a good book or radio or TV program:
	0	Definitely	0		Often
	1	Usually	1		Sometimes
	2	Not Often	2		Not often
	3	Not at all	3		Very seldom

Please check you have answered all the questions

Scoring:
Total score: Depression (D) _____ Anxiety (A) _____
0-7 = Normal
8-10 = Borderline abnormal (borderline case)
11-21 = Abnormal (case)

Items on the questionnaire that relate to anxiety

- I feel tense or wound up
- I get a sort of frightened feeling as if something bad is about to happen
- Worrying thoughts go through my mind
- I can sit at ease and feel relaxed
- I get a sort of frightened feeling like butterflies in the stomach
- I feel restless and have to be on the move
- I get sudden feelings of panic

Items on the questionnaire that relate to depression

- I still enjoy the things I used to enjoy
- I can laugh and see the funny side of things
- I feel cheerful
- I feel as if I am slowed down
- I have lost interest in my appearance
- I look forward with enjoyment to things
- I can enjoy a good book or radio or TV programme

Score for the HADS

- Each item on the questionnaire is scored from 0-3 and this means that a person can score between 0 and 21 for either anxiety or depression.
- The HADS uses a scale and therefore the data returned from the HADS is ordinal.

Items rating

- Items are rated on a 4-point severity scale.
- The HADS produces two scales, one for anxiety (HADS–A) and one for depression (HADS–D), differentiating the two states.
- Scores of greater than or equal to 11 on either scale indicate a definitive case.

Anxiety and Depression Indicators

- Anxiety often precedes depression in response to stressors, and identifying high or rising anxiety before depression allows health practitioners to advise on early intervention measures while the person still is not depressed.
- The depression items tend to focus on the anhedonic symptoms of depression.

Results scoring

For both scales, scores of less than 7 indicate non-cases	
8–10	Mild
11–14	Moderate
15–21	Severe

Note: Score anxiety and depression separately.

Interpretation of results

- The scale has 14 questions and every uneven question is about an anxiety symptom and the even questions catch up the depressive symptoms. The cut-off point for both the anxiety and the depressive symptoms is 7. depending on their answers, you can for example say that this patient is suffering with a light depression but with is highly anxious or this patients has a mild depression with very light anxiety symptoms etc.

HADS Validity

- The HADS questionnaire has been validated in many languages, countries and settings including general practice and community settings.
- It is useful for initial diagnosis and to track progression (or resolution) of psychological symptoms.
- It is one of the National Institute for Health and Care Excellence (NICE) recommended tools for diagnosis of depression and anxiety (NICE Collaborating Centre for Mental Health, 2014).

Oncology Nursing Application

- Cancer is a hard diagnosis for any individual. A person that has been diagnosed with cáncer may be prone to develop depression, anxiety or both.
- If nurses are able to determine whether a patient is suffering from depression and/or anxiety, they will be able to make the appropriate referrals for treatment and management of those symptoms.
- The nurses also are able, based on this knowledge, to develop nursing care interventions that are directed to contribute to the emotional well-being of the patient, this way caring not only the physical aspect.

References

- Evidence-Based Review of Moderate To Severe Acquired Brain Injury (ERABI) (2018). Hospital Anxiety and Depression Scale. https://www.abiebr.com/node/410
- National Collaborating Centre for Mental Health. Common Mental Health Disorders: The NICE Guideline on Identification and Pathways to Care . National Clinical Guideline Number 123. http://www.nice.org.uk/nicemedia/live/13476/54604/54604.pdf
- Stern, A.F. (2014). The Hospital Anxiety and Depression Scale. Occupational Medicine 2014;64:393–394 doi:10.1093/occmed/kqu024
- American Cancer Society (2018). Anxiety, Fear, and Depression. https://www.cancer.org/treatment/treatments-and-side-effects/emotional-side-effects/anxiety-fear-depression.html
- Khalil, A., Faheem, M., Fahim, A., Innocent, H., Mansoor, Z., Rizvi, S., & Farrukh, H. (2016). Prevalence of Depression and Anxiety amongst Cancer Patients in a Hospital Setting: A Cross-Sectional Study. *Psychiatry Journal*, *2016*, 3964806. http://doi.org/10.1155/2016/3964806

Appendix B: Activity and Education Assessment Tool PRETEST

Select the best option to answer the following premises:

1. The Hospital Anxiety and Depression Scale (HADS) is
   A. An evaluation performed by a physician.
   B. A self-administered test.
   C. An online tool for measuring depression and anxiety.
   D. A nursing intervention to care for cancer patients.
2. A nurse can use the HADS to
   A. Determine whether a patient is depressed or anxious.
   B. Determine if the treatment is working.
   C. Determine if the patient needs to change the treatment.
   D. Determine if the patient needs spiritual guidance.
3. The HADS is composed of
   A. Open questions about the patients' diagnosis.
   B. Select the best option questions.
   C. True or false questions.
   D. The HADS is an interview.
4. The HADS can be used to assess depression and anxiety on patients by
   A. Doctors
   B. Nurses
   C. Psychologists
   D. All of the above
5. The HADS results are interpreted by
   A. Patients' scores
   B. Comparing to other data
   C. An online application
   D. The professionals' judgment

Appendix C: Activity and Education Assessment Tool POSTTEST

Answer the following questions:

1. What is the Hospital Anxiety and Depression Scale (HADS)?

2. How is the HADS composed?

3. How is the HADS scored?

4. How can you interpret the HADS results?

5. How can depression and anxiety affect cancer patients?

6. Why is it important for oncological nurses to know about the HADS?

Appendix D: Hospital Anxiety and Depression Scale (HADS)

Hospital Anxiety and Depression Scale (HADS)

Instructions: Doctors are aware that emotions play an important part in most illnesses. If your doctor knows about these feelings he or she will be able to help you more. This questionnaire is designed to help your doctor know how you feel. Read each item and circle the reply which comes closest to how you have been feeling in the past week. Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought out response.

I feel tense or 'wound up':	**A**
Most of the time	3
A lot of the time	2
Time to time, occasionally	1
Not at all	0

I feel as if I am slowed down:	**D**
Nearly all of the time	3
Very often	2
Sometimes	1
Not at all	0

I still enjoy the things I used to enjoy:	**D**
Definitely as much	0
Not quite so much	1
Only a little	2
Not at all	3

I get a sort of frightened feeling like 'butterflies in the stomach':	**A**
Not at all	0
Occasionally	1
Quite often	2
Very often	3

I get a sort of frightened feeling like something awful is about to happen:	**A**
Very definitely and quite badly	3
Yes, but not too badly	2
A little, but it doesn't worry me	1
Not at all	0

I have lost interest in my appearance:	**D**
Definitely	3
I don't take as much care as I should	2
I may not take quite as much care	1
I take just as much care as ever	0

I can laugh and see the funny side of things:	**D**
As much as I always could	0
Not quite so much now	1
Definitely not so much now	2
Not at all	3

I feel restless as if I have to be on the move:	**A**
Very much indeed	3
Quite a lot	2
Not very much	1
Not at all	0

Worrying thoughts go through my mind:	**A**
A great deal of the time	3
A lot of the time	2
From time to time but not too often	1
Only occasionally	0

I look forward with enjoyment to things:	**D**
A much as I ever did	0
Rather less than I used to	1
Definitely less than I used to	3
Hardly at all	2

I feel cheerful:	**D**
Not at all	3
Not often	2
Sometimes	1
Most of the time	0

I get sudden feelings of panic:	**A**
Very often indeed	3
Quite often	2
Not very often	1
Not at all	0

I can sit at ease and feel relaxed:	**A**
Definitely	0
Usually	1
Not often	2
Not at all	3

I can enjoy a good book or radio or TV programme:	**D**
Often	0
Sometimes	1
Not often	2
Very seldom	3

Questions relating to anxiety are indicated by an 'A' while those relating to depression are shown by a 'D'. Scores of 0-7 in respective subscales are considered normal, with 8-10 borderline and 11 or over indicating clinical 'caseness'

Appendix E: Educational Module Evaluation

Item	1	2	3	4	5
1. The objectives of the course were clearly established.					
2. The expectations of the course were covered.					
3. The material provided on depression and anxiety strengthened the learning process for the use of HADS.					
4. The presentation of the tool was accurate.					
5. The distribution of time was adequate.					
6. The instructional objectives of the course were achieved.					
7. The material was presented in an interesting way.					
8. The explanations on the best practices in the use of HADS were relevant to the work of the oncological nurse.					
9. The way used to teach the course was adequate.					
10. The level of complexity of the course content was appropriate.					
11. The content of the course was relevant to strengthen the knowledge on the best practices in oncology nursing.					
12. The topics of the course were presented in a clear and understandable manner.					
13. The instructional modules used to present the course content were presented in a structured and organized manner.					

14. How many years of experience in nursing do you have?

___1 - 5 years
___6 - 10 years
___11 - more

15. What academic preparation do you have?

_____