

IMPROVING RESIDENT ASSISTANTS KNOWLEDGE ABOUT EATING DISORDERS ON
A COLLEGE CAMPUS

A Dissertation
Submitted to the Graduate Faculty
of the
North Dakota State University
of Agriculture and Applied Science

By
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In Partial Fulfillment of the Requirements
for the Degree of
DOCTOR OF NURSING PRACTICE

Major Department:
Nursing

March 2016

Fargo, North Dakota

North Dakota State University
Graduate School

Title

Improving Resident Assistants Knowledge About Eating Disorders on a
College Campus

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North Dakota State University's regulations and meets the accepted
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DOCTOR OF NURSING PRACTICE

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ABSTRACT

As many as 30 million people in the United States have struggled with an eating disorder (National Eating Disorder Association [NEDA], n.d.). Anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED) are the most common types of eating disorders. Approximately 20% of college students report that they have had disordered eating at some point in their lives (Tillman, Arbaugh, & Balaban, 2012). Prevalence of eating disorders among college students is estimated to be between 8 and 17 % (Eisenberg et al., 2011). According to NEDA (2013), there is an unmet need for the identification and referral of students with eating disorders.

The project's aim was to increase the knowledge of and awareness about eating disorders on the college campus by educating resident assistants (RAs). RAs have daily interactions with students and contribute to the campus' positive living and learning environment. To accomplish the goal, information about eating disorders was presented to the RAs at a monthly meeting. Through a PowerPoint presentation, RAs were informed about the most common eating disorders, how to recognize the signs and symptoms for the most common eating disorders, available eating disorder resources, and how to approach an individual with disordered eating behaviors.

The attendees were asked to complete two evaluation forms following the presentation, initially and four weeks post presentation. The evaluation tools contained Likert-scale statements and open-ended questions. The initial evaluation was completed by 115 participants, and the follow-up evaluation was completed by 10 participants. Because the follow-up evaluation was only completed by 10 participants, the results of the second evaluation could not be compared to the initial evaluation. A majority of participants responded positively (agree or

strongly agree) to the eating disorder presentation. The follow-up evaluation revealed that two individuals with disordered eating behaviors were recognized and referred for further evaluation. One recommendations for future research includes extending eating disorder training to other members on the college campus.

ACKNOWLEDGEMENTS

I would like to take the time to acknowledge a few important individuals. The last three years has been filled with man ups and downs, and I would not have made it to this point without help.

First, I would like to thank my committee chair, Dr. Tina Lundeen for her guidance and support through this process. We both know this project has had its difficulties, and I appreciate the many meetings and hours it took to accomplish. To the remainder of my committee, Professor Kara Falk, Dr. Shannon David, and Dr. Stephen Wonderlich, thank you for the advice and recommendations throughout the project.

To the Associate Director of Residence Life, Rebecca Bahe, thank you for inviting and allowing me to complete my project with the Resident Assistants at NDSU.

To the campus Counseling Center and Wellness Center Dietitian. Thank you for the advice and guidance you have given me.

To my husband, Luke and my family, words cannot express the love and support you have provided for the past three years.

DEDICATION

To my mom.

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CHAPTER ONE. INTRODUCTION

Background and Significance

As many as 20 million females and approximately 10 million males in the United States have struggled with an eating disorder (National Eating Disorder Association [NEDA], n.d.). Eating disorders are characterized by eating-behavior disturbances that often coincide with disturbances in perception disturbances about weight and body shape (Allen & Dalton, 2011). Individuals with eating disorders may begin fixating on both weight and food, but most have a preoccupation with food (NEDA, 2013). Food is often used as a form of control when attempting to deal with emotions or feelings that seem too overwhelming (NEDA, 2013). The effects of bingeing, purging, and excessive dieting will ultimately damage a person's physical and emotional health, self-esteem, and sense of competence and control over time (NEDA, 2013).

Anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED) are the most common types of eating disorders. The first report of an anorexia nervosa-like disorder dates back as early as the 1600s, and in the 19th century, the condition was first labeled as a diagnosis in medical reports. Descriptions of bulimia nervosa and binge eating disorder did not emerge until the 20th century. Anorexia nervosa is a self-imposed or a maintained weight loss that is underweight for the individual based on age and height. Anorexia nervosa involves the individual having an exaggerated view of shape and weight. Subtypes of anorexia nervosa include restrictive type and binge eating/purging type. The severity of anorexia nervosa is based on several factors which may include weight, height, body mass index (BMI), blood pressure, heart rate, and laboratory values. Bulimia nervosa is characterized by frequent episodes of binge eating followed by inappropriate behaviors to avoid weight gain. With bulimia nervosa, the

compensatory behaviors that individuals may exhibit include self-induced vomiting. Similar to anorexia nervosa, individuals with bulimia nervosa also have an exaggerated view of shape and weight. Binge eating disorder is characterized as recurring episodes of eating significantly more food in a short period of time than most people would eat under similar circumstances, and is often accompanied by feelings of lacking control. Individuals diagnosed with binge eating disorder do not engage in compensatory behaviors on a regular basis; therefore, they are more likely to be obese or overweight. (Hay et al., 2014).

Diagnosing an eating disorder can be challenging because the symptoms and associated behaviors often overlap for eating disorders and other mental disorders (Treasure, Claudino, & Zucker, 2010). Eating disorders are one of the most difficult psychiatric disorders to diagnose because of physical symptoms such as limb and joint pain, headache, gastrointestinal complaints, shortness of breath, and chest pain, as well as psychological conditions, such as anxiety, depression, and substance abuse, that confound the diagnosis (Allen & Dalton, 2011). Persons with an eating disorder often present to a healthcare professional with a variety of symptoms prior to diagnosis: psychological, gynecological, and gastrointestinal. Individuals with disordered eating habits may feel ambivalence, denial, secrecy, and shame towards their eating behaviors, thus making open communication with a healthcare professional problematic (National Collaborating Centre for Mental Health, 2004). Treatment-seeking behaviors are low for individuals with eating disorders, a fact which may attribute to the high mortality rate for eating disorders. Individuals with anorexia nervosa have one of the highest suicide rates compared to the general population (Mehler, 2014).

Transitioning into adulthood during the college years is a challenging time. The addition of a mental disorder and/or an eating disorder significantly impacts students' academic success,

productivity, risk of substance abuse, and social relationships (Hunt & Eisenberg, 2010). Studies of college-aged students indicate an 8-17% prevalence of eating disorders (Eisenberg, Nicklett, Roeder, & Kirz, 2011). Approximately 20% of college students report that they have had disordered eating at some point in their lives (Tillman, Arbaugh, Jr, & Balaban, 2012). College students may feel increased pressure to perform well academically and to pursue romantic relationships, which may lead to disordered eating as a coping mechanism (NEDA, 2013).

Statement of the Problem

The initial evaluation of and screening for eating disorders on the North Dakota State University (NDSU) campus is a collaborative effort that involves the Counseling Center; wellness center dietitian; the student health center; and the crisis team, if needed. NDSU's Counseling Center staff and wellness center dietician identified that more efforts are needed to improve the knowledge of and awareness about eating disorders. According to NEDA (2013), there is an unmet need to identify and refer students with eating disorders. NEDA (2013) also identified that only 34% of students indicated that their campuses had a peer adviser who was able to refer students for eating disorder treatment. Educating peer leaders about eating disorders could increase identification of those students with disordered eating. The project was designed to increase the knowledge and awareness about eating disorders on the college campus by educating resident assistants (RAs). To accomplish goal, information about eating disorders was presented to the RAs at a monthly meeting. The RAs were informed about the most common eating disorders, how to recognize the signs and symptoms of the most common eating disorders, and how to approach an individual with disordered eating habits.

Resident assistants are students who are chosen by the Department of Residence Life to be peer leaders. Residence Life is an auxiliary service at NDSU, meaning that the department

receives no state appropriated money (NDSU Department of Residence Life, 2015b). The Department of Residence Life's mission is "supports students by providing a vibrant, healthy place to live and learn" (NDSU Department of Residence Life, 2015b, p.1). Current NDSU RA training about eating disorders is included with other mental health disorders; however, more time is devoted to depression and anxiety. NDSU has approximately 110 RAs who play an important role in the lives of students who live on campus. Resident assistants have daily interactions with students and contribute to the campus' positive living and learning environment. According to NDSU's resident assistant position description, there are eight primary roles for an RA (NDSU Department of Residence Life, 2015c, p. 1-3):

1. Demonstrate positive leadership in the residence halls and as members of the NDSU community.
2. Assess and respond to the needs of the residents.
3. Promote the growth and development of residents and facilitate their connection to the residence hall and campus community.
4. Develop and maintain a hall environment that is conducive to personal well-being and success.
5. Ensure adherence to community standards in order to help maximize residents' academic and personal success.
6. Work collaboratively with staff and leaders in the building, and other staff members in the Department of Residence Life.
7. Attend to administrative responsibilities.
8. Assume responsibility for personal learning and development in the Resident Assistant role.

Resident assistants make a commitment to students in the residence hall, especially on the assigned floor, to be aware of the students' needs and problems, to show concern and interest for each student, and to develop relationships that make students feel comfortable asking for help (NDSU Department of Residence Life, 2015a). Increasing the awareness of and knowledge about eating disorders by educating RAs is anticipated to increase the recognition and to initiate referrals.

Eating disorders are very common among college students (Eisenberg et al., 2011). The average age of onset for eating disorders is between the ages of 18 and 21 (Hudson, Hiripi, Pope, & Kessler, 2007). Prevalence of eating disorders in college aged individuals is estimated between 8 and 17% (Eisenberg et al., 2011). Approximately 20% of college students reported having an eating disorder at some point in their lives, and 75% of these individuals have never sought treatment for their disordered eating habits (Tillman, et al., 2012). According to the Eating Disorder Hope (2012a) organization, the percentage of individuals in the United States who seek treatment for an eating disorder is low. In the United States, treatment seeking rates are 33% for individuals with restrictive eating behaviors, 6 % for individuals with bulimia, and 43% for individuals with binge-eating type behaviors (Eating Disorder Hope, 2012a).

NEDA (2013) commissioned a study of 165 U.S. college and university campuses in for the purpose of identifying the services and programs that are available for those students who are “struggling with, recovering from, or at risk for developing an eating disorder and related body image issues” (p.2). One of the major findings was that there is a lack of screening for eating disorders on campuses. Screening for eating disorders can be a crucial component of identifying people with disordered eating behaviors in order to intervene early and to improve treatment prognosis (NEDA, 2013). Counseling and therapy services were most important for the

prevention, identification, and treatment of eating disordered students on college campuses. Of the college campuses involved with the NEDA survey, only 68.6% of campuses had monthly/weekly/daily availability of an on-staff counselor with eating disorder specialty training; at the same time, 96.3% of the campuses stated that it was extremely important to have an on-staff professional with eating disorder specialty training (NEDA, 2013). The colleges' counseling centers are often understaffed with large student to staff ratios, as well as having a lack of professionals who are trained in eating disorders (Wilfley, Agras, & Taylor, 2013).

Eisenberg et al. (2011) illustrated that college-aged individuals often delay seeking treatment for eating disorders, and many students with eating disorder related pathology are not being recognized and treated. The lack of treatment seeking is often surmised to be related to negative self-stigma and the perceived inaccessibility of treatment (Tillman et al., 2012). Individuals also experience a societal stigma that may contribute to a decrease in treatment seeking behaviors. Tillman and Sell (2013) proposed that students who are new to the college environment may have a limited understanding about the available mental health resources, contributing to lower levels of health-seeking behaviors. According to a study conducted by Hackler, Vogel, and Wade (2010), negative self-stigma was the strongest predictor of help-seeking behaviors for individuals with eating disorders. Individuals with disordered eating desire to keep their eating behaviors a secret, a fact which may contribute to the low treatment rates. The researchers also determined that individuals who anticipated a greater risk with treatment and fewer benefits from treatment had less positive attitudes towards seeking counseling and treatment (Hackler, et al., 2010). College students perceived themselves to be more likely to seek help for a friend with disordered eating habits than to seek help for themselves (Tillman & Sell, 2013). It is important for friends, family members, professors,

coaches, teammates, and resident assistants to know the signs and symptoms of an eating disorder in order to recognize another individual who may be at risk and who may be unwilling to seek help.

As previously mentioned, eating disorders are most prevalent in college aged individuals. Individuals with anorexia have the highest mortality of any mental disorder (Treasure, 2009). The earlier a referral is made to an eating disorder professional the more likely the treatment will be effective and the complications reduced.

Project Description and Objectives

The overall goal of this project was to educate RAs about the signs and symptoms of eating disorders in an effort to improve the RAs' recognition of students with potential eating disorders. Early recognition of an eating disorder facilitates a referral to an eating disorder professional. To achieve the goal, a 45-minute educational presentation was designed for the NDSU RAs; the presentation focused on eating disorders in the college student. The project design is further explained in Chapter 3. The objectives of the project were as follows:

1. After the presentation, resident assistants will indicate that they have increased knowledge about eating disorders and increased knowledge about the signs and symptoms of eating disorders.
2. After the presentation, resident assistants will indicate that they have increased knowledge about the local resources for an eating disorder referral.
3. After the presentation, resident assistants will indicate that they have acquired new knowledge about approaching an individual with an eating disorder.
4. After the presentation, resident assistants will indicate that they feel comfortable approaching an individual with a suspected eating disorder.

CHAPTER TWO. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Literature Review

Articles used for this literature review were retrieved from databases in North Dakota State University's (NDSU) library system, UpToDate, and professional organizations' websites. The utilized NDSU databases included MEDLINE, Cumulative Index to Nursing and Allied Health Literature (CINAHL) Plus with full text (Ebsco), and Academic Search Premier (Ebsco). Keywords or phrases searched included "eating disorders and college students", and "treatment and management", "resources", and "treatment guidelines". Only peer reviewed and full text articles were chosen, and any literature older than 2000 was excluded.

Prevalence

In the United States, approximately 30 million people have an eating disorder at some point in their lifetime; this number can be further broken down to 20 million women and 10 million men with eating disorders (NEDA, n.d.). Individuals who are young or old, male or female, different races or culture and from all socioeconomic backgrounds can be diagnosed with eating disorders (Academy for Eating Disorders [AED], 2011). As previously stated, the average onset age for eating disorders is between 18 and 21 years old, but may occur as early as age 10 or younger (Hudson et al., 2007). At the age of 6, girls may begin to express concerns about their own weight and body shape. Approximately 40-60% of girls who are 6-12 years old have concerns about becoming overweight (NEDA, n.d.). The overall lifetime prevalence rate of eating disorders in females diagnosed with anorexia nervosa is 0.9%; bulimia nervosa is 1.5%; and binge eating disorder is 3.5% (Treasure, 2012).

Of all individuals in the United States who have mental disorders, persons with anorexia nervosa have the highest mortality. This high mortality rate is attributed to suicide and a poor

physical health state (Treasure, 2009). Mortality rates for eating disorders are as follows: anorexia nervosa, 4%; bulimia nervosa, 3.9%; and eating disorders not otherwise specified, 5.2% (Crow et al., 2009). The overall rate of suicide for people with eating disorders ranges from 1.8% to 7.3% (Pompili, Girardi, Taterelli, Ruberto, & Taterelli, 2005). Persons with anorexia nervosa have a mortality rate that is 10 to 12 times higher than the rate for the general population (Mehler, 2014). Many individuals with an eating disorder seek treatment later rather than sooner, which may increase the risk of complications and may lead to a chronic course for the eating disorder (Bauer, Moessner, Wolf, Haug, & Kordy, 2009). Medical complications from eating disorders affect most major organ systems: cardiac, pulmonary, neuropsychiatric, gastrointestinal, endocrine, and dermatologic (Mehler, 2015).

An individual with an eating disorder may or may not show obvious signs and symptoms, or may present in a variety of ways. Therefore, diagnosing an individual with an eating disorder can be a challenge. The symptoms and behaviors associated with eating disorders often overlap among the eating disorders' types and subtypes. Individuals with eating disorders may also have a comorbid psychiatric condition. For people with anorexia nervosa, the lifetime prevalence of comorbidity has been reported as ranging from 55% in adolescents to 96% in adult populations (Hay et al., 2014). Common comorbid conditions include: attention-deficit hyperactivity disorder, autism spectrum disorder, obsessive compulsive disorder, anxiety, borderline personality disorder, substance misuse, and affective disorders (Treasure et al., 2010). Due to the comorbid conditions eating disorders are also one of the most difficult psychiatric disorders to treat.

The diagnosis can be delayed because persons with an eating disorder often present with a variety of physical and mental health symptoms such as limb and joint pain, headache,

gastrointestinal complaints, shortness of breath, chest pain, anxiety, depression, and substance abuse (Allen & Dalton, 2011). Major physical signs and symptoms for people with an eating disorder may be marked loss, gain, or fluctuations in weight; weakness; fatigue; dizziness; syncope; chest pain; palpitations; arrhythmias; shortness of breath; epigastric discomfort; gastroesophageal reflux; hematemesis; amenorrhea or irregular menses; decreased bone mineral density; seizures; memory loss; depression; suicidal ideation; hair loss; and poor healing (AED, 2011).

Diagnosing an eating disorder can also be challenging due to the low rates of treatment seeking behaviors. The results of a New Zealand study by Oakley Browne, Wells, and McGee (2006) revealed that the average treatment delay for people with bulimia nervosa is approximately 10 years and for the individuals with anorexia nervosa is approximately 15 years. Individuals may not recognize their disordered eating as a problem; however, comments from friends regarding changes in behavior, weight, and appearance help to reinforce awareness of the behavior as a problem (Hart, Jorm, Paxton, Kelly, & Kitchener, 2009). When individuals recognize their behaviors as problematic, 61.5% will first consult a lay person as opposed to a professional (Hart, et al., 2009). It is essential for friends, family members, professors, coaches, teammates, and resident assistants to identify symptoms and to encourage help-seeking behaviors before significant disability develops (Hart et al., 2009).

Types of Eating Disorders

The American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*, (5th edition, DSM-5) categorizes eating disorders as anorexia nervosa, bulimia nervosa, binge eating disorder, pica, rumination disorder, avoidant/restrictive food intake disorder, and other specified feeding or eating disorder. The DSM-5 is the most current standard

classification of mental disorders that is used by mental health professionals in the United States. It contains a listing of diagnostic criteria for every psychiatric disorder that is recognized by the U.S. healthcare system (American Psychiatric Association [APA], 2014). The previous edition, the DSM-IV-TR, had very rigid definitions for anorexia nervosa and bulimia nervosa, resulting in many individuals' diagnosis being classified as eating disorders not otherwise specified (EDNOS) (Quick, Berg, Bucchianeri, & Byrd-Bredbenner, 2014). Quick et al. (2014) estimated that almost half of the people seeking treatment for an eating disorder were given a diagnosis of EDNOS. The DSM-5 included new diagnostic criteria for eating disorders in an attempt to reduce provider use of the EDNOS diagnosis. With changes to the diagnostic criteria, the American Psychiatric Association hoped that providers would be able to choose the most appropriate diagnosis and provide prompt and appropriate treatment options (Quick et al., 2014). The most common eating disorders are anorexia nervosa, bulimia nervosa, and binge eating disorder (Forman, 2014a).

Anorexia Nervosa (AN)

Despite dissatisfaction with body image, people with anorexia nervosa (AN) are characterized by extremely low bodyweight and have a constant fear of a weight increase (Treasure et al., 2010). Typically, anorexia nervosa is more common in women than men, and the median age of onset is 18 years old (Forman, 2014a). The pathophysiology of anorexia is unknown; however, an increased familial incidence may indicate that genetics and/or environmental factors play a role (Forman, 2014a). Forman (2014a) found that persons with anorexia had abnormal functioning of the corticolimbic circuits that are involved in appetite, as well as neurotransmitter disruptions of dopamine and serotonin (Forman, 2014a). The DSM-5 criteria for diagnosing AN requires each of the following:

Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health.

Significantly low weight is defined as a weight that is less than minimally normal, or for children and adolescents, less than that minimally expected. Intense fear of gaining weight or becoming fat, or persistent behavior that interferes with weight gain, even though at a significantly low weight. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight (American Psychiatric Association [APA], 2013, p. 338-339).

Anorexia nervosa can also be classified into two subtypes, restricting or binge-eating/purging type. In the restricting type, a person presents with weight loss that is accomplished by dieting, fasting, and/or excessive exercise. With the binge-eating/purging type the person has engaged in binge eating or purging activities such as self-induced vomiting or the misuse of laxatives, diuretics, or enemas. The diagnostic criteria for anorexia nervosa subtypes from the DSM-5 are as follows:

Restricting type: during the last 3 months, the individual has not engaged in recurrent episodes of binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas). Binge-eating/purging type: During the last 3 months, the individual has engaged in recurrent episodes of binge eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas) (APA, 2013, p.339).

Bulimia Nervosa (BN)

The median age of onset for bulimia nervosa is 18 years old. The lifetime prevalence is 0.9 % with greater prevalence in women than men; 1.3% and 0.5%, respectively (Forman, 2014a). Similar to anorexia nervosa, the pathophysiology of the disorder is not well known. Studies have shown altered brain functioning and brain structure in persons with bulimia nervosa; however, it is unknown if these changes are a result of the disorder or the origin of the disorder (Forman, 2014a). Bulimia nervosa may evade identification because secretive eating behaviors develop and because the person may lack signs of physical emaciation (Sim et al., 2010). Physical findings that the clinician may see in persons with BN include an increased frequency of dental caries and enamel erosions from repeated vomiting (Sim et al., 2010). Russell signs may also be evident; these signs are calluses or abrasions on the dorsum of the hand over the metacarpophalangeal and interphalangeal joints that occur with repeated self-inflicted vomiting (Sim et al., 2010). The DSM-5 criteria for diagnosing bulimia nervosa include:

Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following: 1. Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than what most individuals would eat in and similar period of time under similar circumstances. 2. A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating). Recurrent inappropriate compensatory behaviors in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, or other medications; fasting; or excessive exercise. The binge eating and inappropriate compensatory behaviors both occur, on average, at least once a week for 3 months. Self-

evaluation is unduly influenced by body shape and weight. The disturbance does not occur exclusively during episodes of anorexia nervosa (APA, 2013, p. 345).

Binge Eating Disorder (BED)

The DSM-5 diagnostic criteria for binge eating disorder includes episodes of binge eating that occur at least once a week for three months. A binge eating episode was previously described in the bulimia nervosa diagnosis; however, the difference between bulimia nervosa and binge eating disorder is the lack of compensatory behaviors after a binge episode in binge eating disorder (APA, 2013). The DSM-5 diagnostic criteria are as follows:

Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following: 1. Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than what most individuals would eat in and similar period of time under similar circumstances. 2. A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating). The binge-eating episodes are associated with three (or more) of the following: 1. Eating much more rapidly than normal. 2. Eating until uncomfortably full. 3. Eating large amounts of food when not feeling physically hungry. 4. Eating alone because of feeling embarrassed by how much one is eating. 5. Feeling disgusted with oneself, depressed, or very guilty afterward. Marked distress regarding binge eating is present. The binge eating occurs, on average, at least once a week for 3 months. The binge eating is not associated with the recurrent use of inappropriate compensatory behavior as in bulimia nervosa and does not occur exclusively during the course of bulimia nervosa or anorexia nervosa. (APA, 2013, p. 350)

Individuals may feel significant distress about binge eating behaviors (APA, 2013). Binge eating should be differentiated from overeating that primarily occurs at social occasions where food is abundant and where other people are also overeating (Sim et al., 2010).

Pica

Primary features of pica include eating one or more nonnutritive, nonfood substances persistently over a period of at least one month. Nonnutritive, nonfood substances typically include paper, soap, cloth, hair, string, wool, soil, chalk, talcum powder, paint, gum, metal, pebbles, charcoal/coal, ash, clay, starch, or ice. Ingesting these substances is also not part of a culturally supported practice. In order to exclude infants' developmentally normal mouthing behaviors, someone must be at least two years old to be diagnosed (APA, 2013). The diagnostic criteria for pica from the DSM-5 includes the following information:

Persistent eating of nonnutritive, nonfood substances over a period of at least 1 month.

The eating of nonnutritive, nonfood substances is inappropriate to the developmental level of the individual. The eating behavior is not part of a culturally supported or socially normative practice. If the eating behaviors occur in the context of another mental disorder (e.g., intellectual disability [intellectual developmental disorder], autism spectrum disorder, schizophrenia) or a medical condition (including pregnancy), it is sufficiently severe to warrant additional clinical attention (APA, 2013, p. 329).

Rumination Disorder

The key feature of rumination disorder is the repeated regurgitation of food after eating or feeding that occurs over a period of at least one month. Repeated regurgitation happens several times per week, often daily. Food that has been previously swallowed is brought back into the mouth in the absence of nausea, involuntary retching, or disgust; the food is re-chewed and then

spit out or re-swallowed. These regurgitation behaviors are not explained by an associated gastrointestinal disorder or other medical conditions such as gastroesophageal reflux or pyloric stenosis, and the behaviors do not solely occur during the course of other eating disorders. If the symptoms of rumination disorder occur with other mental disorders, the symptoms must be severe enough to warrant medical attention. The prevalence of rumination disorder is inconclusive, but may occur more frequently in certain groups especially for individuals with an intellectual disability (APA, 2013).

Avoidant/Restrictive Food Intake Disorder (ARFID)

The most important diagnostic criterion for ARFID is an eating or feeding disturbance that is evidenced by a failure to meet suitable nutritional and/or energy needs; the disturbance is associated with one or more of the following: significant weight loss, significant nutritional deficiencies, a dependence on enteral feeding or oral nutritional supplements, or marked interference with psychosocial functioning. These feeding disturbances are not associated with or explained by a lack of food availability or a cultural practice. Avoidant/restrictive food disturbances do not necessarily occur in the presence of anorexia or bulimia nervosa. Behaviors with this disorder are not explained by an obsession with body weight/size or another medical condition (APA, 2013).

Other Specified Feeding or Eating Disorder (OSFED)

Previously known as Eating Disorder Not Otherwise Specified (EDNOS), the diagnosis is applied to individuals who do not meet the full criteria for any of the other specified eating disorders (APA, 2013). Signs and symptoms are characteristic of an eating disorder and cause significant impairment in social, occupational, or other areas of the individual's function (APA, 2013). An example for the presentation of OSFED could be atypical anorexia nervosa where all

of the criteria for anorexia nervosa are present; however, the individual's weight is within or above normal limits (APA, 2013). Often the OSFED diagnosis is used when there is insufficient information or time to make a more specific diagnosis (APA, 2013).

Screening

Eating disorder screening should be targeted towards adolescent to college-aged women who have a low body mass index (BMI) when compared to age norms, patients with weight concerns who are not overweight, women with menstrual disturbances or amenorrhea, patients with gastrointestinal symptoms, or patients with physical signs of starvation or repeated vomiting (National Collaborating Centre for Mental Health, 2004). The SCOFF is a 5 question screening tool that addresses features of both anorexia and bulimia nervosa. Each "yes" in the SCOFF questionnaire equals 1 point, and a score of 2 indicates the likelihood of an anorexia or bulimia nervosa diagnosis (Morgan, Reid, & Lacey, 2000). Studies have shown that the SCOFF has merit in the primary-care setting and that it provides good sensitivity and specificity (Mond et al., 2008).

Prevention

Eating disorder prevention has been a goal for several years. Building support to prevent eating disorders has proven difficult because involvement and support from the individual, parents, and school personnel are essential for effective prevention efforts (Varnado-Sullivan & Horton, 2006). Past prevention efforts were focused on didactic psychoeducational intervention that was based on the idea that information about adverse effects would discourage individuals from engaging in disordered eating behaviors. Unfortunately, these educational interventions did not appear to impact the risk factors or eating pathology. More recent prevention programs focused on altering risk factors by targeting high-risk individuals (Stice & Shaw, 2004). In order

for a prevention program to be successful, it needs to be deemed socially acceptable. Psychoeducational approaches have been rated as more acceptable than other interventions (Varnado-Sullivan & Horton, 2006).

Early Intervention in the College Setting

Detection of and referral for eating disorders is an important component of early intervention on the college campus. Overall, there is an unmet need on campus for individuals who are able to identify and to refer a student with an eating disorder. NEDA's national survey of eating disorder resources on the college campus found that 91.3% of respondents thought that eating disorder training for resident assistants was important; however, only 57% of the respondents said that such training was offered on campus. The same survey also found that 93.3% of respondents believed that having a peer adviser trained to refer a student was important, but only 34% stated that their campus had peer advisers trained to refer students with eating disorders (NEDA, 2013). Eating disorder training on the college campus should be provided to those individuals who have day-to-day interactions with students. The goal of training is to increase the recognition of students on campus and to refer them for professional help.

Eating disorders have the highest mortality rate among psychiatric disorders; consequently, mortality rates are the reason that early detection, intervention, and treatment are important for an individual to have the greatest success at recovery (NEDA, 2013). Wilfley et al. (2013) proposed screening and early interventions for eating disorders on college campuses; these actions included implementing online and in-person screening followed by directions for further assessment and evaluation. Evidence-based interventions online or in-person depend on the severity of symptoms, ongoing symptom monitoring, and establishing community and

environmental norms that promote healthy behaviors (Wilfley et al., 2013). Using internet-based intervention programs to prevent and treat eating disorders has become increasingly popular. Recent studies have indicated that such programs may significantly reduce concerns about weight and shape in college-age women who are at risk for developing an eating disorder (Bauer et al., 2009). Student Bodies is an internet-based cognitive-behavioral intervention that has been shown to significantly reduce concerns about shape and weight in college-aged females (Taylor et al., 2006). The eating disorder prevention and treatment internet programs may be accessed at anytime and anywhere, providing more support for those individuals who have barriers to seek care in the traditional sense (Bauer et al., 2009). Through this technology, clinicians are able to monitor psychological impairment in large groups of participants, saving cost and time, and allowing clinicians to intervene quickly if necessary (Bauer et al., 2009).

Assessment

Assessing people with eating disorders needs to be comprehensive and should include physical, psychological, and social needs as well as an assessment of risk to self (National Collaborating Centre for Mental Health, 2004). College students often go to a primary-care setting or Student Health Services for their health care needs. If a college student has an eating disorder, he/she may first present to a primary-care setting or a Student Health Center. Student health centers are equipped to screen and complete initial evaluations on individuals with eating disorders (Eisenberg et al., 2011). For patients with disordered eating, medical evaluation is essential to assess for complications, and to determine whether a higher level of care, such as hospitalization is warranted (Mehler, 2014). At NDSU, mental-health professionals determine if the individual can be served by the level of care that is provided at the counseling center. If the mental-health professional feels that the individual needs a higher level of care or if the

necessary care needed is beyond the mental-health professional's comfort level, a referral to the Student Health Center or an eating disorder program is made for further evaluation.

A comprehensive assessment should be done initially then periodic reassessments need to occur (Williams, Goodie, & Motsinger, 2008). During the periodic reassessments, signs of physiological and psychological declines, including weight shifts, blood pressure, pulse, cardiovascular or metabolic status, suicidal ideation or attempts, and other self-harm behaviors need to be monitored (Williams et al., 2008). Factors that indicate medical risk in an eating disorder patient's history includes excessive exercise with low weight; blood in vomit; inadequate fluid intake combined with poor eating; rapid weight loss; and events that interrupt ritualized eating behaviors such as holidays or examinations (Treasure, 2009). Body mass index (BMI) is often used as a tool to assist with determining the medical risk for anorexia nervosa (Treasure, 2009). Using BMI or laboratory blood tests alone does not provide an appropriate measure of risk; however, when used in conjunction with each other, the methods provide a more adequate picture of risk (Treasure, 2009). If eating disorder management occurs in the student health center or primary care setting, the medical provider takes responsibility for coordinating care (National Collaborating Centre for Mental Health, 2004). The provider's role when treating an eating disorders is to assess for medical complications, to monitor weight and nutrition status, and to assist other team member with management strategies (Williams et al.,2008).

Management

The primary goal of treating persons with eating disorders is to simultaneously improve physical and psychological functioning (National Institute of Mental Health [NIMH], 2011). Treatment plans are designed to fit the individual and may include psychotherapy, medical monitoring, nutritional counseling, and medications (NIMH, 2011). Providers at student health

centers and therapists at the counseling centers are in ideal situations to identify students who are at risk for eating disorders and psychiatric conditions; consequently, these professionals are able to provide appropriate referrals and treatment (Eisenberg et al., 2011). Eisenberg et al. (2011) suggest that emphasis should be placed on determining the protocols for identification, referral, and treatment on college campuses nationwide. College campuses are unique settings where career-related and social aspects of an individual's life are integrated (Hunt & Eisenberg, 2010). Colleges and universities represent an opportunity to address significant mental health issues that occur in late adolescence and for young adults (Hunt & Eisenberg, 2010). Allen and Dalton's (2011) review of literature has revealed that individuals with eating disorders are often reluctant to seek treatment from specialty centers and more often present to a primary-care provider. The primary-care providers may recommend that individuals seek specialty services; however, there is often little follow through with referrals (Allen & Dalton, 2011). Therefore, the primary-care setting may be considered the ideal location for general health care needs for the medically stable individual with eating disorders (Allen & Dalton, 2011). The campus student health services may be the only primary-care encounter that college students utilize.

A team approach is considered the gold standard to treat eating disorders (Mitchell, Klein, & Maduramente, 2014). Research has provided evidence that continuing an interdisciplinary team approach for eating disorders in the college populations has more benefit than counseling alone (Mitchell et al., 2014). The team generally consists of a mental-health professional, a health care provider, and a dietitian all of whom can be found on the college campus. Collaboration involves assessment, intervention, and support for the patients (Mitchell et al., 2014). Mental-health professionals provide psychotherapies that are often the mainstays of eating disorder treatment, and certain mental health professionals with expertise in eating

disorders may also provide pharmacotherapy. A registered dietitian directs the nutritional rehabilitation aspect by discussing appropriate dietary options and meal planning with patients. Dietitians provide education about changes in eating behaviors and help set appropriate weight goals by collaborating with the health care provider (Forman, 2014b).

Cognitive behavioral therapy (CBT) is one type of therapy that is often used to treat eating disorders (American Dietetic Association [ADA], 2011). CBT has shown effectiveness in the treatment of binge eating disorders and bulimia nervosa (ADA, 2011). However, CBT has proven to be less effective for treating anorexia nervosa (ADA, 2011). CBT is a type of psychotherapy that assists individuals with understanding the thoughts and feelings that influence behaviors, in this case disordered eating (National Alliance on Mental Illness [NAMI], 2015). The main concepts of CBT are identifying negative or false beliefs and then restructuring those beliefs (NAMI, 2015). During CBT sessions, a therapist assists the individual with uncovering unhealthy thought patterns and determining how those thoughts may contribute to the self-destructive beliefs and behaviors (NAMI, 2015). Once the unhealthy thought patterns have been recognized, the therapist and individual work together to develop more productive ways of thinking as well as to illicit healthier beliefs and behaviors (NAMI, 2015).

Dialectical behavior therapy (DBT) has gained popularity in the treatment of eating disorders when emotional dysregulation is considered influential on the unhealthy beliefs and behaviors. With DBT, the therapist focuses on teaching and practicing new coping skills. The therapist uses DBT to help the individual recognize and replace maladaptive coping skills with more constructive skills, therefore decreasing the unhealthy high-risk behaviors while simultaneously improving respect for self. DBT is useful for decreasing binge eating and purging in certain populations. Other psychotherapy modalities for the treatment of eating

disorders include interpersonal, psychodynamic, family, and group therapy. Research has shown that self-esteem enhancement and assertiveness training may also be beneficial for these patients (ADA, 2011).

An alternate evidence-based treatment for eating disorders is interpersonal psychotherapy (IPT). The original purpose for IPT was to treat depression. This type of therapy involves the idea that interpersonal factors may be associated with psychological problems. IPT addresses underlying personal issues, targets underlying issues that may be fueling an eating disorder, and emphasizes the use of strategies to improve relationships. IPT is often combined with other forms of psychotherapy, such as, CBT, in the overall treatment plan for eating disorder recovery (Eating Disorder Hope, 2012b).

Approaching an Individual with Disordered Eating

Approaching an individual who exhibits disordered eating can be a daunting task. The earlier an eating disorder is recognized, the better the outcomes are likely due to earlier treatment and the prevention of complications (National Association of Anorexia Nervosa and Associated Disorders [ANAD], 2010). The person who approaches an individual with disordered-eating habits should make a list of specific behaviors or incidents that have occurred. The person approaching must maintain a non-accusatory approach by using “I” statements instead of “you” statements and avoid ultimatums; threats; and simple solutions, such as “just eat.” (National Association of ANAD, 2010). The person who approaches an individual with an eating disorder must remember that eating disorders are disorders with disturbances in eating behaviors, thoughts, and emotions (Hart et al., 2009). The person approaching needs to be aware that it will be unlikely that he/she will solve the problem, and the individual may respond negatively regardless of how sensitively he/she is approached. It is important to choose an environment that

is private, quiet, and comfortable. The person approaching must remain non-judgmental, respectful, kind, and calm when speaking to the person. Avoid being critical or placing blame on the person or his/her family. The individual with disordered eating may need time to discuss other concerns that are not about food, weight, or exercise. It is important to remember that the person approaching does not need to have all of the answers. The approached individual may react negatively because he/she may not see his/her behavior as problematic or because he/she does not know how to change without losing his/her coping mechanisms. It is important to remain sensitive to the individual's fears about seeking help. The person approaching needs to be positive, supportive, and encouraging towards the person. Encourage the individual to surround himself/herself with supportive people in whom he/she can confide. Encourage the individual to seek help from a professional with training in eating disorders (Hart et al., 2009).

Project Framework

A logic model was used to guide the project. Logic models provide a summary of the project's flow and depict the process of planning, developing, implementing, and evaluating. Typically, logic models are graphical depictions of the relationships among resources, activities, outputs, and intended outcomes. Overall, logic models help keep the focus on the big picture as well as creating an understanding about the challenges ahead, the resources available, and the timetable in which to reach the goals. The logic model contains two major components: planned work and intended results. Planned work describes what resources are needed to implement the program and what is intended to be done: resources and activities. The resources, often referred to as inputs, are human, financial, organizational, and community resources that are available for the project's work. Activities are what the project manager does with the resources. The activities include processes, tools, events, technology, and actions that are involved with

implementing the project and bringing about the intended changes or results. The intended results include all the of the project's desired effects: outputs, outcomes, and impact. The outputs are the direct products of the project's activities. Outcomes are the specific changes that come from the project. Impact is defined as the intended or unintended change that occurs within an organization or community as a results of the project (W.K. Kellogg Foundation, 2004).

CHAPTER THREE. PROJECT DESIGN

Congruence of the Project to the Organization's Strategic Plans/Goals

This project is congruent with the NDSU Department of Residence Life's mission of providing a vibrant, healthy place to live and learn. Resident assistants (RAs) have consistent day-to-day interaction with students and are able to disseminate information to students. The goal of educating RAs about eating disorders is that they will have the knowledge to recognize students with disordered-eating behaviors. Students who are identified with disordered-eating behaviors can be referred for further assessment and evaluation. Appropriate referrals and interventions, enhance students' ability to function successfully in their personal and academic lives. Healthy students are more apt to graduate on time and to become productive, self-supporting individuals. Healthier college students not only contribute to a healthier college community, they will also contribute to healthier society and will be productive economically (Wilfley, Agras, & Taylor, 2013).

Project Design: Planned Work

For my Doctorate of Nursing Practice (DNP) project, I was interested in improving the recognition of referral for students with eating disorders; this focus led to a targeted literature review about eating disorders on college campuses. A comprehensive literature review using the terms "eating disorder", "college students", "treatment and management", "resources", and "treatment guidelines" revealed that eating disorders are a problem on college campuses. From there, I began to design a practice-improvement project guided by a logic model. Using the logic model, the planned work included inputs and activities. I contacted key stakeholders about eating disorder awareness and educational needs on campus. The Associate Director of Residence Life explained that the RAs needed more education about recognizing and referring

students with eating disorders. After brainstorming educational strategies, I planned to give a presentation at the RAs' monthly meeting on September 23, 2015. An objective of these monthly meetings is to discuss current issues and topics that are pertinent to the RAs daily interactions with students.

I attended an eating disorder presentation by a DNP student colleague; the presentation was given to providers and nursing staff at NDSU's Student Health Center. The presentation's purpose was to educate providers and nursing staff about the common signs and symptoms that a student with an eating disorder may have that necessitate a referral as well as recommended testing to determine the disorder's severity. I attended the presentation to learn what information was given to the Student Health Center Staff, so that I would not provide conflicting information to the RAs.

Table 1.
Eating disorder logic model: Inputs and activities

Planned Work		Intended Results		
Inputs	Activities	Outputs	Outcomes	Impacts
A. Stakeholders: Campus Counseling Center Staff	Interdisciplinary collaboration for accurate information	Deliver the presentation to RAs	RAs have improved knowledge about eating disorder resources	RAs will recognize the signs and symptoms of eating disorders in students.
Wellness Center Dietician	Develop eating disorder resource guide	RAs receive the eating disorder toolkit	RAs have tools to approach an individual with an eating disorder	RAs will refer students with suspected eating disorders to the available resources for further assessment and evaluation
Associate Director of Residence Life	Develop toolkit			
Committee/IRB				
B. Literature Review	Develop an eating disorder presentation that is customized to NDSU RAs	Deliver the presentation to RAs	RAs have up-to-date information about eating disorders and the time to reflect on the presentation's content	RAs will have improved knowledge to recognize eating disorders in students
	Develop the toolkit	Present eating disorder information to attendees: prevalence, statistics, etiology, and signs and symptoms of anorexia nervosa, bulimia nervosa, and binge eating disorder	RAs have improved knowledge of eating disorders and improved knowledge about the signs and symptoms of eating disorders	RAs will refer students with suspected eating disorders to the available resources for further assessment and evaluation
C. Expense	The presentation and eating disorder toolkit were offered to all attendees at no cost	RAs received a free eating disorder toolkit and online access to the PowerPoint presentation		RAs have unlimited/free access to eating disorder resources to refer to if they suspect that a student has an eating disorder

Adapted from W.K. Kellogg Foundation (2004).

Planned Work: Inputs and Activities

The project inputs included stakeholders, the literature review, and potential expenses.

Table 1. is a personal adaptation of the logic model. The bold area indicates the planned work: inputs and activities. The project's activities include interdisciplinary collaboration, development of an eating disorder resource guide, development of an eating disorder toolkit, and development of the presentation. The inputs and activities are further defined in the following sections.

Stakeholders. In the logic model, stakeholders are represented in Section A under Inputs.

I contacted the Counselors at the campus Counseling Center as well as the Wellness Center dietitian prior to the development of the eating disorder presentation. I contacted the stakeholders for two reasons: to gain input about the presentation's content and to create awareness about the project for the possibility of increased referrals. The information provided by the stakeholders was included in the presentation and the eating disorder resource guide. My contact at the campus Counseling Center wanted to ensure that the RAs knew the following things:

1. There is a liaison counselor assigned to each residence hall. RAs may contact the liaison counselor with concerns about students.
2. RAs or students with eating disorders are encouraged to call the Counseling Center directly to make an appointment or to stop by the office. The counselor provided the phone number, the location, and the hours when services are offered.
3. A student can also begin the assessment process by going to the Student Health Center.
4. If the RAs are making a referral they should provide information about why they are concerned; this information is helpful to the counselors during the initial assessment.
5. Counselors provide the initial contact with students to begin the assessment and evaluation. If the counselors feel that a student needs a higher level of care, they will refer the student on to a different resource. Where the counselor refers a student depends on multiple factors: the student's need, available resources, student preference, insurance, and geography.

The Wellness Center dietitian wanted to ensure that the RAs knew these facts:

1. Any student can see the dietitian free of cost by making an appointment at the Wellness Center's front desk in person or over the phone.
2. If the RAs make the referral, they should provide information about why the referral is being made, with permission from the student.
3. The hours of service are limited to 10 hours a week every Wednesday and Thursday, and only when school is in session; there are no holiday or summer hours.
4. Eating disorder treatment is a multidisciplinary approach for the medical provider, dietitian, and counselor, but the major players in the treatment are the person and the counselor/therapist.

The Associate Director of Residence Life played a vital role with implementing this project. She provided an opportunity in the meeting schedule to present the eating disorder education to the RAs. Together, we confirmed the date, location, and time allowed for the presentation. I provided the Associate Director with a copy of the Power Point presentation; so that she could share the information with RAs or the rest of the of Residence Life department.

A proposal meeting was set up with the dissertation committee members so that they could review the practice-improvement project. After the committee approved project from the, the practice improvement project was sent to the Institutional Review Board (IRB) for review.

Literature Review. In the logic model, the literature review is represented in Section B under inputs. As discussed in Chapter 2, I completed a targeted literature review about eating disorders and college campuses. The literature review directed the content that was included in the presentation. The presentation was developed by gathering evidence-based information about college students with eating disorders from a variety of sources including national eating disorder organizations' websites, literature, and research about eating disorder screening,

referral, and treatment guidelines. After considering a variety of presentation formats, I decided to proceed with a Power Point presentation to fit with the allotted time, setting, and large number of attendees. I felt that it was important to include the following topics in the Power Point presentation: a description of the most common eating disorders, anorexia nervosa, bulimia nervosa, and binge eating disorder; prevalence; etiology; signs and symptoms; campus and community resources; a personal story; and strategies to approach an individual with a suspected eating disorder. In order to put a face with the disorders, the PowerPoint contained pictures of celebrities who have eating disorders. The selected pictures chosen were intended to provide the RAs with a visual image of the disorder without the shock value. To personalize the presentation, a video of a student discussing her journey with anorexia nervosa was added. See Appendix A for the presentation. In order to make the content understandable for all attendees, regardless of a medical background, medical jargon was excluded.

I developed a toolkit which contained an eating disorder resource guide, a Counseling Center business card, a flyer about the Wellness Center dietitian, handouts from NEDA, and information from a local eating disorder program. See Appendix B for the toolkit. I wanted to create a toolkit for the RAs to utilize and reference if they suspected that a student had an eating disorder. I developed a resource guide that included the eating disorder resources that were available on the campus (Counseling Center, Wellness Center dietician, Student Health Service), in the community (a local eating disorder program), and on national eating disorder websites (NEDA, ANAD, and Eating Disorder Hope). Campus and community resource information that was included on the resource guide included the phone number, website, and hours of operation. The national eating disorder websites were included on the resource guide so that the RAs had more information about eating disorders. Many students gravitate towards on line resources, and

the national eating disorder websites provided evidence-based information. The Counseling Center's business card included contact information, the website address, and the department's location. The Wellness Center Dietitian's flyer included information about the services provided and how to make an appointment. The local eating disorder program's handout included the clinic's contact information as well as information about initial and subsequent appointments. The handout was included in case the RAs encountered a student who did not want a referral to campus resources. Preprinted factsheets from NEDA were also included in the toolkit. The factsheets covered what to say to a friend who was suspected of having an eating disorder as well as how to help a friend with eating and body image issues.

Expenses. The project's expenses were considered during planning and implementation. The practice improvement project's costs included purchasing paper and printing the eating disorder toolkit. The presentation and toolkit were free to all RAs in attendance. NDSU's School of Nursing provided the video camera that was used to record the presentation.

Planned Work: Activities

The presentation was planned for September 23, 2015 at 9:00 P.M. I planned to arrive early in order to handout the toolkit and evaluations to the RAs, set-up the video camera, and meet the Associate Director of Residence Life prior to the presentation. The presentation was planned for 45 minutes which included time for questions from the RAs at the end of the presentation. It was determined that evaluation of the presentation would occur immediately following the presentation and approximately four weeks after the presentation. The proposed plan for the follow-up evaluation was to obtain an email address from those RAs who agreed to be contacted. The follow-up evaluation would be created with Qualtrics and sent via email. I

planned to return to a later RA meeting with approval from the Associate Director of Residence Life if questions arose.

NDSU IRB Approval

The well-being of human subjects must take precedence over all other interests. It is important to maintain and to protect the participant's privacy, confidentiality, and welfare. IRB training was completed on October 27, 2014. Potential risks for project included emotional distress for the individuals who have or know someone with an eating disorder. Participants included both male and female resident assistants, and all participants were over 18 years old. The RAs did not receive any monetary or tangible benefits for participating in this project. Prior to the presentation, the RAs were informed that participation in the practice improvement project was voluntary and that they could opt out at any time. NDSU IRB approval was received via email on September 21, 2015 (Appendix C).

Data Collection

A participant evaluation form was given to all individuals who attended the presentation (Appendix D). I anticipated that more than 100 RAs would be in attendance, so I printed 120 evaluations. After the presentation, participants were asked to complete the evaluation and were given approximately 10 minutes to do so. The RAs were asked to provide an email address if they wanted to be contacted for a follow-up evaluation, and 30 RAs provided their email addresses. An RA, designated by the Associate Director of Residence Life, collected all the completed evaluations, and handed them to me. I then left the meeting with the completed evaluations; 115 RAs completed the initial evaluation. The second evaluation was created through Qualtrics and was sent to the 30 RAs who provided their email addresses approximately four weeks after the presentation. The second evaluation included the same content as the first

one (Appendix E). This evaluation also asked if the RAs had identified any individual with disordered eating habits and if any issues arose when approaching the individual or with the referral process. Sending out the follow-up evaluation approximately four weeks after the presentation gave the RAs an opportunity to reflect on the information of the presentation as well as providing them with additional time to fill out the evaluation. In order to improve the completion rate for the follow-up evaluation, two reminder emails were sent to the 30 RAs.

In Chapter 4 the objectives will be discussed further. On the logic model, the objectives equal the outcomes, and the terms are used interchangeably. To review, the objectives were as follows:

1. After the presentation, resident assistants will indicate that they have increased knowledge about eating disorders and increased knowledge about the signs and symptoms of eating disorders.
2. After the presentation, resident assistants will indicate that they have increased knowledge about the local resources for an eating disorder referral.
3. After the presentation, resident assistants will indicate that they have acquired new knowledge about approaching an individual with an eating disorder.
4. After the presentation, resident assistants will indicate that they feel comfortable approaching an individual with a suspected eating disorder.

CHAPTER FOUR. EVALUATION

This chapter focuses on evaluating the practice improvement project as it relates to the logic model. The evaluation portion focuses on the intended results, the outputs. The bold section of Table 2. illustrates the outputs, which are the direct products of the project's activities.

Intended Results: Outputs

The project outputs include delivery of the presentation, presenting the eating disorder information to all attendees, and attendees receive the eating disorder toolkit and online access to the PowerPoint presentation. The presentation was given on the intended date and time. The toolkit and evaluations were distributed prior to the presentation. The speech included the content discussed in Chapter 3. At the conclusion of the presentation, time was allotted for questions, however no questions arose. After the presentation, attendees were asked to complete and return the evaluation. The researcher received 115 completed evaluations. Attendees who were willing to be contacted approximately four weeks after the presentation in order to complete a second evaluation were asked to provide their email address. Thirty attendees provided their email address. The post presentation evaluation web link was emailed to the 30 email addresses via Qualtrics, a research and insight platform for online surveys. Two reminder emails were sent at two-week intervals. I did not return to a future RA meeting because the associate director of Residence Life and I jointly decided that a follow-up session would not have added benefit.

Table 2.
Eating disorder logic model: Outputs

Planned Work			Intended Results	
Inputs	Activities	Outputs	Outcomes	Impacts
D. Stakeholders: Campus Counseling Center Staff	Interdisciplinary collaboration for accurate information	Deliver the presentation to RAs	RAs have improved knowledge about eating disorder resources	RAs will recognize the signs and symptoms of eating disorders in students.
Wellness Center Dietician	Develop eating disorder resource guide	RAs receive the eating disorder toolkit	RAs have tools to approach an individual with an eating disorder	RAs will refer students with suspected eating disorders to the available resources for further assessment and evaluation
Associate Director of Residence Life	Develop toolkit			
Committee/IRB				
E. Literature Review	Develop an eating disorder presentation that is customized to NDSU RAs	Deliver the presentation to RAs	RAs have up-to-date information about eating disorders and the time to reflect on the presentation's content	RAs will have improved knowledge to recognize eating disorders in students.
	Develop the toolkit	Present eating disorder information to attendees: prevalence, statistics, etiology, and signs and symptoms of anorexia nervosa, bulimia nervosa, and binge eating disorder	RAs have improved knowledge of eating disorders and improved knowledge about the signs and symptoms of eating disorders	RAs will refer students with suspected eating disorders to the available resources for further assessment and evaluation
F. Expense	The presentation and eating disorder toolkit were offered to all attendees at no cost	RAs received a free eating disorder toolkit and online access to the PowerPoint presentation		RAs have unlimited/free access to eating disorder resources to refer to if they suspect that a student has an eating disorder

Adapted from W.K. Kellogg Foundation (2004).

Evaluation

The two evaluation tools can be found in Appendixes D. and E. The purpose of the evaluations was to ask attendees if they felt that the presentation's objectives were met, if the depth and breadth of the information was adequate, and if the content was pertinent to the RA role; the evaluation also provided a forum to make suggestions for improvement.

The evaluations consisted of five statements, each with a corresponding Likert rating scale: strongly disagree, disagree, neutral, agree, and strongly agree; and the second part of the

evaluations included three open-ended questions for the initial evaluation and four open-ended questions on the follow-up evaluation. Likert scales were created in 1932 to measure attitude in a “scientifically acceptable and validated manner” (Joshi, Kale, Chandel, & Pal, 2015, p. 397). When using a Likert scale, participants are asked to show their level of agreement with a given statement on a scale from *strongly disagree* to *strongly agree*, 1 to 5, respectively. By indicating the level of agreement, the participant is showing his/her attitude towards the issue. In contrast, open-ended questions encourage the participant to think on a deeper level and allow him/her time to ask any unanswered questions about the presentation. For this project, the open-ended questions allowed the RAs to indicate further questions about eating disorders, what they felt were the most valuable aspects of the presentation, and what could improve the presentation. Through the open-ended questions, attendees provided important feedback to the presenter which would then be taken into consideration in order to improve the content and delivery of a subsequent presentation. The follow-up evaluation included an additional question that asked the attendees if they had identified anyone with disordered eating habits and if they encountered any issues approaching the individual or with the referral process. The presentation was also videotaped as another form of evaluation. The video was reviewed by myself to see if the content and delivery of the presentation were effective.

Objective One

The first objective was to increase the RAs’ knowledge about eating disorders, including recognizing the potential signs and symptoms of an eating disorder in college students. Evaluation of objective one was assessed through statement 1 and 2; and questions 6, 7, 8, and 9 on the evaluation forms. See Appendixes D. and E. The statements and questions on the evaluation forms assessed the participants’ perception of their knowledge. The logic model

output for this objective was that the presentation was delivered and that the RAs were given eating disorder information.

Objective Two

Objective two was to give RAs information about local resources to refer individuals (students) with a suspected eating disorder. I developed a toolkit of resources that were designed for RAs who are working with college-aged students (Appendix B). To determine if this objective was met, the participants' evaluation included a statement "I know how to access the resources available for a student with an eating disorder." An agree or strongly agree on statement 3 suggests a positive outcome. The logic model output for this objective was that the presentation was delivered, the attendees were presented with eating disorder information, and the attendees received the eating disorder toolkit.

Objective Three

The third objective of this project was to equip RAs with information and suggestions about how to approach an individual with an eating disorder. The expected outcome was that RAs would be armed with the tools or basic knowledge to approach an individual with disordered eating and potentially an eating disorder. Several slides were included in the presentation to give specific examples of statements that would be helpful or not helpful to use with a student. Because approaching an individual with an eating disorder requires sensitivity, including this topic in the presentation was essential. The toolkit contained factsheets from NEDA (Appendix B); they gave tips about helping a friend and what to say to someone with an eating disorder. The evaluation contained the statement "I feel I have acquired new knowledge and/or information needed to approach someone with an eating disorder." An agree or strongly agree on this statement suggests a positive outcome. The logic model output for this objective

was that the attendees were presented with eating disorder education through the presentation and received the eating disorder toolkit.

Objective Four

The final objective was for the RAs to indicate that they felt comfortable approaching an individual with a suspected eating disorder. Similar to objective three, this objective was met through the presentation's slides about how to approach an individual with disordered eating habits. To measure the objective, the evaluation included the statement "I would feel comfortable approaching someone I have identified with a possible eating disorder." An agree or strongly agree on this statement suggests a positive outcome. The logic model output for this objective was that the attendees were presented with eating disorder education through the presentation and received the eating disorder toolkit.

The logic model was used, graphically, to display the project's components, including the project's intent, inputs, activities, intended outputs, outcomes, and goal (impact). Once the project was completed (outputs), the next step was to evaluate if the project activities and outputs led to the intended outcomes and goal (impact). The evaluation results are discussed in Chapter 5.

CHAPTER FIVE. RESULTS

Presentation of Findings

The number of attendees who completed the initial evaluation immediately following the presentation on September 23, 2015, was 115. Of those individuals who participated in the initial evaluation, 30 attendees provided an email address to be contacted for the follow-up evaluation. The follow-up assessment was created through Qualtrics and emailed to those 30 attendees who provided an email address, and 10 of those participants completed the follow-up evaluation.

Objective One

The first objective was that the resident assistants learned about eating disorders through the presentation. To determine if this objective was met, the participant evaluations included statements 1 and 2 as well as questions 6, 7, 8, and 9. (See Appendixes D and E.) The statements and questions on the evaluation forms assessed the participants' perception of their knowledge. For statements 1 and 2, attendees were asked to rate their level of agreement on a scale of 1 to 5 (1 indicated *strongly disagree*, and 5 indicated *strongly agree*. Figure 1 provides the response breakdown for the initial evaluation statements, and Figure 2 provides the breakdown for the responses to the follow-up statements. Approximately 77% ($n=89$) of the attendees indicated their response as agree or strongly agree for statement 1 on the initial evaluation, and approximately 81% ($n=94$) of the participants responded as agree or strongly agree for statement 2 on the initial evaluation. Ninety percent ($n=9$) of the individuals responded with agree or strongly agree for statement 1 on the follow-up evaluation, and 80% ($n=8$) of the respondents said that they agreed or strongly agreed with statement 2 on the follow-up evaluation.

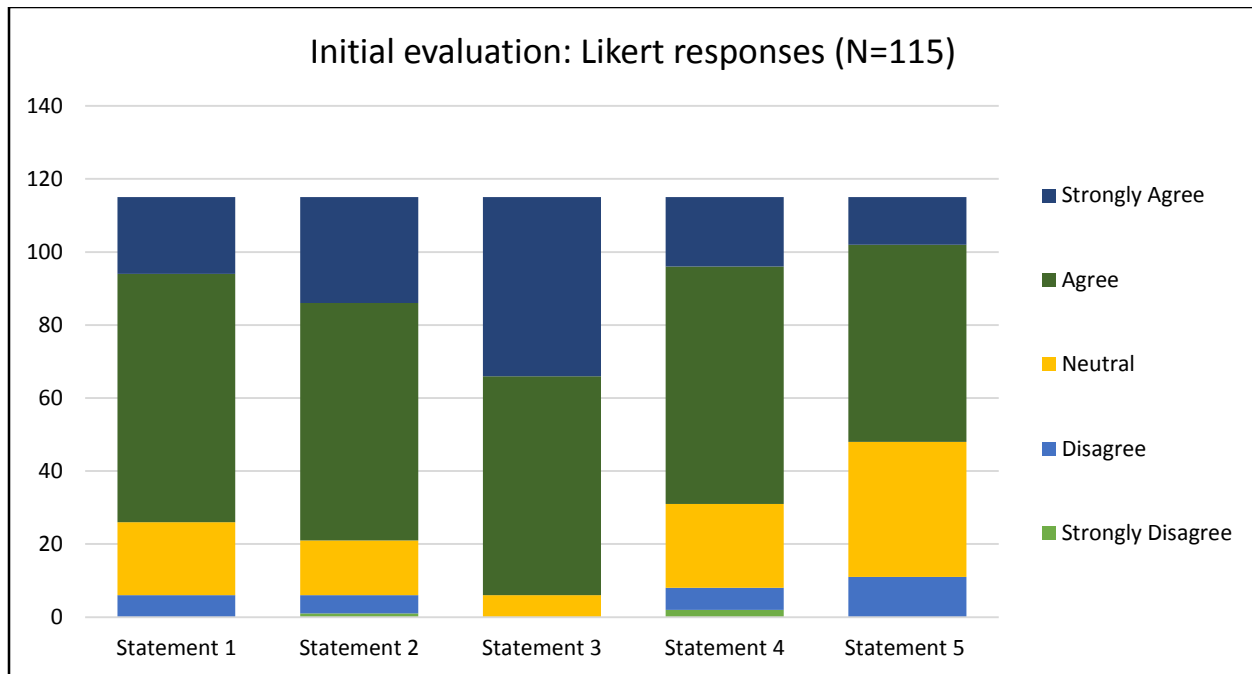


Figure 1. Initial evaluation: Likert responses

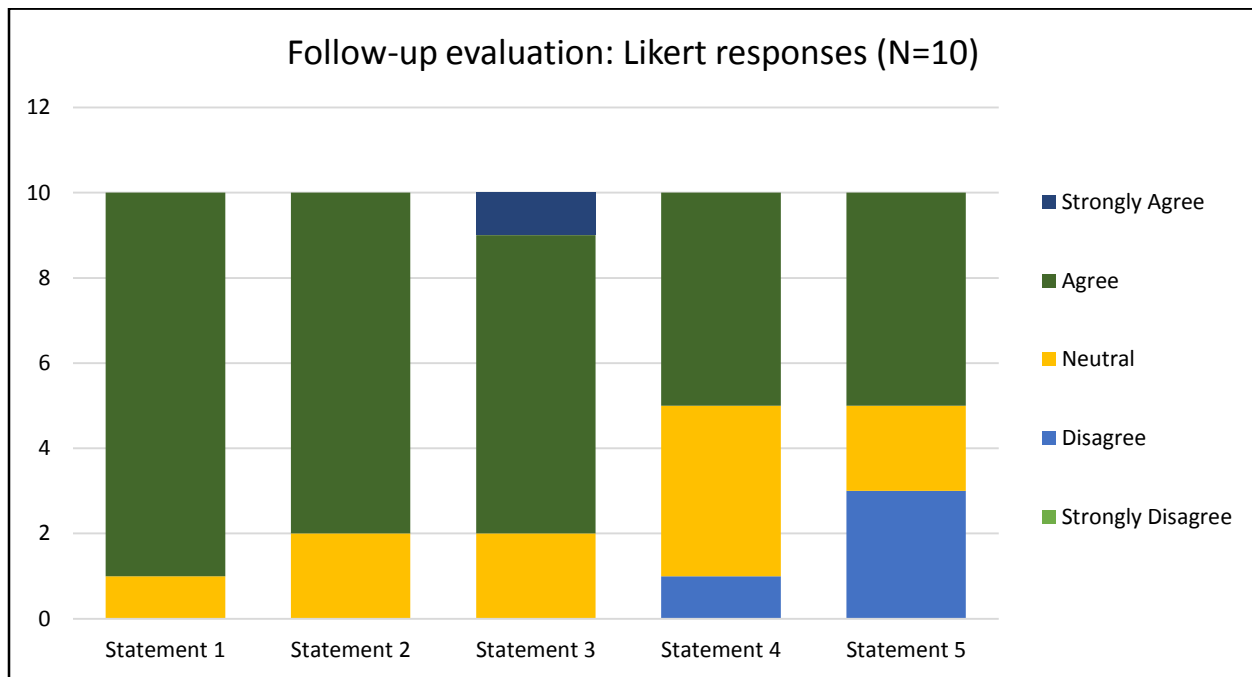


Figure 2. Follow-up evaluation: Likert responses

In response to question 6 (“Do you have any further questions about eating disorders after attending the eating disorder presentation?”), 70% ($n=80$) of the attendees indicated that they did not have any further questions about the presentation during the initial evaluation. Thirty percent

($n=35$) had questions pertaining how to approaching an individual with a suspected eating disorder, as well as eating disorder statistics, signs and symptoms, and other eating disorders not defined. For the follow-up evaluation, 100% ($n=8$) of the participants responded that they had no further questions.

In response to question 7 (“What do you think were the most valuable aspects of the presentation?”), major themes were about identifying a person with disordered eating, how to approach someone with a suspected eating disorder, and the available resources. Seventeen percent ($n=20$) of participants responded that more than one aspect of the presentation was most valuable. Figure 3 depicts the responses for question 7 on the initial evaluation. On the follow-up evaluation, 62% ($n=5$) of the participants responded that the signs and symptoms were the most valuable aspect; 25% ($n=2$) of the respondents said that the overall presentation was most valuable; and 12% ($n=1$) of the individuals indicated that the resources were most valuable.

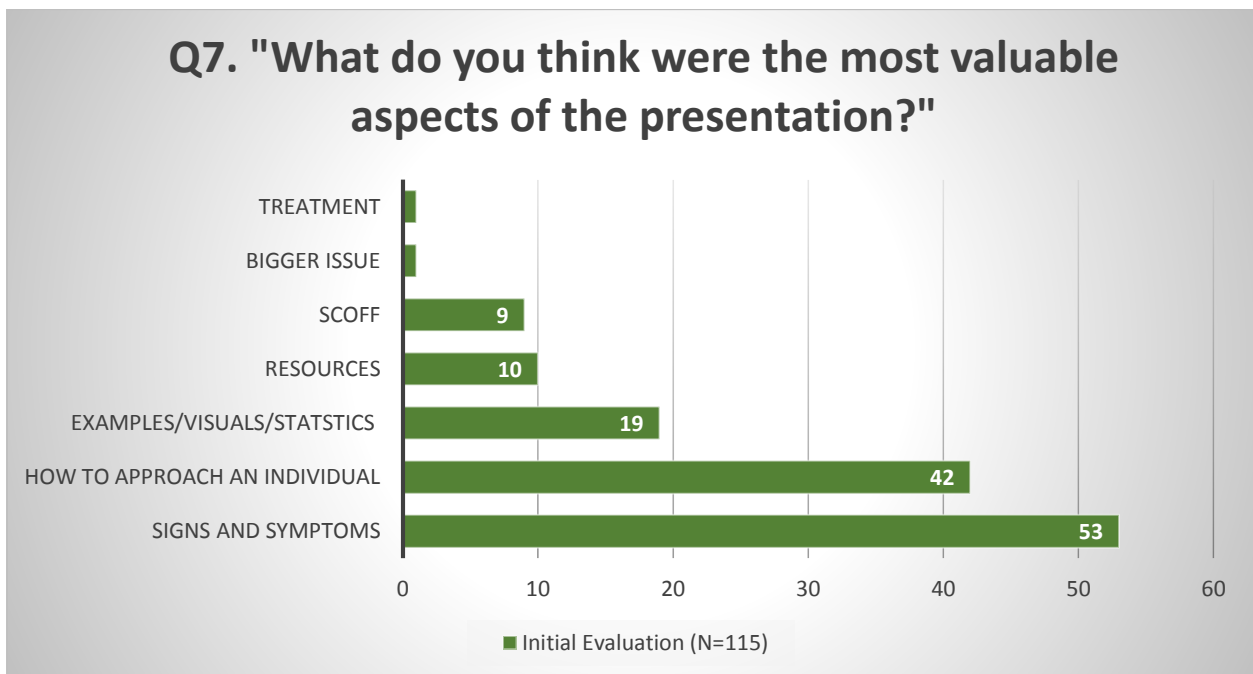


Figure 3. Q7. “What do you think were the most valuable aspects of the presentation?”
Note: The number of responses, is greater than respondents because several respondents gave more than one answer.

In response to question 8, (“How could the presentation be improved?”), participants included suggestions about improvements with the presentation’s delivery and content or that no improvement was needed. See Figure 4 for a breakdown of responses to the initial evaluation. On the follow-up survey, participants’ suggestions included less-wordy slides ($n=3$), more examples and real-life situations ($n=3$), and improving attendee engagement ($n=1$).

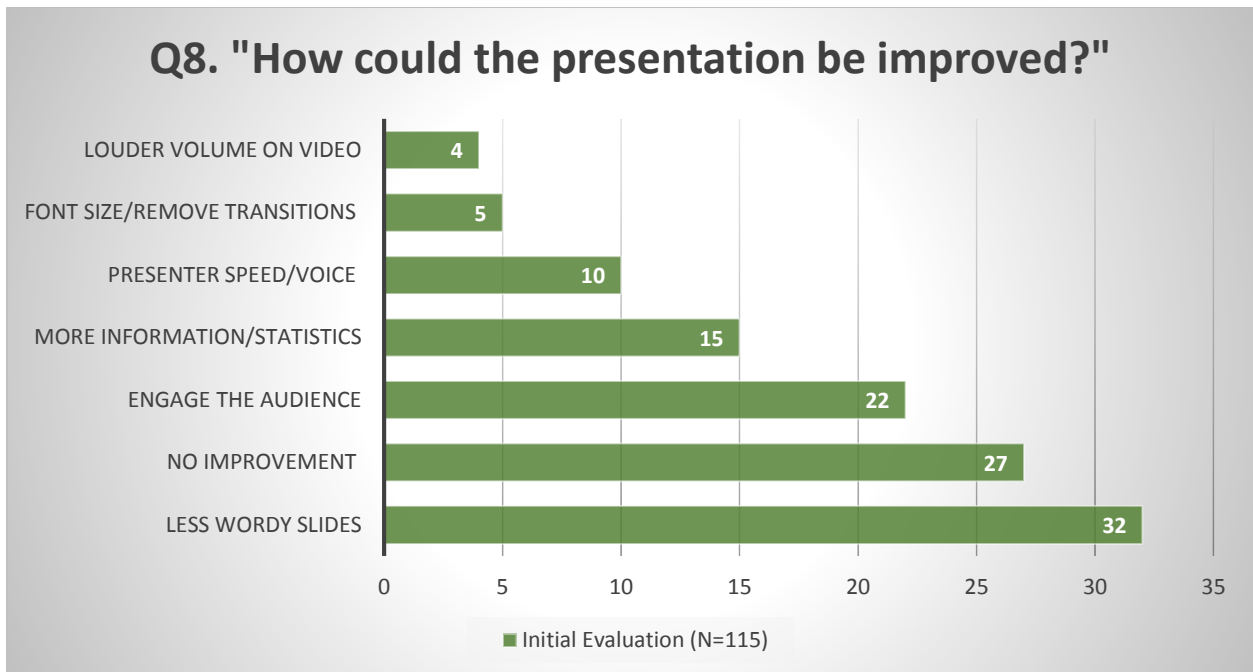


Figure 4. Q8. “How could the presentation be improved?”

The follow-up evaluation contained an additional question (question 9: “Since the presentation on September 23rd, 2015, have you identified someone with disordered eating habits? If so, how many (individuals)? Did you encounter any issues approaching the individual or in the referral process?”). Seventy-five percent ($n=6$) of the individuals responded that they had not identified anyone, and 25% ($n=2$) of the participants responded that they had identified a student with a suspected eating disorder. Neither of them commented on approaching the individual or the referral process.

Objective Two

The second objective was that RAs learned about the local resources for an eating disorder referral. To determine if this objective was met, the participant evaluation included statement 3 (“I know how to access the resources available for a student with an eating disorder.”). For this item, attendees were asked to rate their level of agreement on a scale of 1 to 5 (1 indicates *strongly disagree*, and 5 indicates *strongly agree*). Ninety-five percent ($n=109$) of the attendees responded with agree or strongly agree for statement 3 on the initial evaluation. Eighty percent ($n=8$) of the respondents agreed or strongly agreed with statement 3 on the follow-up assessment. See Figures 1 and 2 for the breakdown of the evaluation responses.

Objective Three

The third objective for this project was that RAs had learned about approaching an individual with an eating disorder. To determine if this objective was met, the participant evaluation included statement 4 (“I feel I have acquired new knowledge and/or information needed to approach someone with an eating disorder.”). For this item, attendees were asked to rate their level of agreement on a scale of 1 to 5 (1 indicates *strongly disagree*, and 5 indicates *strongly agree*). Seventy-three percent ($n=84$) of the attendees responded with agree or strongly agree for statement 4 on the initial evaluation. On the follow-up survey, 50% ($n=5$) of the respondents said that they agreed with statement 4. See Figures 1 and 2 for the breakdown of the evaluation responses.

Objective Four

The final objective of this project was that the RAs felt comfortable approaching an individual with a suspected eating disorder. To determine if this objective was met, the participant evaluation included statement 5 (“I would feel comfortable approaching someone I

have identified with a possible eating disorder.”). For this item, attendees were asked to rate their level of agreement on a scale of 1 to 5 (*strongly disagree* to *strongly agree*). See Figures 1 and 2 for the breakdown of the evaluation responses. Fifty-eight percent (n=67) of the attendees responded with agree or strongly agree for statement 5 on the initial evaluation. On the follow-up evaluation, 50% (n=5) of the respondents agreed with statement 5

The next chapter provides an interpretation of the project’s results. The limitations, recommendations, implications for future research, and implications for advanced nursing practice will also be discussed in the next chapter.

CHAPTER SIX. DISCUSSION

To recap, the purpose of this practice improvement project was to improve RAs' knowledge about eating disorders. In order to achieve the goal, a PowerPoint and toolkit were developed as a part of the presentation materials. The presentation was approximately 45 minutes in length, with time for questions at the end. Attendees completed an initial evaluation immediately following the presentation. They provided an email address if they agreed to be contacted for a follow-up evaluation. The second assessment was created with Qualtrics and emailed to the attendees who provided an email address approximately one month after the presentation. This chapter discusses the interpretation of results, limitations, recommendations, dissemination, and implications for future research for the advanced practice nurse.

Intended Results: Outcomes and Impact

The project's outcomes and impact are illustrated in the bold section of Table 3. Outcomes are the specific changes that result from a project. For this study, the outcomes included RAs having improved perceptions of their knowledge about eating disorder resources, RAs having tools to approach an individual with an eating disorder, RAs having improved knowledge of eating disorders, RAs having improved knowledge about the signs and symptoms of eating disorders, and RAs having the time to reflect on the presentation's information. "Impact" is defined as the long-term intended or unintended change that occurs within an organization or community as a result of the project. The impacts for this project was that the RAs will be able to recognize the signs and symptoms of eating disorders in students; the RAs will refer students with suspected eating disorders for further assessment and evaluation; and to equip the RAs with information about unlimited, free access to eating disorder resources and references.

Table 3.
Eating disorder logic model: Outcomes and impacts

Planned Work			Intended Results	
Inputs	Activities	Outputs	Outcomes	Impacts
G. Stakeholders: Campus Counseling Center Staff	Interdisciplinary collaboration for accurate information	Deliver the presentation to RAs RAs receive the eating disorder toolkit	RAs have improved knowledge about eating disorder resources	RAs will recognize the signs and symptoms of eating disorders in students. RAs will refer students with suspected eating disorders to the available resources for further assessment and evaluation
Wellness Center Dietician	Develop eating disorder resource guide		RAs have tools to approach an individual with an eating disorder	
Associate Director of Residence Life	Develop toolkit			
Committee/IRB				
H. Literature Review	Develop an eating disorder presentation that is customized to NDSU RAs Develop the toolkit	Deliver the presentation to RAs Present eating disorder information to attendees: prevalence, statistics, etiology, and signs and symptoms of anorexia nervosa, bulimia nervosa, and binge eating disorder	RAs have up-to-date information about eating disorders and the time to reflect on the presentation's content RAs have improved knowledge of eating disorders and improved knowledge about the signs and symptoms of eating disorders	RAs will have improved knowledge to recognize eating disorders in students. RAs will refer students with suspected eating disorders to the available resources for further assessment and evaluation
I. Expense	The presentation and eating disorder toolkit were offered to all attendees at no cost	RAs received a free eating disorder toolkit and online access to the PowerPoint presentation		RAs have unlimited/free access to eating disorder resources to reference if they suspect that a student has an eating disorder

Adapted from W.K. Kellogg Foundation (2004).

Interpretation of Results

Due to the small sample size for the second evaluation, a statistical analysis of those results was not completed. Therefore, the two evaluations cannot be compared. Interpreting the results is done by using findings from the initial evaluation unless otherwise defined.

Objective One

Survey responses indicated that a majority, 77% ($n=89$), of the participants agreed or strongly agreed that their understanding of eating disorders had improved after the presentation.

Survey responses also indicated that a preponderance, 81% ($n=94$), of the participants agreed or strongly agreed that they had acquired new knowledge that will aid in the recognition of the signs and symptoms of a student with a potential eating disorder. Hopefully with improved knowledge comes understanding, sensitivity, and recognition.

Seventy percent ($n=80$) of the participants indicated that they had no further questions regarding the topic of eating disorders. The lack of questions could be interpreted as the participants felt that the presentation's content was comprehensive, or may also be understood that the participants did not have enough time to formulate questions about eating disorders.

On the follow-up evaluation, two participants indicated that they had identified a student with disordered eating behaviors. Neither participant commented about the process of approaching the individual or about the referral itself, which could indicate that no issues arose during the process, that the respondents were unaware of any issues, or that the respondents recognized the students but did not refer. Although only two participants identified a student, it is important to note because the participants applied their knowledge in a real life situation.

To accomplish objective 1, I included general information and definitions of anorexia nervosa, bulimia nervosa, and binge eating disorder in the presentation. I also provided up to date information about the etiology, prevalence, statistics, and the signs and symptoms of eating disorders. Barriers in interpreting the objective would be that the participants' knowledge of eating disorders was not assessed prior to the evaluation. Attendees could have had previous education about eating disorders, or they may have had little to no prior knowledge. The post presentation evaluation did not include demographic questions asking the participants' university major or previous education on eating disorders. Therefore, the assumption cannot be made about attendees' pre-presentation eating disorder knowledge level. For example, attendees with

majors in nursing, social work, psychology, etc. may have eating disorder education embedded in their curriculum. One comment on the evaluation indicated that the person strongly disagreed to statement 2 (Appendix D or E) because he/she had several courses with eating disorder content.

Objective Two

Overall, the survey responses indicated that a majority of the participants 95% ($n=94$) agreed or strongly agreed that they knew how to access eating disorder resources. This positive response could indicate that participants already knew the resources, but it might also mean that the RAs learned about the resources during the presentation. Providing the toolkit to participants and demonstrating how to access the resources' websites could have aided in the positive response.

Objective Three

Survey responses indicated that a majority, 73% of the participants ($n=84$), agreed or strongly agreed that they had acquired new knowledge and/or information necessary to approach someone with a suspected eating disorder. Two participants responded to statement 4 (Appendix D or E) with an answer of strongly disagree; however, one person commented that he/she responded this way because he/she had several courses with content about eating disorders.

Objective Four

Fifty-eight percent ($n=67$) of the attendees responded with agree or strongly agree that they would feel comfortable approaching an individual suspected of having an eating disorder. To achieve objective 4, participants were given examples of statements considered helpful and statements that would not be helpful when approaching an individual who was suspected of having an eating disorder. The attendees were informed that an individual with a suspected

eating disorder may react negatively regardless of how he/she was approached. The NEDA handouts (Appendix B) were distributed to participants for later reference. A barrier for achieving objective 4 could be that some participants may never feel comfortable approaching someone because this topic is very sensitive. Attendees were not afforded an opportunity to role-play the information that was learned during the presentation, an activity that may have helped to reduce this barrier. Role-playing may have helped them to retain the information learned and to increase their comfort when approaching an individual with an eating disorder.

Overall, the eating disorder presentation and toolkit appeared to be an effective education method for the attendees. The majority of the survey responses indicated that participants agreed or strongly agreed with the statements 1-5 on the evaluations. (See Appendix D and E)

Limitations

There were several limitations associated with this practice improvement project. Because this practice improvement project was targeted at RAs on the NDSU campus, I assumed that all presentation attendees were RAs. However, the individuals were not asked about their role on campus. Other presentation attendees could have included Residence Life administration, housing directors, or others who were invited by the Residence Life department.

Prior to the meeting, the RAs were not informed about the presentation's topic. I overheard several of the RAs mention, "Did something happen, why are we doing this?" The lack of forewarning about the presentation may have contributed to the lack of questions at the conclusion of the presentation.

The follow-up survey had a poor completion rate. On the initial post presentation evaluation, attendees were asked to provide an email address if they agreed to be contacted for a follow-up evaluation assessment. Thirty attendees provided an email address, of those 30, only

10 completed the follow-up evaluation. With the poor completion rate on the second evaluation, a comparison of the responses from the surveys would not have yielded significant information about the project

The project may have had greater impact on campus if I had given multiple presentations to various student groups and departments. I spoke with multiple individuals from various departments on campus, the staff at the Department of Resident Life was the only individuals motivated and willing to work with me on the project. Conceivably, active involvement by campus staff who are actively involved with students' mental and physical wellbeing may have added credibility to the presentation.

I did not give the presentation to a pilot audience prior to the resident life meeting. I could have given the talk to a small group of individuals with eating disorder experience prior to the Resident life meeting. The groups' feedback may have helped to polish and improve the presentation.

Recommendations

This next section describes recommendations for the project improvements and methods to address the barriers and limitations previously discussed.

1. The speaker could prepare an email announcement that the Department of Residence Life could send to the RAs prior to the presentation. By providing the RAs with basic information about eating disorders, the RAs would have had a chance to think about the topic and to formulate questions about eating disorders. Preparing the RAs may have encouraged them to be more engaged with the presentation and to ask questions.
2. To improve the completion rate for the follow-up evaluation, an explanation regarding the importance of the follow-up assessment should have been given. If the

attendees knew the importance of the follow-up evaluation, they may be more apt to complete it. The purpose of the follow-up evaluation was to give the RAs an opportunity to reflect on the content of the presentation, have an opportunity to ask questions, and ask if RAs had identified any students with a suspected eating disorder. I could have returned to a subsequent meeting if the participants had multiple questions or if the RAs requested it.

3. A project planning meeting with campus counselors, nutrition experts, NPs from student health, residence life staff, and representatives from the RA group may have added buy-in and credibility. The group could view the presentation and provide feedback on content and the toolkit as well as suggestions to enhance the delivery of the presentation.
4. Including eating disorder education in the yearly RA training to increase awareness and knowledge. Turnover of RAs occurs yearly, so the training would be new for some RAs and a refresher for others. The information could be part of the RA orientation week, which is held prior to the start of the school year, or given during a planned monthly meeting.
5. Eating disorder education could be extended to other members of the college community, including faculty, coaches, athletic trainers, student leaders, and others who have daily interactions with students. Increasing awareness on campus can lead to better recognition and referral.

Dissemination

Creating an appropriate dissemination strategy for a research project leads to increased awareness of the research, therefore maximizing the impact that the research can have to

improve the health outcomes of college students who have eating disorders. The results for the practice improvement project were directed towards audiences who can directly benefit from the study's results.

In April 2015, a poster presentation was held at NDSU to showcase the graduate nursing students' practice improvement projects. At this time, my project was at the planning stages, so the poster contained basic information about eating disorders on a college campus. The event was open to the public with a special invitation to the undergraduate nursing students. The poster event was an informal event where attendees could ask questions regarding the project. Several people were shocked to learn the prevalence of eating disorders on college campuses. A subsequent poster presentation will occur in April 2016. At this event, I plan to present a poster with the project's final results. I will be present to answer the attendees' questions.

I made myself available to give the presentation. The presentation was given a second time to senior social-worker students. The class was examining a book about an individual with an eating disorder and wanted a presenter to discuss the topic. The Counseling Center staff members were unavailable, so my name was provided. I gave the presentation as a way to disseminate eating disorder information on campus. I did not include this presentation as part of my project and did not survey these participants.

The presentation was videotaped. The video was intended to be an evaluation tool and a method of dissemination. Unfortunately, the quality of video was poor because of the large meeting room and the equipment used, so it was not used to disseminate the study's results.

Implications for Future Research

Further research about eating disorders on the college campus should be directed at improving the knowledge about and awareness of eating disorders by targeting campus personnel

and student leaders. An important group to target would be the athletic department, including the coaches and athletic trainers. The prevalence of eating disorders among student athletes varies from 0-19% for male athletes and 6-45% for female athletes. An important aspect in the prevention of eating disorders among athletes is to increase the coaches' knowledge about the risk and trigger factors, signs and symptoms, and how to address concerns about eating disorders (Bratland-Sanda & Sundgot-Borgen, 2013).

Perhaps a better measure of project outcomes would have been to devise a method to track the number of eating disorder referrals made by RAs on campus. As a method of evaluation, I wanted to track the number of students who were referred for assessment and evaluation on campus after the presentation. However, campus referrals are not tracked. Tracking referrals on campus would inform the Counseling Center, dietitian, or student health center who made the referral, and track the number of students referred. If these departments know where the referrals are coming from, they could follow-up with the individuals making the referral

Implications for Advanced Nursing Practice

Nurse practitioners (NPs) are in a unique position to make positive changes in society's ever-changing healthcare system. Currently in the United States, there are more than 205,000 NPs, and approximately 54.5% of the NPs work in family practice settings (American Association of Nurse Practitioners [AANP], 2015a). According to the AANP (2015b), NPs are becoming the healthcare provider of choice for millions of Americans; over 916 million visits are made to NPs each year. NPs are described as clinicians who combine clinical expertise in diagnosing and treating health conditions, adding emphasis on disease prevention and health management. NPs are clinicians who bring a comprehensive perspective to health care (AANP,

2015b). NPs can have significant roles as patient advocates at student health centers and in other primary care settings. The average delay for eating-disorder treatment is approximately 4-10 years (or more). Through health promotion and prevention, the NP's role with eating disorders is to recognize and intervene early to prevent complications. An NP may be one of the first healthcare professionals with whom a person who has an eating disorder comes into contact (National Eating Disorder Collaboration [NEDC], 2014). The astute, holistic NP needs to ask the right questions, know the presenting signs and symptoms assess the person's health status, and recognize the need for urgent or emergent referrals. Individuals may not disclose that they have an eating disorder unless a health practitioner directly asks them. Using screening tools, such as the SCOFF, may help to identify individuals with an eating disorder, leading to further assessment, evaluation, and initiation of treatment. The SCOFF is practical tool for the primary care setting because it screens for multiple eating disorders and is easily memorized. The SCOFF needs to be readily available in the clinic setting, either in paper form or built into the electronic medical record (NEDC, 2014).

NPs in primary care and student-health settings should know where to refer students for further evaluation and treatment. Individuals with an eating disorder are best treated by multidisciplinary team, which may include an NP. A coordinated assessment by a multidisciplinary team includes a physical examination (including lab and EKG), a psychological assessment, personal, social, and family assessment, nutritional assessment, of eating disorder patient (NEDC, 2014). Campuses need more resources and greater funding to educate, screen, and refer college students, and therefore, establishing contact with a local eating disorder program is essential and a way to expand resources (NEDA, 2013).

Conclusion

Because of the high prevalence of eating disorders among college-aged individuals, students who are at risk for or have disordered eating behaviors need to be identified and appropriately referred to an eating disorder professional. NEDA's (2013) national survey of 165 colleges, to identify eating disorder programs and resources, ascertained that only 22 % of individuals said their campus had personnel on campus to identify and refer students with eating disorders. Campuses across the United States have recognized the need to improve eating disorder training of personnel and student leaders (NEDA, 2013). Providing expanded training to RAs on campus is just one of way to help improve recognition of students with disordered eating behaviors.

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APPENDIX A. PRESENTATION

4/11/2016

Eating Disorders

Rayna Bergseth RN, BSN, DNP-S

- You are invited to participate in this clinical improvement project. The only criteria for participating in the study is that you must be 18 years of age or older and be a resident assistant at NDSU. Your participation is entirely voluntary, and you may change your mind or quit participating at any time, with no penalty; however, your assistance would be greatly appreciated in making this a meaningful study.
- If you decide to participate, the presentation will take approximately 30 minutes. At the end of the presentation, you may participate in a short evaluation of the presentation. You may also be asked to participate in a follow-up evaluation in 3-4 weeks.
- When writing about the study, your information will be combined with information from other people taking part in the study; we will write about the combined information that we have gathered. You will not be identified in these written materials. We may publish the results of the study; however, we will keep your name and other identifying information private.
- Feel free to ask any questions about the study now, or contact me later at rayna.langseth@ndsu. You may also contact my advisor, Dr. Tina Lundeen at tina.lundeen@ndsu.edu. If you have questions about the rights of human participants in research, or to report a complaint about the research, contact the NDSU Human Research Protection Program, at (701) 231.8995, toll-free at (855) 800-6717, or via email at: ndsu.irb@ndsu.edu.
- Thank you for your participation in this study. If you wish to receive a copy of the research results, please email me at rayna.langseth@ndsu.edu.

Objectives

1. Improved knowledge of eating disorders.
2. Be able to recognize the signs and symptoms of the most common eating disorders: anorexia nervosa, bulimia nervosa, and binge eating disorder.
3. Know how to access the resources available for a student with an eating disorder.
4. Know how to approach someone with an eating disorder.

Statistics

- 30 millions individuals in the U.S. have struggled with an eating disorder⁵
- Average age of onset is 18-21 years old⁴
- 8-17% of college-aged students suffer with an eating disorder³
- About 75% of college students with an eating disorder have never had treatment⁷
- Mortality (death) rates²
 - Anorexia 4%
 - Bulimia 3.9%
- Suicide rates for eating disorders range from 1.8% to 7.3%⁶

What causes an eating disorder?

- Combination of biological, psychological, interpersonal, and social factors
- Biological Factors:
 - Unbalanced chemicals in the brain - control hunger, appetite, and digestion
 - Genetics - eating disorder often run in families
- Psychological Factors:
 - Low self-esteem
 - Feeling of inadequacy or lack of control in life
 - Depression, anxiety, anger, stress, or loneliness



What causes an eating disorder?

- Interpersonal Factors:
 - Troubled personal relationships
 - Difficulty expressing feelings and emotions
 - History of being teased or ridiculed based on size or weight
 - History of physical or sexual abuse
- Social factors:
 - Cultural pressures - push “thinness” and place value on obtaining the “perfect body”
 - Narrow definitions of beauty that include women/men of specific body weight and shapes
 - Cultural norms that value people on the basis of physical appearance and not inner qualities



What are eating disorders?

- Disturbances in eating behaviors that are accompanied by disturbances in perception about weight and body shape
 - Anorexia Nervosa
 - Bulimia Nervosa
 - Binge Eating Disorder
- Food is a form of control in an attempt to deal with emotions
- Life-threatening consequences can be a result of uncontrolled eating disorders

Anorexia Nervosa

- Inadequate food intake leading to very low weight
- Intense fear of gaining weight, obsession with weight, and consistent behaviors to prevent any weight gain
- Self-esteem overly related to body image
- Does not realize the severity of the situation
- Types
 - Binge-Eating/Purging Type
 - Restricting Type



(NEDA, n.d.)

Bulimia Nervosa

- Frequent episodes of consuming large amounts of food followed by behaviors to prevent weight gain such as self-induced vomiting, laxatives, or diuretics
- Out of control feelings during binge-eating episodes
- Self-esteem overly related to body image
- Usually appear to have an average body weight



(NEDA, n.d.)

Binge-Eating Disorder

- Frequent episodes of consuming large amounts of food that is not followed by behaviors to prevent weight gain
- Out of control feelings during binge-eating episodes
- Strong feelings of guilt or shame about binge eating
- Indicators that binge-eating is out of control
 - Eating when not hungry
 - Eating to the point of discomfort
 - Eating alone because of shame
- Binge-eating occurs at least once a month for the past 3 months
- Body weight varies from normal to mild, moderate, or severe obesity

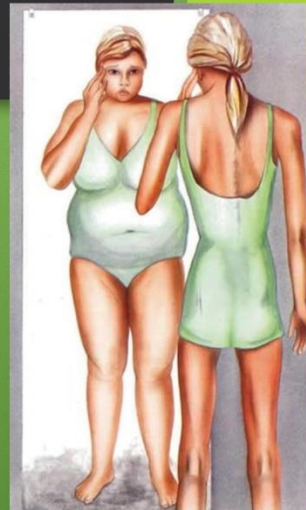


(NEDA, n.d.)

Signs and Symptoms

Anorexia Nervosa: Warning Signs

- Preoccupation with weight, food, calories, fat grams, & dieting
- Frequent comments about feeling “fat” despite weight loss
- Anxiety about gaining weight or being “fat”
- Development of food rituals
- Avoiding mealtimes or situation that involve food
- Denial of being hungry
- Excessive and rigid exercise regimens to burn off calories
- Withdrawal from friends and activities



(NEDA, n.d.)

Anorexia Nervosa: Physical Signs

- Dramatic weight loss
 - Loss of muscle
- Weakness
- Dehydration
 - Dry hair, skin, loss of hair
- Lanugo - downy layer of hair all over the body
- Slow heart rate and low blood pressure - increase risk for heart failure
- Reduced bone density - increase risk for fractures

(NEDA, n.d.)

Lanugo





Bulimia Nervosa: Warning Signs

- Disappearance of large amounts of food in short periods of time or finding wrapper and containers indicating large amounts of food were eaten
- Indications of purging
 - Frequent trips to the bathroom after meals
 - Signs and/or smells of vomiting
 - Presence of wrappers or packages of laxatives or diuretics
- Excessive and rigid exercise regimens to burn off calories
- Withdrawal from friends and activities
- Creating schedules or rituals to make time for binge-eating and purging

(NEDA, n.d.)

Bulimia Nervosa: Physical Signs

- Unusual swelling of the cheeks or jaw area
 - Sialadenosis
- Calluses on the back of hands and knuckles from self-induced vomiting
 - Russell's signs
- Discoloration or staining of teeth
- Bad breath
- Overuse injuries from excessive exercise

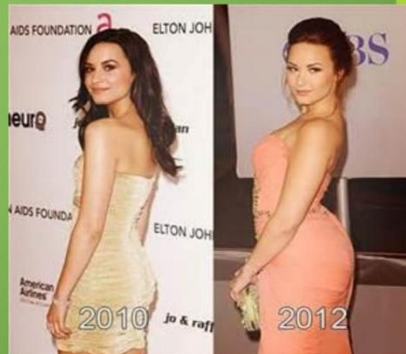
(NEDA, n.d.)

Sialadenosis



Figure 2. Bilateral parotid enlargement associated with bulimia nervosa. From: Burke RC. *Bulimia and parotid enlargement. Case report and treatment.* J Otolaryngol. 1986;15:49-45.

Russell's Sign and Dentition Changes





Binge-Eating Disorder: Warning Signs

- Disappearance of large amounts of food in short periods of time or finding wrapper and containers indicating large amounts of food were eaten
- Secretive food behaviors
- Disruption of normal eating behaviors
- Creating schedules or rituals to make time for binge-eating
- Uncontrolled, impulsive, or continuous eating beyond point of feeling uncomfortably full
- Can involve extreme restriction and rigidity with food and periodic dieting and/or fasting

(NEDA, n.d.)



Screening for Eating Disorder

SCOFF Questionnaire

1. Do you make yourself Sick because you feel uncomfortably full?
 2. Do you worry you have lost Control over how much you eat?
 3. Have you recently lost Over 14 lbs. in a three month period?
 4. Do you believe yourself to be Eat when others say you are too thin?
 5. Would you say that Food dominates your life?
- Each yes equals 1 point, a score of 2 indicates a likelihood of an eating disorder

(NEDA, n.d.)

Resources

Treatment

- Multidisciplinary approach
 - Mental Health Professional
 - Dietitian
 - Healthcare Provider

NDSU Counseling Center

- 212 Ceres Hall
- Phone # 701-231-7671
- Hours: MWF 8AM - 5PM & TTh 8AM - 7PM
- Website: <https://www.ndsu.edu/counseling/>
 - Eating disorder resources:
https://www.ndsu.edu/counseling/eating_disorder_information/
- Call or walk over to counseling center to make an appointment
- Liaison Counselor
 - Each residence hall has a special assignment to consult with that hall
 - Let them know of concern which will be helpful in assess the student's needs
- Assess and determine if the individual needs a higher level of care
- Service is free to students

NDSU Dietitian

- Janet Brown, RD, LRD
 - <https://www.ndsu.edu/wellness/dietitian/>
- Office is located in the Wallman Wellness Center
- Call or stop by the Wellness Center front desk #701-231-5200
- Hours: Wednesday and Thursday 10 AM - 3 PM
 - Not available during breaks (winter or summer)
- If the student permits, provide key information about the referral
 - Concerns about excessive vomiting
 - Dramatic weight loss
- Service is free to students

NDSU Student Health Services

- Located in the Wellness Center
- Staffed with a Medical Doctor and Nurse Practitioners
- Schedule an Appointment
 - Phone # 701-231-7331
 - Student Health Portal
 - Website: <https://www.ndsu.edu/studenthealthservice/>
- Student fees covers the cost of office visits
- Fees are charged for laboratory and radiology services, medications and clinical/medical treatments

Sanford Eating Disorders and Weight Management Center

- 1717 S University Drive Fargo, ND 58103
- Phone # 701-234-4111 or 1-800-437-4010 ext.4111
- Hours: Monday - Friday 8AM - 5PM
- Provides outpatient, partial hospital treatment, and inpatient care
- Website: <http://www.sanfordhealth.org/locations/201387538>

Websites

- National Eating Disorder Association (NEDA)
 - <http://www.nationaleatingdisorders.org/>
- National Association of Anorexia Nervosa and Associated Disorders
 - <http://www.anad.org/>
- Eating Disorder Hope
 - <http://www.eatingdisorderhope.com/>



Video

- <https://www.youtube.com/watch?v=KNcgeBBZluw>

How to approach someone

How to approach someone

- Set aside time in a private, quiet, comfortable area without distractions
- Be open, honest, caring, and supportive
- Be aware that it is very unlikely that you will solve the problem
- Be aware that the person may respond negatively regardless of how sensitively you approach them
- Be aware that you do not need to have all of the answers

(ANAD, 2010)

Communicate Concerns

- Have specific examples
- Do Use “I” Statements
 - “I am worried about you”
 - “I have noticed you go to the bathroom after every meal”
 - “I am concerned about you because you are not eating breakfast or lunch”
- Avoid “You” Statements
 - “You are making me worried”
 - “You are too thin”
 - “You never do anything but exercise”

(ANAD, 2010)

How to approach someone

- Avoid simple solutions
 - “If you would just eat, everything will be ok”
- Let them talk about their feelings or concerns - even if it isn’t about food, weight, or exercise
- Encourage them to get help from a professional
 - Offer to help them set up a referral

(ANAD, 2010)



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7. Tillman, K.S., Arbagh Jr, T., & Balaban, M.S. (2012). Campus programming for national eating disorders awareness week: An investigation of stigma, help-seeking, and resource knowledge. *Eating Behaviors* 13, 281-284. doi:10.1016/j.eatbeh.2012.03.010.

APPENDIX B. TOOLKIT

Eating Disorder Resources

NDSU Counseling Center

Location: 212 Ceres Hall

Phone # 701-231-7671

Hours: MWF 8AM – 5PM & TTh 8AM – 7PM. During Breaks: M-F 7:30AM – 4PM

Website: <https://www.ndsu.edu/counseling/>

Eating disorder resources: https://www.ndsu.edu/counseling/eating_disorder_information/

*To make an appointment call or walk over to counseling center

*Considering contacting the Liaison counselor for your residence hall first.

*Service is free to students

NDSU Dietitian

Janet Brown, RD, LRD

Location: Wallman Wellness Center

Phone: 701-231-5200

Hours: Wednesday and Thursday 10 AM – 3 PM

Website: <https://www.ndsu.edu/wellness/dietitian/>

*To make an appointment call for stop by the front desk at the Wellness Center

*No hours during breaks

*Service is free to students

NDSU Student Health Services

Location: Wallman Wellness Center

Phone # 701-231-7331

Website: <https://www.ndsu.edu/studenthealthservice/>

*To make an appointment call or use the Student Health Portal on the website

*Student fees cover office visits (if students fails to show for a scheduled appointment without cancelling a \$10 charge will be applies to their student account)

* Fees are charged for laboratory and radiology services, medications and clinical/medical treatments

Sanford Eating Disorders and Weight Management Center

Location: 1717 S University Drive Fargo, ND 58103

Phone # 701-234-4111 or 1-800-437-4010 ext.4111

Hours: Monday – Friday 8AM – 5PM

Website: <http://www.sanfordhealth.org/locations/201387538>

* Provides outpatient, partial hospital treatment, and inpatient care

Websites

National Eating Disorder Association (NEDA) - <http://www.nationaleatingdisorders.org/>

National Association of Anorexia Nervosa and Associated Disorders - <http://www.anad.org/>


Eating Disorder Hope - <http://www.eatingdisorderhope.com/>

* Provides support and information for individuals, families, and friends about eating disorders.

Books

Eating Disorders: A Guide to Medical Care and Complications. Edited by Philip S. Mehler & Arnold E. Andersen

Wellness Center Dietitian Flyer



**THE
DIETITIAN
IS IN**

SERVICES OFFERED:
Healthful eating
Weight management
Bulking up
“Waist management”
Eating disorders
Diabetes
High blood pressure
High cholesterol
Anemia
Metabolism enhancement
Recipes and snack ideas

FREE FOR STUDENTS
Free one-hour consultations to all enrolled students.
*\$45 sessions for staff/faculty

MAKE AN APPOINTMENT
Call or stop by the Customer Service Desk (701.231.5200) to reserve your appointment today.

CONFIDENTIAL AND CUSTOM
All consultations are private, professional, and personal.

****Not available during breaks, holidays, or summer months.**

NDSU WELLNESS CENTER

www.ndsu.edu/wellness

Figure B1. Wellness center dietitian flyer

NEDA Factsheet: What Should I Say?

What Should I Say?

Tips for Talking to a Friend Who May Be Struggling with an Eating Disorder

If you are worried about your friend's eating behaviors or attitudes, it is important to express your concerns in a loving and supportive way. It is also necessary to discuss your worries early on, rather than waiting until your friend has endured many of the damaging physical and emotional effects of eating disorders. In a private and relaxed setting, talk to your friend in a calm and caring way about the specific things you have seen or felt that have caused you to worry.

What to Say—Step by Step

Set a time to talk. Set aside a time for a private, respectful meeting with your friend to discuss your concerns openly and honestly in a caring, supportive way. Make sure you will be some place away from other distractions.

Communicate your concerns. Share your memories of specific times when you felt concerned about your friend's eating or exercise behaviors. Explain that you think these things may indicate that there could be a problem that needs professional attention.

Ask your friend to explore these concerns with a counselor, doctor, nutritionist, or other health professional who is knowledgeable about eating issues. If you feel comfortable doing so, offer to help your friend make an appointment or accompany your friend on their first visit.

Avoid conflicts or a battle of the wills with your friend. If your friend refuses to acknowledge that there is a problem, or any reason for you to be concerned, restate your feelings and the reasons for them and leave yourself open and available as a supportive listener.

Avoid placing shame, blame, or guilt on your friend regarding their actions or attitudes. Do not use accusatory "you" statements like, "You just need to eat." Or, "You are acting irresponsibly." Instead, use "I" statements. For example: "I'm concerned about you because you refuse to eat breakfast or lunch." Or, "It makes me afraid to hear you vomiting."

Avoid giving simple solutions. For example, "If you'd just stop, then everything would be fine!"

Express your continued support. Remind your friend that you care and want your friend to be healthy and happy.

After talking with your friend, if you are still concerned with their health and safety, find a trusted adult or medical professional to talk to. This is probably a challenging time for both of you. It could be helpful for you, as well as your friend, to discuss your concerns and seek assistance and support from a professional.



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Figure B2. NEDA factsheet: What should I say?

NEDA Factsheet: How to Help a Friend

How to Help a Friend with Eating and Body Image Issues

If you are reading this handout, chances are you are concerned about the eating habits, weight, or body image of someone you care about. We understand that this can be a very difficult and scary time for you. Let us assure you that you are doing a great thing by looking for more information! This list may not tell you everything you need to know about what to do in your specific situation, but it will give you some helpful ideas on what to do to help your friend.

Learn as much as you can about eating disorders. Read books, articles, and brochures.

Know the differences between facts and myths about weight, nutrition, and exercise. Knowing the facts will help you reason against any inaccurate ideas that your friend may be using as excuses to maintain their disordered eating patterns.

Be honest. Talk openly and honestly about your concerns with the person who is struggling with eating or body image problems. Avoiding it or ignoring it won't help!

Be caring, but be firm. Caring about your friend does not mean being manipulated by them. Your friend must be responsible for their actions and the consequences of those actions. Avoid making rules, promises, or expectations that you cannot or will not uphold. For example, "I promise not to tell anyone." Or, "If you do this one more time I'll never talk to you again."

Compliment your friend's wonderful personality, successes, or accomplishments. Remind your friend that "true beauty" is not simply skin deep.

Be a good role model in regard to sensible eating, exercise, and self-acceptance.

Tell someone. It may seem difficult to know when, if at all, to tell someone else about your concerns. Addressing body image or eating problems in their beginning stages offers your friend the best chance for working through these issues and becoming healthy again. Don't wait until the situation is so severe that your friend's life is in danger. Your friend needs as much support and understanding as possible.

Remember that you cannot force someone to seek help, change their habits, or adjust their attitudes. You will make important progress in honestly sharing your concerns, providing support, and knowing where to go for more information! People struggling with anorexia, bulimia, or binge eating disorder do need professional help.

There is help available and there is hope!



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Figure B3. NEDA factsheet: How to help a friend

Local Eating Disorder Program

Referring to the Sanford Eating Disorders Clinic

Please call 701-234-4111 and ask to speak with a Care Coordinator, Katie Lindberg, LSW or Carey Richards, RN to discuss the current concerns, symptoms, behaviors, etc. This initial call can be made by the counselor or parent.

The initial appointments made are with a psychologist, dietician, and a nurse practitioner. A follow up/feedback visit will be made and treatment recommendations are discussed at this appointment.

Sanford Eating Disorders Clinic

701-234-4111

Monday- Friday, 8 am to 5 pm

katie.lindberg@sanfordhealth.org

carey.riedberger@sanfordhealth.org

Figure B4. Local eating disorder program

APPENDIX C. IRB APPROVAL LETTER



September 21, 2015

Dr. Tina Lundeen
Nursing

Re: IRB Certification of Exempt Human Subjects Research:
Protocol #PH16060 , "Improving Resident Assistants Knowledge About Eating Disorders on a College Campus"

Co-investigator(s) and research team: Rayna Bergseth

Certification Date: 9/21/2015 Expiration Date: 9/20/2018
Study site(s): NDSU
Sponsor: n/a

The above referenced human subjects research project has been certified as exempt (category # 2) in accordance with federal regulations (Code of Federal Regulations, Title 45, Part 46, Protection of Human Subjects). This determination is based on the original submission with oral consent script (provided 9/17/2015).

Please also note the following:

If you wish to continue the research after the expiration, submit a request for recertification several weeks prior to the expiration.

The study must be conducted as described in the approved protocol. Changes to this protocol must be approved prior to initiating, unless the changes are necessary to eliminate an immediate hazard to subjects.

Notify the IRB promptly of any adverse events, complaints, or unanticipated problems involving risks to subjects or others related to this project.

Report any significant new findings that may affect the risks and benefits to the participants and the IRB.

Research records may be subject to a random or directed audit at any time to verify compliance with IRB standard operating procedures.

Thank you for your cooperation with NDSU IRB procedures. Best wishes for a successful study.

Sincerely,

A handwritten signature in black ink that reads "Kristy Shirley".

Digitally signed by Kristy Shirley
DN: cn=Kristy Shirley, o=NDSU,
ou=Institutional Review Board,
email=kristy.shirley@ndsu.edu, c=US
Date: 2015.09.21 11:14:18 -05'00'

Kristy Shirley, CIP, Research Compliance Administrator

For more information regarding IRB Office submissions and guidelines, please consult http://www.ndsu.edu/research/integrity_compliance/irb/. This Institution has an approved FederalWide Assurance with the Department of Health and Human Services: FWA00002439.

INSTITUTIONAL REVIEW BOARD

NDSU Dept 4000 | PO Box 6050 | Fargo ND 58108-6050 | 701.231.8995 | Fax 701.231.8098 | ndsu.edu/irb

Shipping address: Research 1, 1735 NDSU Research Park Drive, Fargo ND 58102

NDSU is an EO/AA university.

APPENDIX D. INITIAL EVALUATION OF EATING DISORDER PRESENTATION

Program Evaluation: <i>Please circle the number that best describes your level of agreement</i>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. My understanding of eating disorders has improved after the presentation today.	1	2	3	4	5
2. I feel I have acquired new knowledge and/or information needed to identify the signs and symptoms of the most common eating disorders: anorexia nervosa, bulimia nervosa, and binge eating disorder	1	2	3	4	5
3. I know how to access the resources available for a student with an eating disorder.	1	2	3	4	5
4. I feel I have acquired new knowledge and/or information needed to approach someone with an eating disorder.	1	2	3	4	5
5. I would feel comfortable approaching someone I have identified with a possible eating disorder.	1	2	3	4	5

6. Do you have any further questions about eating disorders after attending the eating disorder presentation?

7. What do you think were the most valuable aspects of the presentation?

8. How could the presentation be improved?

APPENDIX E. FOLLOW-UP EVALUATION OF EATING DISORDER

PRESENTATION

Program Evaluation: <i>Please circle the number that best describes your level of agreement</i>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. My understanding of eating disorders has improved after the presentation on September 23 rd , 2015.	1	2	3	4	5
2. I feel I have acquired new knowledge and/or information needed to identify the signs and symptoms of the most common eating disorders: anorexia nervosa, bulimia nervosa, and binge eating disorder	1	2	3	4	5
3. I know how to access the resources available for a student with an eating disorder.	1	2	3	4	5
4. I feel I have acquired new knowledge and/or information needed to approach someone with an eating disorder.	1	2	3	4	5
5. I would feel comfortable approaching someone I have identified with a possible eating disorder.	1	2	3	4	5

6. Do you have any further questions about eating disorders after attending the eating disorder presentation on September 23rd, 2015?

7. Since the presentation on September 23rd, 2015, have you identified someone with disordered eating habits? If so, how many? Did you encounter any issues approaching the individual or in the referral process?

8. What do you think were the most valuable aspects of the presentation on September 23rd, 2015?

9. How could the presentation be improved?

APPENDIX F. EXECUTIVE SUMMARY

Background

Eating disorders remain an issue in the United States. Anorexia nervosa, bulimia nervosa, and binge eating disorder are the most common eating disorders. Food is often used as a form of control in an attempt to deal with emotions or feelings that seem too overwhelming. The average age of onset for eating disorders is between the ages of 18 -21 years old (Hudson, Hiripi, Pope, & Kessler, 2007). Prevalence of eating disorders in college students ranges from 8-17% (Eisenberg et al., 2011). Approximately 20% of college students reported having an eating disorder at some point in their lives and 75% of these individuals have never sought treatment for their disordered eating habits (Tillman, Arbaugh, & Balaban, 2012). Mortality rates of anorexia nervosa are higher than any other mental illness (Treasure, 2009).

The National Eating Disorder Association (2013) conducted a national survey of college and university campuses to identify what services and programs are important and available on campuses for students struggling with, recovering from, and at risk of developing eating disorders, and body image issues. The overall results of the survey revealed increased funding and resources are needed to educate, screen, refer, and treat college student with eating disorders or disordered eating behaviors. Eisenberg et al. (2011) identified that college aged individuals often delay seeking treatment for eating disorders, and many students with eating disorder related pathology are not being recognized and treated. Lack of seeking treatment is often surmised to be related to negative self-stigma and perceived inaccessibility of treatment (Tillman et al., 2012). Individuals also experience a societal stigma that may contribute to a decrease in treatment seeking behaviors. Tillman and Sell (2013) propose that students new to the college environment may have a limited understanding of the available resources for mental health,

which contributes to lower levels of health seeking behaviors. College students perceived themselves to be more likely to seek help for a friend with disordered eating habits than to seek help for themselves (Tillman & Sell, 2013). It is important for friends, family, professors, coaches, teammates, and resident assistants to be aware of the signs and symptoms of an eating disorder in order to recognize another individual at risk and who may be unwilling to seek help for themselves. According to NEDA (2013), there is an unmet need for identification and referral of students with eating disorders. NEDA (2013) also identified that only 34% of students indicated that their campuses had a peer advisor who was able to refer students for eating disorder treatment. Educating peer leaders about eating disorders could increase identification of those students with disordered eating

Project Summary

Based on a literature review and identified need from key stakeholders on campus, a presentation was developed to education resident assistants (RAs) about eating disorders. The presentation consisted of a description of the most common eating disorders, anorexia nervosa, bulimia nervosa, and binge eating disorders, prevalence, etiology, signs and symptoms, campus and community resources, a personal story, and strategies to approach an individual with a suspected eating disorder. An eating disorder toolkit was developed and provided to the RAs as a reference. The toolkit consisted of an eating disorder resource guide, a Counseling Center business card, a flyer for the Wellness Center dietitian, handouts from NEDA, and information from a local eating disorder program.

Results

The project was assessed with two evaluations. The initial evaluation occurred immediately following the presentation, and the follow-up evaluation occurred four weeks post

presentation, via email. The initial evaluation included 115 respondents, and the follow-up evaluation included 10 respondents. Because the follow-up evaluation had a low return rate, the evaluations cannot be compared. Survey responses indicated that a majority, 77% ($n=89$), of the participants agreed or strongly agreed that their understanding of eating disorders had improved after the presentation. Survey responses also indicated that a preponderance, 81% ($n=94$), of the participants agreed or strongly agreed that they had acquired new knowledge that will aid in the recognition of the signs and symptoms of a student with a potential eating disorder.

Seventy percent ($n=80$) of the participants indicated that they had no further questions regarding the topic of eating disorders. The lack of questions could be interpreted as the participants felt that the presentation's content was comprehensive, or may also be understood that the participants did not have enough time to formulate questions about eating disorders.

On the follow-up evaluation, two participants indicated that they had identified a student with disordered eating behaviors. Neither participant commented about the process of approaching the individual or about the referral itself, which could indicate that no issues arose during the process, that the respondents were unaware of any issues, or that the respondents recognized the students but did not refer. Although only two participants identified a student, it is important to note because the participants applied their knowledge in a real life situation.

The survey responses indicated that a majority of the participants 95% ($n=94$) agreed or strongly agreed that they knew how to access eating disorder resources. This positive response could indicate that participants already knew the resources, but it might also mean that the RAs learned about the resources during the presentation. Providing the toolkit to participants and demonstrating how to access the resources' websites could have aided in the positive response.

Seventy-three percent of the participants ($n=84$), agreed or strongly agreed that they had acquired new knowledge and/or information necessary to approach someone with a suspected eating disorder. Fifty-eight percent ($n=67$) of the attendees responded with agree or strongly agree that they would feel comfortable approaching an individual suspected of having an eating disorder. Overall, the eating disorder presentation and toolkit appeared to be an effective education method for the attendees. The majority of the survey responses indicated that participants agreed or strongly agreed with the statements 1-5 on the evaluations.

Recommendations

Further research about eating disorders on the college campus should be directed at improving the knowledge about and awareness of eating disorders by targeting campus personnel and student leaders. An important group to target would be the athletic department, including the coaches and athletic trainers. The prevalence of eating disorders among student athletes varies from 0-19% for male athletes and 6-45% for female athletes. An important aspect in the prevention of eating disorders among athletes is to increase the coaches' knowledge about the risk and trigger factors, signs and symptoms, and how to address concerns about eating disorders (Bratland-Sanda & Sundgot-Borgen, 2013).

Perhaps a better measure of project outcomes would have been to devise a method to track the number of eating disorder referrals made by RAs on campus. Currently, campus referrals are not tracked. Tracking referrals on campus would inform the Counseling Center, dietitian, or student health center who made the referral, and track the number of students referred. If these departments know where the referrals are coming from, they could follow-up with the individuals making the referral.

NPs in primary care and student-health settings should know where to refer students for further evaluation and treatment. Individuals with an eating disorder are best treated by multidisciplinary team, which may include an NP. A coordinated assessment by a multidisciplinary team includes a physical examination (including lab and EKG), a psychological assessment, personal, social, and family assessment, nutritional assessment, of eating disorder patient (NEDC, 2014). Campuses need more resources and greater funding to educate, screen, and refer college students, and therefore, establishing contact with a local eating disorder program is essential and a way to expand resources (NEDA, 2013).