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Using a Self-Learning Module to Teach Nurses About Caring for Patients with Eating Disorders

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Using a Self-Learning Module to Teach Nurses About Caring for Patients with Eating Disorders

Abstract

Background: The rate of eating disorders is on a rise, especially in adolescents. Eating disorders are very serious and can cause detrimental health problems requiring hospitalizations. Due to the many complications associated with eating disorders, nurses who care for these patients should have proper training and education regarding the disease and its treatments. **Purpose :** The purpose of this study was to increase nurse's knowledge about caring for patients with eating disorders along with determining the effectiveness of using a self-learning module (SLM) as a teaching method. **Methods:** A pre and post-assessment test was used in this study. Participants completed the pre-test prior to the completion of the SLM. After completing the SLM, participants were asked to take the same test as a post-test. A survey was then used to determine the effectiveness of the SLM. **Results:** The mean pre-assessment test score prior to completion of the SLM was 64.7%. The mean post-assessment test score was 85.7%. There was a 21 percent increase in the mean test scores after the completion of the SLM. **Conclusion:** The post-assessment test scores improved after completion of the SLM indicating that learning occurred. The nurses agreed that the SLM increased their knowledge of eating disorders and enjoyed this method of learning. These findings can influence the care provided to this patient population.

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Abstract

Background: The rate of eating disorders is on a rise, especially in adolescents. Eating disorders are very serious and can cause detrimental health problems requiring hospitalizations. Due to the many complications associated with eating disorders, nurses who care for these patients should have proper training and education regarding the disease and its' treatments.

Purpose: The purpose of this study was to increase nurse's knowledge about caring for patients with eating disorders along with determining the effectiveness of using a self-learning module (SLM) as a teaching method. **Methods:** A pre and post-assessment test was used in this study.

Participants completed the pre-test prior to the completion of the SLM. After completing the SLM, participants were asked to take the same test as a post-test. A survey was then used to determine the effectiveness of the SLM. **Results:** The mean pre-assessment test score prior to completion of the SLM was 64.7%. The mean post-assessment test score was 85.7%. There was a 21 percent increase in the mean test scores after the completion of the SLM. **Conclusion:** The post-assessment test scores improved after completion of the SLM indicating that learning occurred. The nurses agreed that the SLM increased their knowledge of eating disorders and enjoyed this method of learning. These findings can influence the care provided to this patient population.

Introduction

Anorexia is the third most common chronic illness among adolescents, and has the highest mortality rate of any mental illness (National Eating Disorder Association, 2008). Majority of the time, eating disorders develop during the adolescent years. Both males and females can be affected by the disorder, along with all ethnicities.

Over recent years, there has been an increased, unhealthy emphasis on dieting and weight loss, leading to a rise in the prevalence of eating disorders. It is estimated that 10 million American females and 1 million American males have an eating disorder (National Eating Disorder Association, 2008). Eating disorders are very serious, and can cause severe health complications requiring hospitalization.

Unit Background

Unit 41400 at Golisano Children's Hospital at Strong Memorial Hospital, is an adolescent unit; and is the only unit in the hospital that manages adolescents with eating disorders. It is also the only inpatient treatment facility in upstate New York. On average, there are anywhere between one to five patients with an eating disorder on the unit at one time. In 2007, there were 43 admissions with an average length of stay of 17.2 days. In 2008, there were 56 admissions with an average length of stay of 16.6 days, and in 2009, through September, there had been 39 admissions with an average length of stay of 17.2 days (Bumpus, 2009).

Currently, 41400 does not have a formal education or training program for the nurses regarding this patient population. There is, however, a protocol that the nurse's are to follow that

was developed by the Adolescent Medicine team. This protocol reviews the privileges that are allowed and should be followed during the patient's hospitalization.

Patients who are admitted to the unit with an eating disorder often present with different types of eating disorders; along with different stressors that may be related to family, school, or personal issues. Based on the differences among each patient, physicians will often alter the eating disorder protocol to meet the individual needs of the patient; however, this makes it difficult for the nurses to be consistent with their use of the protocol. When physicians alter a patient's protocol they may do so without expressing the changes to the nurses. This manipulation of the protocol often leads to uncertainty among the nurses which leads to inconsistency of care provided between patients. Research has shown that when nurses do not fully understand a protocol, they may reject or omit it (King & Turner, 2000). After an informal survey of the nurses, it was discovered that many of the nurses did not understand the importance of the eating disorder protocol due to their lack of education and knowledge behind it. Learning about eating disorders and the knowledge behind the protocol is essential for the nurses to provide good care to these patients.

During informal questioning, it was further determined that nurses on this unit believed that there were gaps in communication among the interdisciplinary team members, leading to a lack of consistency of care among patients and with the care provided between nurses. Nurses expressed the desire for a more formal training. They felt it would be helpful due to a general lack of understanding about complexities of the disorder, as well as the inconsistencies with the use of the protocol, possibly attributed to the nurses not fully understanding the rationale behind

interventions listed in the protocol.

Purpose

The purpose of this educational program was to create a self-learning module which educated nurses about eating disorders, including the common complications leading to hospitalization and during hospitalization. The purpose was to also educate the nurses about the current protocol used when caring for patients with eating disorders, and the evidence that guides it. The module included background information on Anorexia Nervosa, Bulimia Nervosa, Eating Disorders Not Otherwise Specified, Binge Eating and medical complications caused by eating disorders including re-feeding syndrome. The current hospital protocol for care of patients with an eating disorder was reviewed along with the rationale based on evidence for each intervention.

Hypothesis

Research supports that providing continued education for nurses increases their knowledge of selected topics, and improves patient care (Ommen, Meerwijk, Kars, Elburg, & Meijel, 2009). It is hypothesized that with the completion of an SLM on eating disorders and the protocol for care of a patient with an eating disorder will increase nurse's knowledge regarding eating disorders and the eating disorder protocol. It is further hypothesized that this enhanced knowledge will result in increased and more consistent use of the protocol to improve the quality of care for patients with eating disorders, although, these outcomes were not measured in this study due to long term nature of data.

Theoretical Framework

In order to be successful at teaching, one must understand how adults learn best, and must relate theories and concepts to the participants and recognize the value of experience in learning (Lieb, 1991). Knowles' Adult Learning Theory was used to support the framework of this research project because this theory addresses five main principles of how adult learners learn best. The five principles are: self-concept, experience, readiness to learn, orientation to learning, and motivation to learn (Smith, 2002). Knowles stated, "as individuals mature, their need and capacity to be self-directing, to utilize [life] experience in learning, to identify their own readiness to learn, and to organize their learning around life problems increases steadily [to adulthood]" (Knowles, 1990, p.55). This theory suggests that adult learners are goal-oriented and need a reason for learning something; and therefore be applicable to their work.

The principle of self-concept suggests that as an individual matures, their attitude switches from one of being a dependant personality to one of being self-directed (Smith, 2002). Adults are autonomous and learn from topics of interests. Adults accumulate a foundation of life experiences and knowledge as they grow older. This principle of experience suggests that as an individual matures, their experiences become an increased resource for learning (Smith, 2002). Adults' readiness to learn becomes oriented increasingly to the developmental tasks of their social roles, and they often approach learning as problem-solving. Orientation to learning suggests that adults learn best when the topic is of immediate value. The concepts must be related to a setting familiar to participants (Lieb, 1991). Lastly, as a person matures their motivation to learn becomes internal (Smith, 2002).

A large aspect of adult learning is motivation. Adults have many responsibilities that they must balance against the demands of learning (Lieb, 1991). The best way to motivate adults is by enhancing their reasons to learn and to decrease any barriers. Adult learners are autonomous and no longer are dependent on teachers. Knowles stated that although all adults are motivated to learn, inaccessibility to resources and time constraints decrease this motivation (Knowles, 1990). This project allowed the learners to move through the self-learning module at their own pace, anytime, anywhere. Ample time was given for each component of the project to be completed by the learners. They were also able to adapt the lessons to cover what they needed to know, and were able to eliminate material they have already learned (Smith, 2002).

Several studies have been done to determine the effectiveness of self-learning modules with adult learners. With keeping these principles in mind, this project supports the adult learner by offering new information to the learner that they can apply to their work with this patient population. The self-learning module provides a self-directed learning opportunity for the nurses, and offers the nurses the possibility to gain new knowledge in a specific area. SLM's provide learners with access, flexibility and consistent information. The nurses were able to complete the SLM during their own time making it convenient and feasible, while still gaining the knowledge needed to perform tasks, teach, and be successful at their jobs.

Benefits and Risks

There are many benefits to the collection and analysis of this data. The SLM aids in the expansion of nurses knowledge about eating disorders, and the units current protocol. In addition, the graduate student gains valuable experience in the field of higher education; and the

data collection allows the researcher to evaluate the effectiveness of using a self-learning module as an education tool.

There were no risks associated with this project. Participation was voluntary and pre/post tests were anonymous.

Review of Literature: Eating Disorders

The obesity rate among adolescents has tripled over the last 20 years, and the prevalence of obesity in children and adolescents has been steadily increasing (CDC, 2008). At the same time there has been an unhealthy emphasis on dieting and weight loss, leading to an increase in the prevalence of eating disorders (National Eating Disorder Association, 2008). “Over one-half of teenage girls and nearly one-third of teenage boys use unhealthy weight control behaviors such as skipping meals, fasting, smoking cigarettes, vomiting, and taking laxatives” (National Eating Disorder Association, 2008, p.1). Eating disorders can develop at any point in someone’s life; however, they most often develop at the highest rate, during the adolescent years. Many of these people have dysfunctional interpersonal relationships with family members, or traumatic experiences including sexual abuse, difficulty with identity formation, or biological or genetic predisposition (Grothaus, 1998).

According to statistics, 42% of 1st-3rd graders want to be thinner; and 81% of 10 year olds are afraid of being fat (NEDA, 2008). It is important that at all physicals, pediatricians are using screening tools and questioning children and adolescents about their eating patterns and satisfaction with body appearance (Committee on Adolescence, 2003). Measurements of height and weight should be monitored and plotted on the growth chart to evaluate for growth

retardation and percentage of ideal body weight (Committee on Adolescence, 2003).

There are four major subgroups of eating disorders: Anorexia, Bulimia, Binge Eating, and an Eating Disorder Not Otherwise Specified. Anorexia occurs when food intake is extremely limited. Bulimia is characterized by binge eating episodes followed by purging, exercising or fasting. Over-eating without purging or exercising is characterized as binge eating, which causes weight gain and obesity. Lastly, there is the fourth type of eating disorder that does not fit the criteria of any of the previous, and is known as the not otherwise specified (Golden, Katzman, Kreipe, Stevens, Sawyer, & Rees, 2003). Criteria for diagnosing eating disorders has been defined by the psychiatric community and published in the *Diagnostic and Statistical Manual for the Mental Disorders*. Key diagnostic criteria for anorexia are a weight loss of more than 15% below ideal body weight, disturbed body image, a fear of becoming fat, gaining weight, or amenorrhea (absence of menses). Key criteria for the diagnosis of bulimia include having recurrent episodes of bingeing and purging occurring at least twice weekly for three months, and inappropriate behaviors to prevent weight gain (Fisher, 2006).

Eating disorders are very serious, and can cause severe health complications. They affect the whole body and can cause harm to any and all organ systems. When eating disorders begin at a young age, growth and development are affected. There can be several hormonal changes; often there are lower levels of thyroxine (T4), triiodothyronine (T3), and sex hormones; with higher levels of cortisol, and changes in the growth hormone (GH)-insulin-like growth factor (IGF) axis (Katzman, 2005). These hormone abnormalities will lead to growth retardation and can affect a female's menses.

Medical complications associated with eating disorders are commonly divided into three categories: those caused by malnutrition, those caused by bulimic behaviors, and those caused by re-feeding. People with eating disorders may have severe electrolyte disturbances that require medical attention. Patients with anorexia may drink too little fluid (to make their weight as low as possible) or too much fluid (to fool the treatment team when they are weighed). Both situations can lead to hyper or hyponatremia, which can cause seizures (Fisher, 2006). Dehydration, vomiting and the use of laxatives can also disrupt the electrolytes in the body. Hypochloremia, hypokalemia, and metabolic acidosis can occur in both types of patients, which could result in sudden death (Fisher, 2006). Therefore, the determination of electrolyte levels is crucial in the initial evaluation and treatment phase of eating disorders.

Other medical complications include cardiac, gastrointestinal, neurological, hematological, and endocrine abnormalities. Anorexia may cause severe bradycardia, hypotension, and orthostatic changes (Fisher, 2006). Various ECG changes may occur in patients with bulimia, with two fatal complications, sudden cardiac death due to hypokalemia and the development of irreversible cardiomyopathy (Fisher, 2006). Patients may experience abdominal pain and constipation due to decreased gut motility. Delayed gastric emptying and prolonged peristalsis are also associated with malnutrition (Fisher, 2006). Prolonged vomiting may cause esophageal irritation and chest pain, along with erosion of tooth enamel. Neurological complications include seizures due to hyponatremia, and atrophy of the brain which can lead to a decrease in cognitive function (Fisher, 2006). Endocrine abnormalities include decreased energy levels, and a decrease in thyroid functioning resulting in a lowered body temperature, pulse, and metabolic rate (Fisher, 2006). Also levels of LH, FSH and estrogen

levels are decreased which leads to amenorrhea, and in turn, leads to osteopenia or osteoporosis. Mild anemia is also common among this population (Fisher, 2006). Close monitoring and treatment is very important to minimize any prolonged damage.

Rapid re-feeding, also known as re-feeding syndrome, is described as the adverse metabolic effects and clinical complications that can occur when a starved or seriously malnourished individual begins re-feeding (Read, Wakefield, & Ferrie, 2006). Re-feeding of malnourished patients can cause hypophosphatemia, which can result in cardiac, neurological and hematological complications (Fisher, 2006). People with eating disorders may be at risk for developing re-feeding syndrome. Patients whom may be in extreme risks are people with anorexia nervosa, chronic alcoholism, chronic malnutrition, extreme weight loss, and patients presenting with low levels of potassium, phosphorous, or magnesium (Read, Wakefield, & Ferrie, 2006).

During starvation there is a decrease in heart rate, breakdown of lean body tissue, decreased serum proteins, and decreased gut motility (Read, Wakefield, & Ferrie, 2006). When rapid re-feeding occurs, there is an increase in heart rate, rapid change in hormone levels, and glucose becomes the dominant fuel causing a rapid increase in cellular uptake of glucose and minerals reducing the available serum levels of potassium, phosphorus, magnesium, and zinc; also leading to retention of sodium and fluid (Read, Wakefield, & Ferrie, 2006). Overall these electrolyte changes can lead to depression, confusion, weakness, fatigue, constipation, peripheral edema, cardiac arrhythmias, and cardiac arrest. Feeding should be monitored closely and initiated very slowly, starting with a low caloric intake, and gradually increasing (Read,

Wakefield, & Ferrie, 2006).

Eating disorders typically require a multi-modal treatment approach. Mild cases of eating disorders can be managed by the physician in an outpatient setting, along with a nutritionist. More severe cases require outpatient management by an eating disorder team. Some patients may need more intense treatment plans which include intensive outpatient, day treatment, and partial hospitalization programs (Fisher, 2006). Levels of care are determined by the patient's willingness and agreement to try and change their current habits. Inpatient treatment on a medical unit may be necessary. Criteria for hospital admission for eating disorders includes, <75% of ideal body weight, refusal to eat, heart rate <50 beats/min, orthostatic changes in pulse, temperature of less than 96 degrees Fahrenheit, arrhythmias, syncope, abnormal serum electrolytes, suicide risk, or failure of outpatient treatment (Fisher, 2006).

Previous Studies

Working with the eating disorder population can be challenging and frustrating for many nurses. Nurses who work with this population often lack mental health education and are inadequately prepared, leading to decreased patience and increased frustration (Ramjan, 2004). Many nurses often feel as if there is a struggle for power with these patients. A study conducted by Ramjan (2004) explored the difficulties and obstacles hindering the formation of therapeutic relationships between nurses and their patients with anorexia. Ramjan believed it was essential for a therapeutic relationship to have trust and commitment, empathy, genuineness, honesty and support, a non-judgmental attitude and consistency.

After interviewing ten registered nurses, three major themes were found. Nurses struggled for understanding due to the complexities of anorexia and its recovery process, struggled for control, and struggled to develop therapeutic relationships (Ramjan, 2004). Nurses were often frustrated with these patients due to the lack of understanding of the disease and the belief that these patients caused their own harm, where other patients did not have control over their ailment and were more deserving of care. Nurses also perceived the patients to be manipulative which led to a struggle of power between both parties (Ramjan, 2004). Lastly, the participants felt that it was difficult to form a therapeutic relationship because there was a lack of trust between the two, and the adolescents saw the nurses as the people who were taking their control away. Ramjan concluded that the nurses who showed aptitude for working with these patients were more likely to form therapeutic relationships, and help in the recovery process.

Another study analyzed the patients' perspectives on the effectiveness of inpatient nursing care of adolescents diagnosed with anorexia nervosa. A grounded theory approach was used to study the aspects of nursing care. The study was conducted in an inpatient unit that specialized in treating eating disorders. There were three main themes described; normalization, structure, and responsibility (Ommen, Meerwijk, Kars, Elburg, & Meijel, 2009). In the beginning of hospitalization, the nurses supported the patients in normalizing their eating and exercising pattern because learning to eat again was the central theme in the beginning phase. The patients liked the structure provided for them, and in the beginning, needed all the responsibility of eating and exercising taken away from them. During the middle portion of their hospitalization, responsibilities were given back to them with the supervision of the nurse.

Patients expressed that they had a closer relationship with one or two nurses that they saw most, and who they believed had an open mind. Patients expressed that the nurses acted as role models for them, teaching them about their eating disorders, and demonstrating proper eating and exercise patterns. Patients accepted the structure given to them and wanted it to continue when they went home with their families (Ommen, Meerwijk, Kars, Elburg, & Meijel, 2009). Favorable outcomes of this study may be due to the fact that these nurses specialized in treating eating disorders.

George (1997) studied the psychological characteristics of patients with anorexia nervosa and examined the nurse's role on creating a therapeutic relationship. Nurses who interact with patients with anorexia should understand the dynamics of anorexia, including the psychological characteristics, as they have implications on the nurse's role in creating a therapeutic relationship (George, 1997). Unfortunately, many nurses have negative attitudes toward patients with eating disorders because they are seen as difficult patients with a self induced illness, who are often labeled as manipulative (George, 1997).

Research reviewed in this study suggests anorexics fear loss of control, have mistrust of self and others, low self-esteem, and starvation-induced depression (George, 1997). It was also suggested that nurses need to be empathetic, non-judgmental, and have positive regard to acceptance, commitment, and trust. George concluded that nurses should receive adequate education and be given sufficient support before working with such patients.

Another study by King and Turner (2000) found similar results. The study was undertaken to explore the experiences of registered nurses caring for adolescent females with

anorexia in pediatric wards. Initially the nurses in this study embraced values to guide their practice, believing in equality of care, being non-judgmental, and forming therapeutic relationships based on trust. Overtime and through experience of caring for these patients, their values eroded which caused them to become suspicious, untrusting, judgmental and uncaring due to the ongoing fights for control between the two. The nurses did not have formal educational training in mental health or psychiatric nursing. Many nurses did not always understand the usefulness of the eating disorder protocols therefore they began to obstruct and/or dismiss them (King & Turner, 2000).

The findings of this study indicated a strong need for educational programs for nurses caring for patients with anorexia, and for new care regimes that give the nurses the opportunity to have greater involvement in reconstructing the protocol. It was recognized that on-going support and development of an educational program that enabled nurses to care for these patients with greater understanding, was much needed (King & Turner, 2000).

After reviewing general information on eating disorders and synthesizing several study articles, research indicates that patients with eating disorders experience body image distortion, overestimate their body size, and may feel ambivalent about their eating disorder status. Some patients may deny treatment, and are often described as uncooperative, difficult to treat, and a challenge to nurses (Ryan, Malson, Clarke, Anderson, & Kohn, 2006). There is a lack of mental health education for nurses, and staff is often inadequately prepared to work with this patient population (Ramjan, 2004).

Literature Review: Self-Learning Modules

There are many ways to keep nurses up to date and to educate them on the ever changing aspects of care within the hospital. It is not always feasible to educate adults in a group setting outside of work hours, and is often more convenient for people to learn and obtain new information when they choose; and for these audiences, self-directed learning opportunities are needed (Richardson & Bostick, 1997). Self-learning modules provide self-directed learning opportunities for adults with limited time for traditional classes. Self-learning modules offer the learner the opportunity to gain new knowledge in a specific area. There are many ways that a module can be constructed; they often take the form of paper and pencil, but can be delivered via audio, video or computer based (Yeazel & Center, 2004). The material included in the module should be concise and the subject matter and learning complexity should fit the needs of the learners.

Several studies have been done to determine the effectiveness of self-learning modules with adult learners. Yeazel and Center (2004) developed three modules on preventative medicine topics in a Family Medicine residency program. A pilot study was conducted to assess the feasibility and potential benefits of module use in the residency program. Pre and post test of the residents' ability to meet the modules objectives were used for evaluation. The residents rated the appropriateness and acceptability of the modules.

Each module had ten to twenty pages of text, and took approximately one hour to complete. At the end of each module, a multiple-choice test was completed. The test was designed to assess the competence in meeting the learning objectives. A passing grade of 75% demonstrated mastery of the material. The residents consistently rated themselves as more able

to meet the modules goals and objectives after completing it, than before taking the module (Yeazel & Center, 2004). Residents' scores on the tests ranged from 85 to 100%. The residents indicated that they had a preference for learning through experimental methods such as clinical rotations and clinical precepting, along with noon conference and programmatic workshops. However, the residents also rated the quality of the modules highly, and found the information to be informative and well presented (Yeazel & Center, 2004).

Straight (2008) created a self-learning module to educate and evaluate nurses' knowledge of safe medication delivery. The SLM was presented on the hospitals intranet. The primary focus of this SLM was on the current system-wide resources available to RN's and LPN's to promote safe medication delivery. Straight chose to use the Intranet for her module because it was familiar to the staff and it could be accessed off-site as well as in house (Straight, 2008).

The SLM was designed using PowerPoint, and consisted of 29 interactive user-controlled screens. The SLM included text, images, a quiz and hands on assignments that required participants to use the Lexi-Comp on their units. There were three objectives for the module which focused on increasing awareness and the use of medication resources available. In this study there were 400 participants. Prior to the SLM, 42% used Meditech and 69% used Medline Plus for looking up information on medications. Following the SLM, awareness and use of the Lexi-Comp, a computer based medication dictionary, increased to 81.82% (Straight, 2008). The results showed a clear increase in usage and awareness of resources available after the completion of the SLM. The learners in this study supported this method of training in their evaluations with a 100% response to wanting more training like the one used in this study

(Straight, 2008).

In another study, Kang (2002) sought to determine the effectiveness of using a self-learning module to teach nurses about caring for patients with tracheostomies. The educators conducted a needs assessment to better define the staffs needs on this topic. The needs assessment showed a deficit by the nurses regarding hospital care and teaching needs for children. The module was then created to address the top five learning needs of the staff. The module was in a simple writing format allowing the nurses to start and stop at any time. The SLM was available on all the pediatric units for the nurses to complete, and there were also copies made so they could take them home. There was both a pre and post assessment test consisting of 15 questions. Both tests were identical and contained questions regarding current practice, knowledge and critical thinking skills of pediatric tracheostomies. The results showed an increase in scores between the pre and post tests (Kang, 2002). There were, however, some people who did not feel the SLM would help them; 6% of those surveyed did not feel as if they would be able to better teach the patients families how to care for the patient with a tracheostomy after completing the SLM (Kang, 2002).

There was recognition that there was room for improvement that could have been made by adding some other teaching methods, such as videos and hands on practice that could have improved outcomes and training skills. Overall, evaluations of the SLM were positive. A majority of the nurses thought the module was attractive, and agreed that the topics were comprehensive and concise, and they would be able to better care for this patient population (Kang, 2002).

There are many resources and tools available for instructors to use when educating staff members, such as textbooks, articles, and videos. However, these resources may be too broad, lengthy, or inconsistent with hospital policies (Kang, 2002). Overall, these studies showed an increase of knowledge in the selected subject matter after the use of self-learning modules. People accepted the modules and thought they were user friendly. SLM's have been used extensively in the nursing profession and offer a relatively low cost way to educate large groups of people providing uniform delivery of content (Yeazel and Center, 2004). SLM's provide learners with access, flexibility and consistent information.

Sample

The sample population for this study consisted of registered nurses that worked on Unit 4-1400 at Golisano Children's Hospital at Strong. No data was collected regarding the educational level or experience of the nurses. There were 29 registered nurses on the unit who were eligible to participate. Of the 29 possible participants, 23 (79%) nurses began the study, and 14 (48%) completed the total process. Seventy-nine percent of the possible participants completed the pre-assessment test, 48% completed the post-assessment test and the survey regarding the usefulness of the SLM.

Nurse participation was voluntary and completion of the pretest was implied consent. Subjects could withdraw from the study at any time with no questions asked. Completion of the SLM was optional and participation did not affect nurse performance evaluations in any way.

Methods

The time frame for the project was between January 1, 2009 and April 29, 2010. The SLM was created by a registered nurse experienced with eating disorders. The SLM was presented in a PowerPoint application format, and took approximately 20 minutes to complete. The SLM was accompanied by a pre and post assessment test that included ten multiple choice and true/false questions. Content of the test and SLM was reviewed by three senior practitioners for appropriateness. Questions reflected content covered in the SLM. The pre/post test was created using Survey Monkey (an online tool to create surveys). The use of Survey Monkey allowed the pre/post tests scores to remain anonymous. The SLM was posted on the Strong/University of Rochester Blackboard site. The pre test was available to nurses from 1/1/10 through 1/14/10. The SLM was posted on 1/15/10 and nurses had one month to complete it. Notification that the pre-test, SLM, post-test, and survey were available on Blackboard was given via email. Notices were also posted in the nurses' break room.

A process evaluation of the SLM, using a Likert type scale, was included at the end of the post-test to evaluate process outcomes such as usefulness of the module, clearness of information, format, and convenience, along with ease of completion and access. Data collection occurred mid February after post-tests and surveys were completed. After all data was collected, the answers to the post-test were posted in the break room for nurses to review.

Results

Analysis of the data supports the hypothesis that nurses' knowledge regarding eating disorders and hospitals protocol for eating disorders would increase with the use of an SLM on these topics. The mean pre-assessment test score prior to completion of the SLM was 64.7%.

The mean post-assessment test score was 85.7%. There was a 21% increase in the mean test scores after the completion of the SLM.

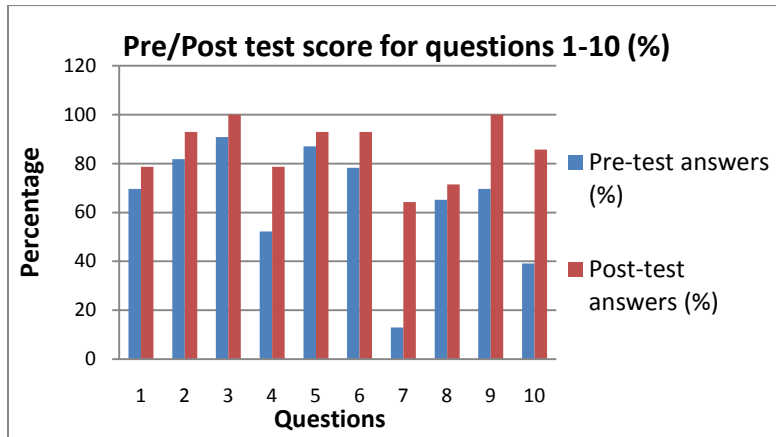


Table 1. Pre and Post Assessment Test Scores

An increase in scores was seen in all questions, although the actual percentage varied, as seen in Table 1. Questions 4, 7, and 10 demonstrated the greatest percent change. These questions assessed general knowledge on eating disorders. The results further demonstrated that nurses were initially more knowledgeable about the hospital’s eating disorder protocol and less knowledgeable about eating disorders. This was an expected result because it was believed that a lack of knowledge about eating disorders was the reason for decreased use of the protocol

Pre and post interventions were analyzed using Survey Monkey. A response summary was created to analyze the response count and the response percent for each question, one through ten, of the pre and post tests. An evaluation of the SLM was also created using Survey Monkey. The same was summarized for the post SLM survey.

Nurse evaluations of the SLM were positive. Fifty-seven percent of those who

completed the evaluation agreed that the SLM increased their knowledge of eating disorders, while 43% strongly agreed. Fifty percent agreed that the SLM increased their knowledge of the inpatient eating disorder hospital protocol, while 50% strongly agreed. Twenty one percent agreed that the SLM was easy to read, while 79% strongly agreed. Thirty-six percent of participants agreed that using a self-learning module was an effective way to learn about the selected topic, while 64% strongly agreed. Lastly, 50% agreed that they enjoyed this method of learning, while 50% strongly agreed.

Limitations to this study included using convenience sampling. The population for this study were registered nurses who worked on the unit where the study was taking place. Although the completion rate was 61%, the sample group was a nonrandomized single group sample without a control group and it was small with an n=14. This makes it difficult to determine if there was a direct causal relationship between the SLM and increased knowledge. It is possible that this effect could have been caused by other variables such as nurse experience, however, many of the variables common to this type of study have been ruled out. Lastly, there may have been a social influence on the sample population as the researcher is also a registered nurse on the unit of interest, which may have helped with the completion rate but may make the evaluation less valid.

Discussion

The SLM was developed based on responses from nurses on unit 4-1400 during informal questioning regarding the units' eating disorder patient population. It was concluded that the lack of understanding about the complexities of eating disorders as well as the inconsistencies

with the use of the units' protocol, may be attributed to a lack of knowledge about eating disorders and the rationale behind the interventions in the protocol.

Overall, the completion rate for this study was 61%. This rate was lower than what was expected due to investigator relationship with nurses on the unit. There was a much higher completion rate for the pre-assessment test than the post-assessment test and survey; which may have been attributed to several factors. First, the pre-test was implemented when unit census was low. When the census and patient acuity is low, typically there is more downtime in which the nurses are able to complete other tasks, such as the study's pre-test, during work time. The lower completion rate of the post-test and survey may have been attributed to an increase in census and acuity of patient care, creating less downtime during working hours. Also, the SLM took approximately 20 minutes to review, along with another five to ten minutes for the post-test and survey, whereas the pre-test only took minutes to complete. In addition, because the project was not linked with performance evaluations, and was not a unit mandatory, the response rate was less than hoped for, although still above average for surveys among this population.

The post-assessment test scores improved after completion of the SLM indicating that learning occurred. Since the pre/post-assessment tests were developed using Survey Monkey, there was no way for staff to see their grades or the correct responses after completion of the SLM. In the future, a different system would be used to give immediate feedback to the staff. Areas for improvement in this study include adding other teaching methods to increase learning and retention, such as interactive tutorials discussing topics and demonstrating skills; for example modeling behavior for therapeutic communication, reviewing the use of therapeutic

meal passes, and reviewing meal choices. Dividing the nursing staff and comparing the learning between groups receiving the SLM method of teaching to another method such as face-to-face lectures would be another area for improvement. Allowing the nurses to have dedicated time to complete all sections of the study would be a suggestion for the future, however, because this was not a unit mandatory for the nurses, there was no way to give the nurses who were unable to complete it in a timely manner, time to finish it without them being identified. In the future, this SLM and post-assessment test will be part of 4-1400's new hire orientation mandatory. This will allow adequate time for all nursing staff to complete the SLM and post-test, and receive immediate feedback and remediation if necessary.

Future implementation of this SLM would likely require changes to improve scores in specific areas where, perhaps, there was not enough information provided to increase scores. For example, there was only a small increase in the percent of correct responses for questions 1, 2, 3, 5, 6 & 8. These questions covered material on therapeutic communication, complications of re-feeding syndrome, and aspects of the hospital's eating disorder protocol. These scores indicate that possibly, these areas may not have been emphasized enough and need to be presented more clearly in the SLM to improve the scores of the corresponding questions. The evaluations of the SLM did not have a specific question regarding clarity of the test questions, however, results indicated that the learners agreed, or strongly agreed that the SLM was easy to read and they believed it increased their knowledge of both eating disorders and the eating disorder protocol. Questions 1, 7 & 8 had a score of less than 80% even after reviewing the SLM. Question 1 regarded therapeutic communication, question 7 was related to liquid nutrition, and question 8 asked about naso-gastric tube placement. It can be hypothesized that

the information covering these topics in the SLM were unclear, or perhaps, there was not enough information on these topics. A future direction would be to “test” the tool with more nurses to make sure it is valid and reliable.

This project demonstrated that nurses gained knowledge regarding eating disorders and the hospital’s eating disorder protocol, through use of a SLM. However, the larger, more important question would be how this increased knowledge, translates to improved patient outcomes. To determine this, a more involved study would be required; involving more valid/reliable tools, a control group, and a clear definition of improved patient outcomes for this population. This would be difficult at this particular site due to the fact that only one unit specializes in kids with eating disorders. Therefore, the next step would be to identify quality outcomes for change such as patient satisfaction, nurse satisfaction, more consistent use and review of therapeutic meal passes and increased use of the protocol; and evaluate these outcomes after completion of an SLM.

References

Bumpus, S. (2009). In-patient statistics and protocol information; via email.

CDC, (2008). *Childhood Obesity*. Retrieved from <http://www.cdc.gov/HealthyYouth/obesity/>

Committee on Adolescence, (2003). Identifying and treating eating disorders. *Journal of the American Academy of Pediatrics*, 111(1), 204-210.

Fisher, M. (2006). Treatment of eating disorders in children, adolescents, and young adults.

Pediatrics in Review, 27(1), 5-16.

George, L. (1997). The Psychological characteristics of patients suffering from anorexia nervosa and the nurse's role in creating a therapeutic relationship. *Journal of Advanced Nursing*, 26, 899-908.

Golden, N., Katzman, D., Kreipe, R., Stevens, S., Sawyer, S., & Rees, J. (2003). Eating disorder in adolescents: Position paper of the society for adolescent medicine. *Journal of Adolescent Health*, 33, 496-503.

Grothaus, K. (1998). Eating disorders and adolescents: An overview of a maladaptive behavior. *Journal of Child and Adolescent Psychiatric Nursing*, 11(3), 146-156.

Kang, J. (2002). Using a self-learning module to teach nurses about caring for hospitalized children with tracheostomies. *Journal for Nurses in Staff Development*, 18(1), 28-35.

Katzman, D. (2004). Medical complications in adolescents with anorexia nervosa: A review of the literature. *International Journal of Eating Disorders*, 37, 52-59.

King, S., & Turner, S. (2000). Caring for adolescent females with anorexia nervosa: registered nurses' perspective. *Journal of Advanced Nursing*, 32(1), 139-147.

Knowles, M. (1990). *The adult learner: A neglected species* (4th ed.) Houston, TX: Gulf Publishing Company.

Lieb, S. (1991). *Principles of adult learning*. Retrieved from

<http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/adults-2.htm>

National Eating Disorder Association (2008). *Statistics: Eating Disorders and their Precursors*.

Retrieved from <http://www.nationaleatingdisorders.org/information-resources/index.php>

Ommen, J., Meerwijk, E., Kars, M., Elburg, A., & Meijel, B. (2009). Effective nursing care of adolescents diagnosed with anorexia nervosa: the patients' perspective. *Journal of Clinical Nursing*, 1-8.

Ramjan, L. (2004). Nurses and the 'therapeutic relationship': caring for adolescents with anorexia nervosa. *Issues and Innovations in Nursing Practice*, 45(5), 495-503.

Read, J., Wakefield, A., & Ferrie, S. (2006). *Department of Nutrition and Dietetics: Nutrition*

Policy & Procedures. Central Sydney health Service Royal Prince Alfred Hospital.

Richardson, J. (1997). Developing learning modules. Retrieved August 29, 2009, from NC State

University of Agricultural & Extension education Web site:

<http://www.ces.ncsu.edu/AboutCES/Factsheets/develop.html>

Ryan, V., Malson, H., Clarke, S., Anderson, G., & Kohn, M. (2006). Discursive constructions of

‘eating disorders nursing’: An analysis of nurses’ accounts of nursing eating disorder patients. *European Eating Disorders Review*, 14, 125-135.

Smith, M. K. (2002) ‘Malcolm Knowles, informal adult education, self-direction and

andragogy’, *the encyclopedia of informal education*, www.infed.org/thinkers/et-knowl.htm

Straight, M. (2008). One strategy to reduce medication errors; the effect of an online continuing

education module on nurses’ use of the Lexi-Comp feature of the Pyxis Medstation 2000. *CIN: Computers, Informatics, Nursing*, 26(1), 23-30.

Yeazel, M., & Center, B. (2004). Demonstration of the effectiveness and acceptability of self-

study module use in residency education. *Medical Teacher*, 26, 57-62.

Appendix A: IRB Approval

12/16/2009

Dear Ms. Steinwachs:

Thank you for submitting your research proposal to the Institutional Review Board.

I am pleased to inform you that the Board has approved your Expedited Review project, "Creating a Self-Learning Module for Nurses Caring for Patients with Eating Disorders."

Following federal guidelines, research related records should be maintained in a secure area for three years following the completion of the project at which time they may be destroyed.

Should you have any questions about this process or your responsibilities, please contact me at 385-5262 or by e-mail to emerges@sjfc.edu, or if unable to reach me, please contact the IRB Administrator, Jamie Mosca, at 385-8318, e-mail jmosca@sjfc.edu.

Sincerely,

Eileen M, Merges, Ph.D.

Chair, Institutional Review Board

EM:jlmm

Copy: OAA IRB

IRB: Approve expedited.doc

Appendix B: Pre/Post- Assessment Tests**1. SLM Pre/Post-Test**

Please complete this pre-test regarding Eating Disorders and 4-1400's Protocol.

1. Family therapy is scheduled for an anorexic client and family. The parents ask how the family therapy will help the client's eating problems. The best nursing response is that the focus of the therapy will primarily be:

- a. The client's dysfunctional eating behaviors
- b. Teaching family members to better meet each other's needs
- c. Improving communication between the family members
- d. How parental behavior may be causing the client to stop eating

2. A psychiatrist admits a client to an eating disorders program. The admitting nurse learns that the client has lost 25 pounds over the last month and now weighs 85 pounds. In assessing the client, the nurse knows that a manifestation of anorexia nervosa is:

- a. Amenorrhea
- b. Tachycardia
- c. Appetite loss
- d. Insomnia

3. After one week in a behavior modification program, a bulimic client has gained three pounds. The nurse learns that the client still has the urge to vomit after eating. How can the nurse best deal with this behavior?

- a. Suggest the client share this concern during a group therapy session
- b. Praise the client for having gained three pounds this week
- c. Remove privileges if the client vomits to reinforce that this behavior is inappropriate
- d. Establish a contract with the client to seek out a staff member if they feel the urge to vomit

4. Thinning of bones, brittle hair, severe constipation and hypotension are symptoms of?

- a.) Binge eating
- b.) Anorexia
- c.) Bulimia
- d.) Both B and C

5. A major complication of hospitalized patients who are malnourished and begin eating is?

- a.) Electrolyte imbalances
- b.) Cardiac arrhythmias
- c.) Re-feeding syndrome
- d.) Seizures

6. Patients have to wait at least 15 minutes after snack before being able to return to their rooms?

- a. True
- b. False

7. What is the reasoning for starting patients with anorexia on liquid nutrition?

- a.) To retrain the bowel
- b.) To prevent re-feeding syndrome
- c.) To minimize abdominal pain/discomfort
- d.) To minimize caloric intake

8. If a patient does not complete a meal, the nurse must receive a doctors order before placing an NG tube?

- a. True
- b. False


9. According to the Eating Disorder protocol, liquid nutrition is from day 0-2?

- a. True
- b. False

10. Eating disorders are curable?

- a. True
- b. False


Appendix C: Eating Disorder SLM



EATING DISORDER SELF-LEARNING MODULE

Carrie Steinwachs RN, BSN
St. John Fisher College
Advanced Practice Nursing, FNP
(January, 2010)


1



What are Eating Disorders?

- Eating disorders are marked by severe disturbances in eating behaviors, such as extreme reduction in food intake, extreme over eating, or concern about body weight or shape.
- Eating disorders are real, treatable, medical illnesses with complex underlying psychological and biological causes. They frequently coexist with other psychological disorders such as depression, anxiety, obsessive compulsive disorder or substance abuse.
- Eating Disorders are coping mechanisms that develop unconsciously as a way of being able to avoid having to deal with underlying internal or external stressors.


2



Types of Eating Disorders

- Anorexia Nervosa
 - Bulimia Nervosa
- Eating Disorder Not Otherwise Specified
 - Binge Eating Disorder


3



Types of Eating Disorders

- **Anorexia Nervosa (Restrictive form)-**
 - Characterized by emaciation, a relentless pursuit of thinness and unwillingness to maintain a healthy weight. People with anorexia typically have a distorted body image and an intense fear of gaining weight.
 - Eating food and weight control become an obsession.
 - Often try to lose weight by dieting and exercising excessively. Some may lose weight by vomiting, or misusing laxatives, diuretics, or enemas.
- **Bulimia Nervosa-**
 - Characterized by recurrent and frequent episodes of eating large quantities of food (binge eating), and feeling a lack of control over the eating. Binge eating is followed by a compensatory behavior such as purging (vomiting, excessive use of laxatives or diuretics), fasting and/or excessive exercise.
 - These people can often fall within normal weight ranges for their age, making diagnosis difficult.
 - Have an intense fear of gaining weight, and are unhappy with their body size.
 - Usually a secretive behavior due to feelings of disgust or shame.


4



Types of Eating Disorders

- **Eating Disorders Not Otherwise Specified (EDNOS)-**
 - Includes individuals that do not meet full criteria for Anorexia Nervosa or Bulimia Nervosa.
- **Binge-Eating-**
 - Characterized by recurrent binge-eating episodes during which a person feels a loss of control over their eating. Unlike Bulimia, binge-eating is not followed by purging, excessive exercise or fasting
 - Often overweight or obese.
 - Experience guilt, shame, or distress about the binge-eating.

5



DSM-IV Criteria for Anorexia

- Refusal to maintain body weight at or above a minimally normal weight for age and height:
- Weight loss leading to maintenance of body weight <85% of that expected, or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected.
- Intense fear of gaining weight or becoming fat, even though under weight.
- Disturbance in the way one's body weight or shape are experienced, undue influence of body weight or shape on self evaluation, or denial of the seriousness of the current low body weight.
- Amenorrhea (at least three consecutive cycles) in post-menarchal girls and women. A common manifestation of anorexia nervosa is amenorrhea.

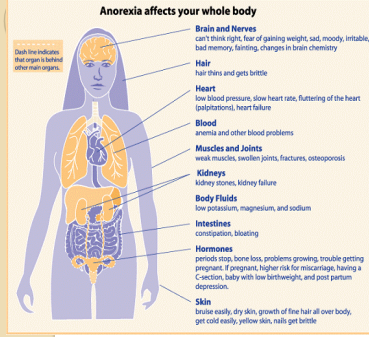
6

Is it a Diet or Anorexia?

Healthy Dieting	Anorexia
Weight loss is viewed as a way to improve health and appearance.	Weight loss is viewed as a way to achieve happiness.
Self-esteem is based on more than just weight and body image.	Self-esteem is based entirely on how much you weigh and how thin you are.
Is an attempt to control weight	Is an attempt to control your life and emotions
The goal is to lose weight in a healthy way.	Becoming thin is all that matters; health is not a concern.

7

Signs and Symptoms of Anorexia



8

- Thinning of the bones (Osteopenia or Osteoporosis)
- Brittle hair and nails
- Dry and yellowing of the skin (Carotenemia)
- Severe malnutrition resulting in emaciation, muscle loss and wasting
- Severe constipation
- Low blood pressure, slowed breathing, slowed pulse (Bradycardia), positional pulse changes (Orthostasis)
- Drop in internal body temperature (Hypothermia)
- Sleep disturbances and Lethargy
- Headache
- Irritable mood
- Bloating stomach after eating (the stomach loses its ability to deal with a normal quantity of food at one sitting)

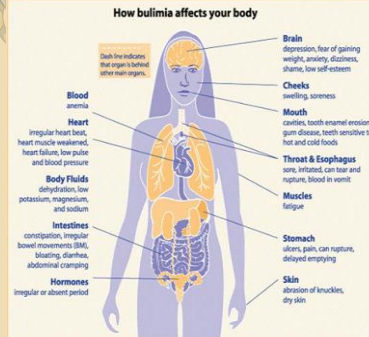
DSM-IV Criteria for Bulimia

- Recurrent episodes of binge eating characterized by both:
 - Eating, in a discrete period of time (within any 2-hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances
 - A sense of lack of control over eating during the episode, defined by a feeling that one cannot stop eating or control what or how much one is eating
- Recurrent inappropriate compensatory behavior to prevent weight gain; behaviors include:
 - Self-induced vomiting
 - Misuse of laxatives, diuretics, enemas, or other medications
 - Fasting
 - Excessive exercise
- The binge eating and inappropriate compensatory behavior both occur, on average, at least twice a week for 3 months.



9

Signs and Symptoms of Bulimia



10

- Chronically inflamed and sore throat
- Worn tooth enamel and increasingly sensitive and decaying teeth
- GERD
- Severe constipation from laxative abuse
- Kidney disease from diuretic abuse
- Severe dehydration from purging of fluids
- Swelling of the hands and feet
- Electrolyte imbalance
- Cardiac Arrhythmia

DSM-IV Criteria for EDNOS

- **DSM-IV criteria**
 - For female patients, all of the criteria for anorexia nervosa are met except that the patient has regular menses.
 - All of the criteria for anorexia nervosa are met except that, despite significant weight loss, the patient's current weight is in the normal range.
 - All of the criteria for bulimia nervosa are met except that the binge eating and inappropriate compensatory mechanisms occur less than twice a week or for less than 3 months.
 - The patient has normal body weight and regularly uses inappropriate compensatory behavior after eating small amounts of food (e.g., self-induced vomiting after consuming two cookies).
 - Repeatedly chewing and spitting out, but not swallowing, large amounts of food

11

Re-Feeding Syndrome

- **Definition:** Is a syndrome consisting of metabolic disturbances that occurs as a result of reinstatement of nutrition to patients who are starved or severely malnourished.

One might expect, after all the time spent without sufficient calories, that the body would be eager to absorb whatever energy it could find. But the starvation due to anorexia produces a decrease in insulin secretion. Insulin helps in the processing of carbohydrates. When no carbohydrates are present, insulin does not enter the bloodstream. Protein and fat stores are used as energy in the meantime.

Tapping these stores ultimately results in a loss of phosphate in the body's cells. When a person begins to eat again or be re-fed in a hospital setting, insulin secretion initiates and the cells absorb the available phosphate.

The problem is, that the available phosphate comes from the bloodstream, which needs its own supply, therefore decreasing the patients serum phosphorus. The presence of phosphate in the blood is necessary to regulate a number of physical processes.

Frequent monitoring of labs, especially Phosphorus, are essential once feedings have begun. Continue until stable.

12

Re-feeding Syndrome

- **During starvation there is a:**
 - Decrease in Basal Metabolic Rate
 - Decrease in Heart Rate
 - Breakdown of lean body tissue- producing K, PO₄, Mg, Zn
 - Decrease in serum proteins
 - Decreased in gut motility
- **Rapid Re-feeding causes:**
 - Increase in Basal Metabolic Rate
 - Increase in Heart Rate
 - Rapid change in hormone levels
 - Glucose becomes dominant fuel
 - Rapidly increased cellular uptake of glucose and minerals, reducing available serum levels of K, PO₄, Mg, Zn
 - Retention of Sodium and fluid

13

Re-feeding Syndrome

- **Can Cause:**
 - Respiratory failure
 - Cardiac failure
 - Hypotension (low blood pressure)
 - Arrhythmias
 - Rhabdomyolysis – breaking down of muscle tissue, which flows into the bloodstream and can damage the kidneys
 - Seizures
 - Coma
 - Sudden death
- **Patients at Risk**
 - Patients with Anorexia
 - Patients who are emaciated or have chronic malnutrition
 - Patients with BMI<14
 - Patients who lost >1kg per week for last 3 months
 - Patients presenting with low levels of Potassium, Phosphorus and Magnesium

14

Medical Complications from Eating Disorders

- **Electrolyte Disturbances**
 - As a result of dehydration, fluid overload, or re-feeding syndrome may lead to seizures or cardiac arrhythmias
- **Cardiac**
 - Severe bradycardia, hypotension, and orthostatic changes. EKG abnormalities. Edema. In extreme cases, sudden cardiac death or irreversible cardio-myopathy
- **GI**
 - Abdominal pain, GERD, and constipation d/t slowed gut motility
- **Neurological**
 - Seizures d/t hypo-natremia, and atrophy of the brain that can lead to a decrease in cognitive function
- **Hematological**
 - Mild Anemia
- **Endocrine**
 - Decreased energy, a decrease in thyroid function resulting in a lowered body temperature, pulse, and metabolic rate. Decreased LH/FSH and estrogen levels leading to amenorrhea

15

Hospital Admission Criteria: (Criteria may be different for certain patients)

<ul style="list-style-type: none"> • For Anorexia <ul style="list-style-type: none"> ◦ < 75% ideal body weight, or ongoing weight loss despite intensive outpatient management. ◦ Refusal to eat ◦ HR < 50 beats per minute ◦ Systolic pressure < 80 ◦ Orthostatic changes in pulse > 20 beats per minute (aka Delta P) 	<ul style="list-style-type: none"> • For Bulimia <ul style="list-style-type: none"> ◦ Syncope ◦ Serum K < 3.2 ◦ Serum Cl < 88 ◦ Hypothermia ◦ Esophageal tears ◦ Intractable Vomiting
---	--

For Both:
 Cardiac arrhythmias
 Temperature < 97 degrees
 Suicidal risk
 Significant psychiatric co-morbidities
 Failure to respond to outpatient treatment

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Inpatient Protocol

- **On Admission**
 - Height
 - Weight, post void in hospital gown
 - Vitals with Orthostatics
 - EKG
 - Urine Analysis, and Specific Gravity
 - Labs: CMP, Mag, Phos, CBC, TSH
 - Hand out Patient Packet
 - Packet includes- Level of care criteria for patients with eating disorders
 - Calendar of daily activities
 - Eating disorder treatment Program/Protocol
 - Daily Positive Goals
 - Begin work on "Project Me"
 - Menu
 - Exchange list for meal planning

17

Therapeutic Meals:

- **Meal Times**
 - Breakfast at 0800
 - Lunch at 1200
 - PM Snack at 1530 (3:30pm)
 - Dinner at 1800 (6:00pm)
 - HS Snack at 2030 (8:30pm)
- It is important to try and stay as close as possible to these times to prevent meals from overlapping.
- Therapeutic meals can be done with the patient care techs or nurses. Ideally the 30 minutes post meal should be spent with patients.
- Patients should not wear any clothing with pockets or long bulky sleeves.

18

Meal Guidelines:

- Patients have:
 - 30 minutes to complete **Meals**
 - 15 minutes to complete **Snacks**
 - 15 minutes to complete **Ensure** (Supplementation if meal or snack is not finished).
 - If any amount of food < 250 Kcal give **1 can** ensure+, Food >250 Kcal give **2 cans** of ensure +
 - If supplement not completed within 15 minutes, **place NG tube**, and give via NG Bolus (This should be in the order set- A doctors order is required for NG tube placement)
 - Must remain at nurses station or with designated staff member for 30 minutes after all meals and snacks are completed. (Unless on unsupervised meals)
 - Must wait **1 hr** after meal is completed before being allowed into the bathroom

Consider placing NGT in ice prior to insertion to decrease the tube flexibility. Additionally, using a syringe with water versus a glass of water can assist with ease of placement.

19

Eating Disorder Protocol:

- Daily weights in am post void in gown only
- Daily am vitals, include orthostatics
- **Day 0-2** Focus on assessment, medical stabilization, and exploration of what led to the hospitalization
 - On bed rest
 - Gown only (additional clothing allowed if cold)
 - Liquid nutrition- to minimize abdominal discomfort
 - Meals monitored
 - Bathrooms locked
 - 2 phone calls/day from parents only
 - 1 hour of visitation with parents only (not at meal times)
- **Day 2:** Patient meets with Dietician to discuss solid food menu

20

Eating Disorder Protocol:

- **Day 3 & 4**
 - **Start solid foods** (Focus on mechanics of eating)
 - Meals monitored
 - Room Privileges
 - **Own clothing**
 - **Phone and TV privileges**
 - Locked Bathroom
 - Parents and other family members can visit for up to 2hrs/ day
- **Day 5**
 - Take tray and eat in cafeteria with parents or staff member
 - Meals monitored
 - **Green Tile Privileges**
 - 30 minutes off unit, in hospital, accompanied
 - Locked Bathroom
 - Family and **Friends** can visit for up to 2hrs/day
 - **PALS/Teen Life Group** (Positive Adolescent Life Skills)

21

Eating Disorder Protocol:

- **Day 6**
 - Begin therapeutic passes
- Privileges Continue to Increase
 - **Day 9-** Bathroom locked for only 1 hr after meals
 - Therapeutic passes get longer
 - **Day 12-** Unsupervised meals, but nurse monitors tray
 - **Day 13-** Bathroom unlocked
 - **Day 17-** Discharge home

22

Reasoning Behind the Protocol:

- **Therapeutic Passes:**
 - During passes off the unit, the Patient and Parents are asked to complete therapeutic passes to provide staff with insight into some of the challenges they are experiencing.
 - **The teams feedback helps both the patient and family to regroup and develop strategies they can use for subsequent passes.**
 - Upon return from pass, nurses should review the pass with the patient and family, record comments, and place them in the progress notes section in the Green chart.

(Passes are given out by Betsy (Dietician), but passes are also available in the break room filing cabinet, if needed)

23

Sample Pass:

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Reasoning Behind the Protocol:

- **Daily Goal and Positive Statement:**
 - The nurse should assist the patient to identify an **attainable goal** for the day, and at least one positive statement about themselves.
 - Patients need to focus and reflect on why they are in the hospital, normalize eating and begin to reframe thoughts about self.
- It would be best if this was reviewed by the Day staff nurse. Shawn (Psych tech) is also able to help patients develop daily goals and statements.

25

Reasoning Behind the Protocol:

- **Therapeutic Meals:**
 - Typically before hospitalization, most patients have disconnected themselves from meal times and the socialization that occurs during that time.
 - They skip family meals, throw away lunch at school, decline invitations that may include food, and as a result become very isolated with their eating disorder.
 - It is important to provide as many opportunities as possible that normalizes meal times.

26

Useful Facts

- **Statistics**
 - 3-5% of adolescents have binge eating disorder (Over-eating)
 - 57% of teen girls and 33% of teen boys use unhealthy weight control behaviors (Meal skipping, vomiting)
 - 43% of 1st-3rd grade girls want to be thinner
 - 5-10 million women, and 1 million men in the U.S. have an eating disorder
- **Recovery Rates**
 - 50-70% of anorexic adolescents will recover; 20% will partially recover; and 10-20% will develop chronic anorexia
 - Eating Disorders are Curable

27

Meal Support:

- During meals and snacks, give the patients your full attention.
- There may be times when patients try to hide food. If this behavior is noted, acknowledge it in a non-punitive manner. For example: *"Patients are expected to complete all of their prescribed food"*.
- Be creative, if patients are allowed off the unit, go elsewhere to eat meals or snacks. Take the opportunity to eat with them and be a positive role model.
- During meals, make sure topics other than food and diets are being talked about.
- This is the time to model normal eating and socialize in a group setting, make it a learning experience.
- You may need to remind them of their time, giving a 10 and 5 minute warning.
- Never get into a power struggle with them, and use your own judgment.

28

Things to Remember:

- The protocol takes away a majority of the patients choices and freedom. In the beginning their only choice is, what flavor of ensure? Allow them to choose.
- These patients didn't chose to have an eating disorder, it is a gradual process that may have started with trying to become physically fit, or fit into their favorite pair of jeans that eventually got out of control...Do not blame the patient for having an illness.
- Your conversations and interactions are their "medicine." **Remember you are their role model.**


(Tips provided by Shawn McCarthy, Psych Tech)

29

Things to Remember

- These pts. need to know that they can come to staff members for help when they feel the need to purge or exercise, it is important to establish a trusting relationship. When doing something inappropriate re-direct them and suggest activities to distract them.
- This disease may be different than other diseases, however, it is still a disease that needs medical treatment; these patients are no more or less deserving than any other patient on the floor.
- We do not have to fully understand these patients and their disease, but we do have to respect them as individuals and their feelings.


30



**Poem by a Patient:
"Ed"**

<p>He tells me I'm stupid He tells me I'm fat He's never satisfied with the weight that I'm at When I look in the mirror The reflection I see Is an overweight girl staring back at me I'm Starving for your attention You tell me that I am worthless Unless I am rail thin He is my best friend He is my first love But our 5 year relationship Must come to an end I want to be happy I want to have fun I want to stop counting calories Until the day is done He makes me feel so strong So in Control But it's not okay When my health takes a toll Perfection is key Ed insists He just doesn't understand The word "perfect" does not describe me It never will</p>	<p>No matter how hard I try I hate when Ed tells me so I hate when I cry I hate being so insecure I hate spending my nights and weekends alone With Ed yelling at me in his usual tone "Don't eat!" "Don't go out!" "You are way too ugly to date him!" "Just stay away!" "Don't bother to try!" "You are not pretty anyway!" Ed, I don't want to be your girlfriend You don't appreciate me You don't let me see The good qualities in me I refuse to give in No longer will I obey Your orders to starve And be sad all day Life is too short to continue on like this There are so many experiences that I have missed So Goodbye best friend, Goodbye first love Now I am in Control This relationship ends today Soon my memory of you will fade away</p>
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- Please click on links below to complete this Self-Learning Modules' post-test, and Survey on the effectiveness of using an SLM as a learning tool.

Post-Test <http://www.surveymonkey.com/s/WBTCBD6>

Survey <http://www.surveymonkey.com/s/WB32WCL>

Thank You!

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Appendix D: SLM Survey

1. SURVEY

Please complete this survey to help identify the effectiveness of using a Self-Learning Module as a learning tool.

1. Eating Disorder Self-Learning Module

	Strongly Disagree	Disagree	Agree	Strongly Agree
1.) The SLM increased my knowledge of Eating Disorders	<input checked="" type="radio"/> Strongly Disagree	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Strongly Agree
2.)The SLM increased my knowledge of the inpatient Eating Disorder Hospital Protocol	<input type="radio"/> Strongly Disagree	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Strongly Agree
3.) I feel the SLM was easy to read	<input checked="" type="radio"/> Strongly Disagree	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Strongly Agree
4.)I feel that using a Self-Learning Module was an effective way to learn about this topic	<input type="radio"/> Strongly Disagree	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Strongly Agree
5.) Overall, I enjoyed this method of learning	<input checked="" type="radio"/> Strongly Disagree	<input type="radio"/> Disagree	<input type="radio"/> Agree	<input type="radio"/> Strongly Agree