

SCREENING FOR ADOLESCENT EATING DISORDERS IN A SCHOOL-BASED HEALTH
CENTER USING THE SCOFF QUESTIONNAIRE

By

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Screening for Adolescent Eating Disorders in a School-Based Health Center using the SCOFF Questionnaire

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Abstract

Adolescent eating disorders are increasingly prevalent in the United States. Six percent of all teenagers suffer from eating disorders, which are correlated with a myriad of economic, psychological, as well as healthcare ramifications. Literature reveals there is a lack of screening recommendations, as well as a lack of a single, comprehensive tool that identifies distorted patterns and behaviors of eating for advanced practice nurses within the primary care setting. Therefore, this quality improvement project implemented routine screening using the SCOFF questionnaire to evaluate for the presence of altered eating habits in adolescents seeking care in a school-based health center that had insufficient screening practices. Early detection is essential to prevent complications and improve overall healthcare, particularly in those lacking access to primary care services. Using Leavell and Clark's mode of prevention as the theoretical framework, this project occurred in three phases. First, an educational meeting with all key stakeholders was conducted during phase one. In phase two, all assenting adolescents seen at the school-based health center during a twelve-week period were screened. Any students who screened positive were referred for additional resources. Data analysis using descriptive statistics occurred in phase three, where data demonstrated that the prevalence of altered eating patterns suggestive of an eating disorder, among underserved adolescents, is significantly higher than the postulated national average. While difficult to know if this data is reproducible, data highlights the ability of the SCOFF questionnaire to detect concerning patterns of eating. Given that, advanced practice nurses in the primary care setting can rely on a single, brief screening tool to evaluate for the presence of concerning dietary habits in adolescents.

Keywords: anorexia, bulimia, binge eating disorder, screening, school-based health center, primary care, SCOFF questionnaire

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Screening for Adolescent Eating Disorders in a School-Based Health Center Using the SCOFF

Questionnaire

Introduction

An eating disorder (ED) is a mental health illness that can affect any person, regardless of race, age, or body habitus, and they are characterized by distorted patterns and behaviors in eating (National Eating Disorder Association [NEDA], 2018a). The three most common ED include: anorexia nervosa (AN), bulimia nervosa (BN), and binge eating disorder (BED).

Consequences of ED are both catastrophic and widespread, and include altered sleeping patterns, decreased ability to concentrate, osteoporosis, and diabetes mellitus (NEDA, 2018b). In addition, ED have also been linked to substance abuse, depression, anxiety, and suicidality (Mayo Clinic, 2018a; National Alliance of Mental Illness [NAMI], 2018; NEDA, 2018b; NEDA, 2018c).

Alarming, nearly six percent of all adolescents suffer from an ED (Smink, van Hoeken, Oldehinkel, & Hoek, 2014; Wright, Austin, Noh, Jiang, & Sonnevile, 2014).

Given the vast healthcare and psychological consequences of ED as well as increased prevalence within the adolescent population, there is a clear need for early detection. Advanced practice nurses (APRNs) in the primary care setting are well positioned to play an integral role in screening for ED. This paper will present the guiding PICO question, evaluate the literature regarding ED in the adolescent population, discuss and describe the project methodology, and to define the project location, as well as detail the descriptive statistics used to evaluate the data. The overall objective of this project was to determine if a screening tool would detect altered patterns indicative of an underlying ED in adolescents in the primary care setting, as measured by the number of positive screens and subsequent mental health referrals. A secondary goal was promotion of routine screening of ED in all adolescents seen in the primary care setting.

PICO

Given that ED are prevalent in adolescents, the aim of this project was to answer the following question: In all assenting adolescents aged 13-18 years old seen at a school-based health center (SBHC) in Midwestern Kansas (P), will the routine use of the SCOFF questionnaire (I) identify altered eating patterns suggestive of AN, BN, and BED (O) over a twelve-week time frame (T)?

The overall aim of this project was to know if a brief screening questionnaire would identify distorted eating patterns and behaviors that are characteristic of AN, BN, and BED in adolescents seen at a SBHC. The primary goal was to improve and enhance the primary care services of the students through early screening and identification of distorted eating patterns consistent with ED. Early detection is essential in stymieing the multitude of long-term consequences. Those adolescents who had a positive screen were then referred to the high school (HS) social worker, so that a subsequent mental health referral could be made. This referral process ensured that students were properly paired with the appropriate treatment resources.

Literature Review

To garner a thorough understanding of ED, a comprehensive literature review was completed. Various reputable organizations were searched, including: Centers for Disease Control and Prevention (CDC), National Institute of Health (NIH), Mayo Clinic, NEDA, National Alliance of Mental Health, and Binge Eating Disorder Association (BEDA). Additionally, CINAHL, ProQuest, PubMed, Google Scholar, and Cochrane Databases were utilized to find scholarly, peer-reviewed articles on statistics of incidence and prevalence, screening recommendations for primary care, as well as to define characteristics of AN, BN, and

BED. Databases were also employed to find articles regarding the financial consequences of ED, the role of SBHC, as well as quantitative studies evaluating screening tools to detect ED.

Key words include: anorexia, anorexia nervosa, bulimia, bulimia nervosa, binge eating disorder, binge eating, binging, eating disorders not otherwise specified, eating disorders, adolescents, adolescence, primary care, primary provider, provider, screening, screening recommendations, nurse practitioner, advanced practice nurse, SCOFF, and SCOFF questionnaire. The initial search was limited to studies and scholarly articles published within the last five years, but the search parameters were extended to articles published within the last two decades to obtain initial studies conducted using the SCOFF questionnaire.

Defining Eating Disorders

Anorexia nervosa. Alarming, AN is cited to be the third most common chronic illness among adolescents (NEDA, 2018d), with peak incidence occurring in late adolescence (Lock & La Via, 2015). It is hallmarked by restriction of food intake, overwhelming fear of weight gain, as well as altered perception of body habitus (National Association of Anorexia Nervosa and Associated Disorders [ANAD], 2018; National Eating Disorders Collaboration [NEDC], n.d.-a). There are two common subtypes of AN including restrictive and purging. Restrictive type AN occurs when there is a significant limitation on the amount of food consumed coupled with an abundance of physical activity (NEDC, n.d.-a). Purging type AN occurs when there is a restriction on food consumption as well as compensatory mechanisms (NEDC, n.d.-a). Persons with AN inappropriately correlate a low body weight and body mass index (BMI) with an increased self-worth (ANAD, 2018).

Other common signs and symptoms, as well as consequences of AN include: abdominal pain, dry or brittle skin and nails, thinning of the hair, absent or altered menstrual cycles, fatigue,

altered sleeping patterns, low body weight, and severe preoccupation with body habitus and appearance (NEDC, n.d.-a; Mayo Clinic, 2018b). Furthermore, AN can cause altered or stunted growth, as well as cardiac abnormalities (Forman, 2017).

Bulimia nervosa. Contrastingly, BN is an eating disorder that is characterized by episodes of bingeing followed by compensatory mechanisms including purging, use of laxatives or diuretics, or extreme exercising that occur at least once a week for three months (Forman, 2015; Lock & La Via, 2015). Episodes of bingeing are hallmarked by a consumption of a large quantity of food in a short period of time, as well as a loss of control during these episodes (Mayo Clinic, 2018c). As with AN, BN has a peak incidence in late adolescence (Lock & La Via, 2015).

Common signs and symptoms, as well as consequences of BN include: maintaining a consistent exercise regimen, inappropriate hoarding of food, being withdrawn from family and friends, mood swings, excessive use of mints and mouthwash, cuts on the knuckles, dental cavities, and menstrual irregularities (NEDC, n.d.-b). Additionally, persons with BN tend to feel overwhelming shame, remorse, anxiety, and guilt in relation to their inability to control the amount of food they consume in a relatively short period of time (Lock & La Via, 2015).

Binge eating disorder. The Diagnostic and Statistical Manual for Mental Disorders (DSM) is a guide that healthcare providers can use to accurately diagnose a patient with a mental illness. In the fourth version, BED was included in a group of disorders under an umbrella term of “eating disorders not otherwise specified”, EDNOS (BEDA, 2016a; Herpertz-Dahlmann, 2015). In 2013 the fourth version was revised, and in the DSM-V, BED became its own diagnosis. Under the DSM-V, diagnostic criteria of BED include consumption of an excessive amount of food in a short period of time coupled with a loss of control during these episodes, as

well as feelings of guilt or shame over quantity of food consumed (BEDA, 2016b). Other prominent symptoms of BED include eating beyond satiety, as well as eating when not hungry. Episodes of binge eating occur at least once a week for a minimum of three months (BEDA, 2016b).

It is important to express that binge eating is a disordered eating pattern that is also a unique component of BN, as described previously. The distinction between BED and BN is clinically important, as BN is characterized by periods of binge eating followed by counteractive measures while in BED there is a lack of compensatory mechanisms (BEDA, 2016b).

Additionally, unlike AN or BN, there are clear links between BED and the onset of obesity (He, Cai, & Fan, 2016). Literature highlights that the incidence of obesity among adolescents has nearly quadrupled in the last quarter of a century, resulting in significant healthcare implications (Chao, 2014; Golden, Schneider, & Wood, 2016; United States Preventive Services Task Force [USPSTF], 2010). Interestingly, being overweight or obese is also a risk factor for developing BED (He et al., 2016). While a clear, visible linear relationship between BED and obesity has been established, it is imperative to recognize that BED can occur in those of normal BMI and weight (Mayo Clinic, 2018c).

Risk Factors

While an exact cause of ED in adolescents has not been identified, various risk factors have. It has been suggested that ED are a dynamic interaction between genetic and biological, psychological, as well as social components. Most notably, risk factors include: history of being bullied or taunted based on weight, body habitus, or BMI; other mental health illness including anxiety, depression, or post-traumatic stress disorder; addiction to drugs or alcohol; low self-

esteem; trauma (BEDA, 2016c; NEDA, 2018e; NEDC, n.d.-c; Mayo Clinic, 2018b; Mayo Clinic, 2018c; Mayo Clinic, 2018d).

While a detailed analysis is outside the breadth of this screening project, it is appropriate to note that food insecurity (FI) can also be a risk factor in the development of an ED. As defined within the literature, FI occurs when there is an inability to access nutritious or healthy food due to lack of financial resources (Becker, Middlemass, Taylor, Johnson, & Gomez, 2017; Frongillo & Bernal, 2014). As a result, those with limited access to food are not able to consume enough calories to meet the demands of their body, mimicking the presentation of AN.

Unfortunately, the food industry is saturated with companies that manufacture processed foods that are high in sugar and low in nutritional value. These foods are both convenient and relatively inexpensive, making these products marketable to those with limited financial resources (Frongillo & Bernal, 2014). When those with FI do have access to food, they tend to choose inexpensive processed foods, as well as engage in counteractive mechanisms including binge eating, which eventually results in obesity (Becker et al., 2017). Given the correlation between FI and the development of ED, it is imperative that primary care APRNs consistently and routinely screen all adolescents in efforts to thwart widespread consequences.

Complications

Though elaborated on briefly above, an in-depth discussion of consequences and complications of ED is worth attention. Literature states that complications are both extensive and catastrophic. First, consequences of AN include hypotension, bradycardia, mitral valve prolapse, fluid and electrolyte abnormalities, altered thyroid hormones, osteoporosis, altered neurological function, as well as stunted and delayed growth (Campbell & Peebles, 2014; Katzman, 2005). Female adolescents with AN may have absent menstrual cycles due to

diminished levels of circulating hormones responsible for triggering menstruation and ovulation (Seidenfeld & Rickert, 2001). Even more alarmingly, literature indicates that AN has the highest mortality rate than any other adolescent mental health illness (Campbell & Peebles, 2014).

Complications of BN include acid reflux that leads to difficulty swallowing, altered fluid and electrolyte levels, diarrhea, constipation, rectal prolapse, cheek and facial swelling, as well as dental discoloration and erosion (Mayo Clinic, 2018c; Westmoreland, Krantz, & Mehler, 2016). In contrast to those with AN where menses may be absent, female adolescents with BN will have sporadic menstrual cycles (Seidenfeld & Rickert, 2001). Lastly, complications of BED include obesity, type two diabetes mellitus, acid reflux, gallbladder disease, joint pain, difficulty sleeping, hypertension, polycystic ovary syndrome, and increased risk of certain cancers (BEDA, 2016d; Mayo Clinic, 2018d).

Psychological and Economic Impact

In a recent study conducted by the National Institute of Mental Health with over ten thousand adolescents, data suggests that the psychological impact of ED is significant. First, of those adolescents suffering from AN, BN, and BED, greater than 30% suffer from a coinciding behavioral disorder, while greater than 10% suffer from substance abuse (Swanson, Crow, Le Grange, Swendsen, & Menkangas, 2011). Additionally, nearly one out of four adolescents with AN, BN, or BED suffer from an anxiety disorder, while one in every ten adolescents also suffer from a concurrent mood disorder (Swanson et al., 2011). More alarmingly, data demonstrates that greater than 30% of adolescents with AN, BN, or BED have suicidal ideation, and nearly one in ten adolescents with an ED have attempted suicide (Swanson et al., 2011).

Results from a systematic review evaluating the economic burden and health-related

quality of life in persons with AN, BN, and BED suggest that persons suffering from ED have a lower quality of life when compared to persons without ED (Agh et al., 2016). Data express that persons with ED also have a greater number of emergency department visits, greater number of primary care provider visits, and higher rates of hospitalizations when compared to those who do not have an ED (Agh et al., 2016). While the sample population did not include adolescents, this author speculates similar results would be echoed in the adolescent population. Coupled with the results mentioned above, it is apparent that the psychological as well as economic and financial impact of adolescent ED is extensive.

Screening Tools

SCOFF questionnaire. The SCOFF questionnaire is a self-report five-question screening tool that was developed to identify signature features of AN and BN (Morgan, Reid, & Lacey, 2000). Uniquely, the name of the tool is an acronym of the five hallmark symptoms it evaluates for. The questionnaire was developed in the late 1990's by a group of researchers who wanted to develop an easy screening tool that would detect either AN or BN in hopes of preventing long-term complications (Morgan et al., 2000). Within the acronym, "s" seeks to determine if the patient makes themselves sick because they feel full, while "c" correlates with a loss of control over eating. Additionally, "o" investigates if the patient has lost approximately 14 pounds (one stone) in a three-month time frame, while the first "f" investigates if the patient has a perception that they are fat when their peers would categorize them as thin. The final "f" of the acronym examines if the patient consistently thinks about food. See Appendix A to view the SCOFF questionnaire.

To evaluate the questionnaire, each "yes" answer earns 1 point, and any score that is greater than or equal to 2 points should raise suspicion of the presence of an ED (Morgan et al.,

2000). Initial evaluation and testing of the SCOFF questionnaire occurred in adults over 18 years with AN or BN as diagnosed by the DSM-IV and were compared to adults without a diagnosed ED. Results show that when two or more questions were answered “yes”, there was a sensitivity of 100 percent and a specificity of 87.5 percent (Morgan et al., 2000). Of note, sensitivity is the ability of a tool or technique to positively identify those who have a given illness or disease, while specificity is the ability of a tool or technique to positively identify those without a given illness or disease (Parikh, Mathai, Parikh, & Sekhar, 2008).

Since initial data indicated that the SCOFF questionnaire was an effective tool for detection of AN and BD, it has been widely studied in the literature. Interestingly, data regarding the efficacy of the SCOFF varies widely. A recent study aimed to evaluate the effectiveness of the SCOFF questionnaire in a multiethnic group of adults, and data indicate that the SCOFF has a sensitivity of 53.7 percent and a specificity of 93.5 percent (Solmi, Hatch, Hotopf, Treasure, & Micali, 2015). These results suggest the SCOFF may not be as reliable of a screening tool as previously indicated, but authors postulate the sensitivity is low due to significant loss in follow-up. Participants also had difficulties with recall, as the study was conducted over several years (Solmi et al., 2015).

When the SCOFF questionnaire was administered to eighth and ninth graders in Finland, where a cutoff of one question having a “yes” answer was utilized, data indicated that the SCOFF to be an appropriate tool to detect AN or BN in adolescents in the school setting (Hautala et al., 2009). Additionally, results for this study also suggest that when compared to a school nurse assessment and screen for potential ED among these adolescents, that the SCOFF questionnaire was superior in detecting those with ED (Hautala et al., 2009). Finally, in a systematic review that evaluated the effectiveness of various adolescent ED screening tools, the

SCOFF questionnaire is cited to be a valid and reliable tool in detecting AN and BN given its brevity and the short amount of time it takes for participants to complete (Rindahl, 2017).

A recent meta-analysis was conducted to evaluate the effectiveness of the SCOFF questionnaire in detecting AN, BN, and EDNOS using DSM-IV guidelines. Results show that when EDNOS was included in the analysis, the SCOFF was able to detect EDNOS more effectively than either AN or BN (Botella, Speluveda, Huang, & Gambará, 2013). In conjunction, another study was performed to evaluate the effectiveness of the SCOFF questionnaire in detecting AN or BN in female adults. Results reveal that when compared to a structured interview, the SCOFF questionnaire had a sensitivity of 94.6% and a specificity of 94.7% (Garcia et al., 2011). Contrastingly, when administered to women in the primary care setting, the SCOFF was found to have a sensitivity of 65.2% and a specificity of 87.5% (Baudet et al., 2013).

While it is apparent that variability in sensitivity and specificity of the SCOFF questionnaire exists, the data is robust enough to support its use in detecting AN and BN in a primary care setting. However, there is no current validity or reliability data regarding the ability of the SCOFF questionnaire to detect BED. Given that BED is a key characteristic of BN, this author speculates that the SCOFF questionnaire will effectively screen for AN, BN, and BED in adolescents.

Other tools. An evaluation of AN, BN, and BED would not be complete without a discussion of other available screening tools. First, the Eating Disorder Examination Questionnaire (EDE-Q) is a thirty-six-item tool that is the self-report version of a well-known structured interview format, the Eating Disorder Examination, EDE (Mond et al., 2008). Both the EDE and the EDE-Q were developed to evaluate for specific behavioral and psychological

features of ED experienced in the previous four weeks by a specially trained healthcare professional. A study was conducted in adult women aged 18 to 40 years old in primary care offices in the United States to compare the effectiveness of the EDE-Q versus the SCOFF questionnaire in detecting ED. Results show that the EDE-Q had a sensitivity of 80% and a specificity of 80% (Mond et al., 2008). Contrastingly, the SCOFF questionnaire had a sensitivity of 72% and a specificity of 73% (Mond et al., 2008).

When the SCOFF questionnaire was evaluated in a group of Swedish adolescents and compared to the EDE-Q, results reveal that the SCOFF questionnaire is an analogous tool (Hansson, Daukantaite, & Johnsson, 2015). Though it is statistically superior to the SCOFF questionnaire, authors suggest that the length of the EDE-Q make it challenging to utilize in a busy primary care practices (Mond et al., 2008). In addition, many of these studies were conducted prior to the revision of the DSM-V, making it difficult to know if the EDE-Q would accurately detect BED.

The Eating Attitudes Test-26 (EAT-26) is another self-report questionnaire that evaluates food consumption, dieting behaviors, as well as perceptions about food (Gargari et al., 2011). The EAT-26 is composed of 26 questions that are graded on a numeric scale, and if the total score is greater than or equal to 20, the provider should be suspicious for the presence of an ED. In a study performed on Iranian adolescent females, results reveal that EAT-26 tool is an appropriate tool to detect for altered eating habits in adolescents (Gargari et al., 2011). It is worth noting that little is known about the ability of the EAT-26 to detect for BED in adolescents, as this study was conducted prior to the revision of the DSM-V guidelines.

It is evident that various tools have been utilized in research to evaluate their effectiveness in detecting AN and BN within the clinic setting. Given that BED has now been

classified as its own ED, several screening tools have been developed and evaluated to investigate their effectiveness in detecting BED. A recent study performed was aimed at evaluating the effectiveness of a French tool called the adolescent BED questionnaire (ADO-BED) in detecting BED in obese adolescents. It is a 10-question screen that evaluates cravings, loss of control, presence of negative feelings associated with eating, as well as presence of any compensatory mechanisms (Chamay-Weber, Combescure, Lanza, Carrard, & Hallar, 2017). Results show that the questions addressing eating without being hungry and having a loss of control over eating have a strong correlation with the diagnosis of BED when compared to a structured interview (Chamay-Weber et al., 2017). While the tool has proven useful in detecting BED in obese adolescents, it has not been tested in non-obese adolescents, nor has it been suggested that it would accurately detect AN or BN.

Another tool has also been recently developed to screen for BED in the primary care setting. The binge eating disorder screener-7, BEDS-7, is a seven-question screening tool that investigates eating habits in the previous three months. In a study that evaluated provider knowledge and comfort in diagnosing BED after receiving education on the BEDS-7 tool, providers had greater knowledge and confidence in screening for BED (Herman et al., 2017). While data may suggest that the BEDS-7 screen may make providers more confident and comfortable screening for BED specifically, little is known about any potential the tool may have for screening for AN or BN.

Screening Recommendations and Barriers

Data suggests that adolescent ED are underdiagnosed and unrecognized in the primary care setting (Campbell & Peebles, 2014). Given the significant health, psychological and financial consequences of adolescent ED, it is imperative to screen every adolescent in the

primary care setting (NEDA, 2018f). Interestingly, there are notable gaps regarding recommendations for screening as well as multiple barriers within the primary care setting that prevent APRNs and other providers from screening and subsequently referring adolescents with altered patterns and behaviors of eating suggestive of an ED.

There are no published recommendations from the USPSTF (2018) regarding screening for ED, but there are recommendations for screening children and adolescents for obesity. There are no specific screening recommendations from Bright Futures, an initiative that partners with the American Academy of Pediatrics, AAP, to promote and optimize the health of children and adolescents. In neither their guideline and pocket guide (AAP, 2017); nor their tool or resource kit, have any specific recommendations about screening for ED (AAP, 2010a; AAP, 2010b; AAP, 2010c).

The AAP and the American Academy of Family Physicians recommend that primary care providers ask adolescents about their diet as well as screen for ED (AAP, 2017; Harrington, Jimerson, Haxton, & Jimerson, 2015). Regrettably, a variety of barriers exist preventing screening of ED in the primary care setting. Researchers note time, lack of education, and provider discomfort as major contributing factors (Waller, Micali, & James, 2014). Secondly, adolescents with ED may present to their provider with more generalized and vague complaints, including abdominal discomfort and altered bowel habits (Higgins & Chan, 2017).

Finally, as it pertains to BED, researchers postulate it is challenging for adolescents to appropriately quantify “too much” food. In fact, there is concern that quantification can vary widely among patients, parents, and providers, making it especially difficult to properly screen for BED (Tsappis et al., 2016). As a result, it has been recommended that providers instead focus on screening and evaluating for a “loss of control” in adolescents (Herpertz-Dahlmann, 2015;

Tsappis et al., 2016). In order to properly diagnose ED and overcome screening barriers, primary care APRNs should remain vigilant and actively screen for the presence of altered behaviors and patterns of eating, with a subsequent referral to a specially trained healthcare professional in order to stymie long-term complications (Mayo Clinic, 2018e).

Treatment

Literature suggests that there are a variety of treatment modalities, including therapy, pharmacological management, as well as inpatient hospitalization (NEDA, 2018g; NEDC, n.d.-d). Behavioral therapy, whether done with just the patient or in the family setting, is now cited to be the treatment of choice (Yager et al., 2014). More specifically, cognitive behavioral therapy (CBT) is a type of psychotherapy where a specially trained provider assists the patient to alter their inappropriate thinking, attitudes, and behaviors about eating (Williams, Goodie, & Motsinger, 2008). Given that CBT can only be initiated by a trained provider, any primary care provider or APRN who suspects an ED would be required to place a referral for the adolescent to a mental health specialist.

School-based Health Centers

A SBHC is an in-school clinic that provides healthcare services to adolescents during school hours (Health Resources and Services Administration, 2017). More specifically, they offer preventive services, immunizations, school and sports physicals, provide medication prescriptions, assist in management of chronic illness, manage acute care illnesses, vision and dental screenings, and even offer mental health resources (AAP, 2012; Knopf et al., 2016; Padula et al., 2018). Numerous benefits of SBHC have been noted in the literature, including increasing access to primary care healthcare services to underserved and uninsured students, and decreasing the number of emergency room or urgent care visits in students who utilize services at SBHC

when compared to students who do not utilize SBHC services. This results in decreased overall healthcare costs (AAP, 2012; Knopf et al., 2016; Padula et al., 2018).

By having operating hours on site, students can easily be seen in SBHC without much disruption to their school day, or without needing to have their caregivers pulled away from work to have them seen at a primary care clinic not located within the school. Overall, SBHC are well positioned to remove barriers to primary care services, as well as improve health-related outcomes (Knopf et al., 2016). Of note, it is cited that greater than 20% of residents that live in Midwest Kansas live in poverty and are underserved. Of those living in poverty, approximately 10% are persons aged 12 to 17 years old (DataUSA, n.d.).

Additionally, a recent community health assessment revealed that nearly 20% of all residents in Midwest Kansas experience FI (Collie-Akers et al., 2017). Given this, it is clear that many adolescents may not receive the preventative and screening primary care services they need nor have access to nutritious food, making the SBHC an essential access point for these imperative services.

Theoretical Framework

It is clear from the analysis of the literature provided that ED screening recommendations are lacking. All assenting adolescents seen at the SBHC were screened for altered patterns of eating in hopes of early identification of ED using Leavell and Clark's model of prevention as the theoretical framework. In their model, Leavell and Clark explored and evaluated the progression of illness and disease in humans. More specifically, they generated three distinct levels of prevention including primary, secondary, and tertiary prevention (McEwen & Wills, 2011). Each level of prevention contains unique activities aimed at avoiding or halting progression of illness.

The goal of primary prevention is to avert disease or illness from occurring and includes activities such as the use of helmets and seatbelts, as well as the administration of immunizations (McEwen & Wills, 2011). Secondary prevention focuses on early screening and identification of illness or disease and includes routine blood pressure screenings (McEwen & Wills, 2011). Tertiary prevention occurs after the onset of illness and disease, focusing efforts in halting long-term complications. Specific activities of tertiary prevention include physical therapy and rehabilitation after a person has suffered a stroke (McEwen & Wills, 2011). Since the goal of the project was to screen adolescents for the presence of altered eating habits indicative of an underlying ED, this project focused its efforts on secondary prevention measures.

Methods

Project Design

To evaluate the usefulness of the SCOFF questionnaire in detecting altered eating behaviors and habits indicative of an underlying ED among adolescents seen at the SBHC, this project occurred in three distinct phases. As indicated earlier, it is difficult and cumbersome for a primary care provider to accurately diagnose an ED. Therefore, the ability of the SCOFF questionnaire to detect altered eating behaviors suggestive of an ED was determined by the number of positive screens and subsequent referral for additional resources. To align with previous validations of the tool, a positive SCOFF questionnaire is defined as any screen with two or more “yes” responses. Of note, this methodology was chosen due to minimal financial burden, ease of access to the SBHC, as well as minimal patient risk.

During the first phase of the project, an educational meeting was conducted with all of the key stakeholders, including Kansas University Medical Center (KUMC) Family Medicine providers, University of Kansas School of Nursing (KUSON) faculty, as well as the board of

directors of the SBHC. Board of director members included upper class APRN students as well as second year medical students, who are responsible for maintaining the flow of the clinic. During this meeting an overview of the project was presented, project goals were identified, and the referral process was outlined. A table containing hallmark features of AN, BN, and BED, as well as a single corresponding international classification of disease 10 (ICD 10) code for any adolescent with a positive screen, was provided. ICD 10 codes are alphanumeric codes that correspond to specific illness or disease states, which are subsequently used during the billing process. See Appendix B for a copy of the table. Questions were addressed, and a follow-up email was sent to all stakeholders the following day.

During the second phase of the project, screening of all assenting adolescents that presented to the SBHC occurred over a 12-week time frame. Each adolescent was registered in the electronic medical record (EMR) system by staff at the HS and vital signs were completed before being placed in a patient care room. Once placed in a room, an iPad with the screening form was provided to each student to complete. The student would notify the SBHC staff once the form was complete, at which point it was reviewed by a board of director member. To be consistent with previous SCOFF questionnaire validation, if two or more questions are answered “yes”, the provider was notified that the student had a positive screen. For those with a positive screen, the provider spent a portion of the visit talking with the adolescent about their dietary habits. Those with a positive screen were then referred to the HS social worker for additional resources.

During phase three, data analysis occurred. Specific details regarding data collection methods as well as data analysis are provided below. For a detailed outline of the project timeline, see Appendix C. Given that the goal of this project was to screen and detect eating

habits consistent with an ED with minimal patient risk, KUMC's Institutional Review Board (IRB) approved this as a quality improvement project. For a copy of KUMC's IRB approval, in addition to the collegial letter of support, see Appendices D and E, respectively.

Project Site/Population

This screening project took place at a public high school (HS) in Midwest Kansas, that serves approximately 1,300 students, ranging from freshman to seniors (Kansas State Department of Education, 2018). The clinic located within the school is a SBHC that offers primary care services to students every Wednesday while school is in session, from nine in the morning until noon. Students can schedule appointments online, or can be seen as walk-ins. HS administrators and KUMC developed a partnership, and in 2012 the clinic was formed. The clinic has five patient exam rooms and is staffed by KUMC Family Medicine providers, KUSON faculty, board of director members, medical students, and APRN students. Primary care services provided within the clinic include screening and preventive services, mental health services, immunizations, treatment of acute illnesses, school and sports physicals, and minor wound care.

At the start of the school year, all students were provided paperwork for their parents or legal guardians to complete, allowing health care providers at the clinic to perform services. Given that this is a quality improvement project, no additional consent was needed. All adolescents aged 13 to 18 years of age that presented to the clinic for healthcare needs were provided with the screening form. No student was excluded from the screening process.

Setting Facilitators and Barriers

To ensure and enhance the success of this screening project, several potential population and location specific barriers were addressed. First, to adequately meet the diverse language needs of the students being seen at the SBHC, two versions of the screening form were

generated, one form was in English, and the other was in Spanish. Secondly, a new EMR was chosen for the 2018-2019 school year, and to ensure proper transmission of the screening form into the student's chart, the forms were loaded into the student portal so that the students could access the electronic version of the forms. Once the screening form was complete through the student portal, it was automatically loaded into the corresponding chart in the EMR.

Finally, there is no evidence or data at this time within the literature to suggest the SCOFF questionnaire's ability to accurately detect BED in adolescents. Given that it was previously validated for AN and BN, and that binge eating is a major component of BN, this author hypothesizes that the SCOFF questionnaire will accurately detect BED and is the underlying principle for being chosen for this screening project.

Instruments

Screening form. The first data collection tool utilized was the screening form, which contained two sections. The top section inquired about basic demographic information, with an additional question regarding FI. The bottom section of the screening form contained the original SCOFF questionnaire. See Appendices F and G for a copy of the English and Spanish version of the screening form, respectively. The screening form was uploaded to the student portal in the EMR, as detailed below. Once the form was complete, it automatically transferred into the student chart in the EMR for viewing.

Phase two data collection form. The second data collection tool utilized was the phase two data collection tool. The phase two data collection form is a replica of the screening form, with a supplemental section under the SCOFF questionnaire for tallying the number of "yes" responses provided. Additionally, there is a small section at the bottom of the form to indicate if a referral to the HS social worker was made. Data from the screening form was transcribed onto

the phase two data collection form by this doctoral student, to allow for ease of access to data without having to get back into the students' EMR. See Appendix H for a copy of the phase two data collection form.

Data Collection Procedures

Prior to the start of the 2018 fall semester, both the English and Spanish versions of the screening form were uploaded into the student portal of the EMR by a board of director member with an extensive technological background. Adolescents accessed the screening forms using the SBHC's iPads. The student portal is password protected, and adolescents are not able to access the portal unless it is accessed for them by either this author or the board of director member with technological experience. This process ensured that any tools or forms completed and uploaded by the student could not be re-opened nor altered at a later time. Additionally, one hundred and fifty copies of the phase two data collection tool were printed and placed in the locked storage box for later use by this author. Upon completion of these tasks, and once the fall semester began, screening of the students commenced.

To ensure that all students seen at the SBHC were screened, the following systematic plan was implemented. Once a week, for twelve consecutive weeks, this author arrived at the SBHC clinic prior to opening and provided a quick summary of this screening project to the medical and APRN students that were scheduled to provide care to the students, as well as the board of director members who were responsible for running the clinic. They were informed of the goals of this project and were provided information regarding types of questions they should ask the adolescent if a positive screen was identified.

After each student being seen in the clinic completed the check-in process, they were placed in a patient room, and their paper chart was obtained by this author. Their corresponding

electronic chart was opened and a unique password to gain access to the student portal on the SBHC's iPads was created. Once logged into the student portal, a notification would appear that the first unique password was expired, at which time a second unique password was created. Only this author, as well as the expert technology board of director member, had access to these unique passwords.

Buttons corresponding to the English, as well as Spanish version of the screening form were visible under the "forms" tab within the student portal, which was left displaying on the screen for easy viewing by the students. The iPad was brought to the student's room, the curtain was closed to maintain privacy, and this author explained that the form was a questionnaire regarding eating habits. Students were instructed to pick the language of their preference, and to answer the questions within the form. Students were allowed to complete the form or leave the form blank if they so chose. At the bottom of the form was a "complete/submit" button. Once this button was clicked by the students, the screening form was then automatically transferred into their chart. The student was then left with the iPad so they could complete the screening form in private.

Once the adolescent completed the screening form, they would return the iPad to this author. Their screening form was then viewed by this author to determine if the screen was positive or negative. An available medical and APRN student was notified if the adolescent had a positive or negative screen and was provided the adolescent's paper chart so they could begin their evaluation. After an initial evaluation of the adolescent, the attending physician or APRN faculty would receive a brief report by the medical or APRN student, at which time an individualized plan of care was developed. The medical or APRN student notified either the

attending physician or APRN faculty of the presence of a positive screen and were instructed to document the generic ICD 10 code provided within the electronic record.

After each adolescent completed their screen, the data from the screening tool was transcribed onto the phase two data collection tool. The phase two data collection tool was then placed in the locked storage box, ensuring patient privacy as well as preventing loss of data. A blank sheet was labeled with the appropriate corresponding screening date, and all of the transcribed phase two data collection tools were stapled and placed into the locked storage box for analysis during phase three.

At the end of each clinic day, a separate list was generated with the names of adolescents with a positive screen, which was provided to the HS social worker. The social worker contacted the adolescent's caregiver to inform them there was concern about their dietary habits, and a referral was made to a federally qualified health center (FQHC) within the community for additional evaluation and potential treatment management by specially trained healthcare professionals. Of note, FQHC are specially designated health centers that provide comprehensive medical and mental health services to underserved persons, regardless of their healthcare insurance status or their ability to pay for healthcare services (Health Resources and Services Administration, 2018).

Results

Data Analysis

Over the 12-week period 96 students aged 13 to 18 years old were provided the screening form. Of those students, 94 completed and submitted the screening form. A total of 18 adolescents answered two or more questions with a "yes" response. Using descriptive statistics, 19% of those that were screened had dietary habits and patterns consistent with an ED. Of note,

descriptive statistics are a simplistic quantitative summary of the data, and for the purposes of this screening project, will be in the form of percentages. See Table 1 for detailed information on adolescents screened, the weekly percentage of positive screens, as well as the overall percentage of positive screens.

Table 1
Percentage of Adolescents with a Positive Screen

Week	Adolescents screened	Completed screens	Positive screens
1	6	6	4 (67%)
2	10	9	2 (22%)
3	7	7	0 (0%)
4	8	7	2 (29%)
5	7	7	2 (29%)
6	9	9	4 (44%)
7	7	7	0 (0%)
8	9	9	0 (0%)
9	10	10	1 (10%)
10	7	7	1 (14%)
11	11	11	1 (9%)
12	5	5	1 (20%)
TOTAL	96	94	18 (19%)

Of the 94 adolescents that completed the screening form, 43 were male (46%), while 51 were female (54%). Overall, of those that completed the screening form, 46% identified themselves as Hispanic, while 32% of adolescents identified themselves as African American. From the 18 adolescents with a positive screen, five were male (28%) and 13 were female (72%). 44% of those with a positive screen identified themselves as Hispanic, 22% identified themselves as Asian, and 22% identified themselves as African American. See Table 2 for further breakdown of ethnicity by gender for adolescents that completed the screening form, as well as those with a positive screen.

Table 2
Completed Screens and Positive Screens Demographics

Ethnicity	Completed adolescent screens		Positive screens	
	Male	Female	Male	Female
African American	22	8	1	3
Asian	1	14	1	3
Caucasian	3	3	0	2
Hispanic	17	26	3	5
Total	43	51	5 (28%)	13 (72%)

To know if FI was present among adolescents with a positive screen, basic descriptive statistics were utilized. Of the 18 adolescents with a positive screen, 13 adolescents, approximately 72%, answered “no” to not having enough food in the last twelve months due to lack of finances. The remaining five adolescents, 28%, with a positive screen answered “yes”, that they felt that they did not have enough food in the previous twelve months due to lack of finances within their home. Interestingly, of all 94 adolescents that completed the screen, 12 adolescents, 13%, answered “yes” to not having enough food in the last twelve months.

Finally, this author investigated the proportion of “yes” and “no” responses to each query within the SCOFF questionnaire to evaluate which response pairs were more likely to be identified among adolescents with a positive screen. When looking at the highest percentages of each “yes” or “no” response, it is apparent that the adolescents with a positive screen were more likely to respond “no” to question three and “yes” to question four. See Appendix A for individual questions contained within the questionnaire.

Interestingly, adolescents with a positive screen were equally as likely to answer “yes” to questions two and four as they were to answer “yes” to questions four and five. Adolescents were less likely to answer “yes” to these question combinations than the first combination identified. Finally, adolescents with a positive screen were least likely to answer “yes” to

question one and three. See Table 3 for individual responses to the SCOFF questionnaire in adolescents with a positive screen.

Table 3
Positive Screen Responses to the SCOFF Questionnaire

Positive Screen	Y to Q1	N to Q1	Y to Q2	N to Q2	Y to Q3	N to Q3	Y to Q4	N to Q4	Y to Q5	N to Q5
1	X			X	X			X		X
2	X		X			X	X			X
3		X	X			X	X		X	
4	X		X			X	X			X
5		X	X			X		X	X	
6		X	X			X	X		X	
7		X		X	X			X	X	
8		X		X	X			X	X	
9		X		X		X	X		X	
10	X		X			X	X			X
11		X	X			X	X		X	
12	X			X		X	X			X
13		X		X		X	X		X	
14	X		X			X		X		X
15	X			X	X			X		X
16		X	X			X	X		X	
17		X		X		X	X		X	
18		X	X			X	X			X
Total	7 (39%)	11 (61%)	10 (56%)	8 (44%)	4 (22%)	14 (78%)	12 (67%)	6 (33%)	10 (56%)	8 (44%)

Note. Y = yes; N = no; Q1 = question 1; Q2 = question 2; Q3 = question 3; Q4 = question 4; Q5 = question 5.

Discussion

The primary goal of this project was to determine if the SCOFF questionnaire would identify adolescents with altered eating patterns and behaviors that are concerning for an underlying ED. Overall, 19% of those that completed and submitted their screen answered two or more “yes” responses to the five questions contained within the questionnaire. In accordance with previous validation and use of the tool, an overwhelming response to this clinical question is that yes, the SCOFF questionnaire did in fact identify adolescents with altered eating patterns

and behaviors that are concerning for an underlying ED. Secondary goals of this project included routine screening of ED among adolescents seen at a primary care setting. During the 12-week screening period, all adolescents that presented to the SBHC were in fact provided the screening form, and only two out of 96 students seen did not complete the tool. As a result, both of the main objectives for this project were met.

Impact on Practice

It is evident that AN, BN, and BED are common ED that have a plethora of financial, psychological, and physical consequences in the adolescent population. Literature indicated there is both a gap in recommendations as well as active screening within the primary care setting. Specific barriers that APRNs face include a lack of time, as well as education. The SCOFF questionnaire is a brief screening tool comprised of five questions that takes very little time to complete.

Data from this screening project suggest that ED may be more common in adolescents than previously anticipated, especially among those that are underserved. This allows further incentive for primary care APRNs to routinely screen adolescents for ED within the primary care setting. Given that APRNs routinely discuss and inquire about dietary habits during routine adolescent visits, they can confidently rely on a single screening tool, the SCOFF questionnaire, to detect eating patterns and behaviors indicative of an underlying ED. In addition, its brevity and ease of administration will not detract from precious face-to-face time between the adolescent and the primary care APRN.

Finally, it is important to emphasize the role of referral to a specially trained mental health professional for each adolescent with a positive screen for eating behaviors and patterns

suggestive of an ED. Additionally, it is imperative that the primary care APRN follow-up with these professionals to ensure comprehensive, holistic care is afforded to every adolescent patient.

Strengths and Limitations

There are several integral strengths of this screening project that are worth mentioning here. This project was initially intended to last eight weeks but was extended an additional four weeks until the end of the fall school semester. Therefore, an obvious strength of this project is the large number of adolescents screened as well as the high response rate. A benefit of screening a large number of adolescents included having a group of students evaluated that were representative of the entire student body. Only two adolescents submitted either a blank or incomplete screen.

The percentage of adolescents with a positive screen at this location was easily three times larger than the national average. Naturally, this brings up the question of generalizability, or reproducibility, of the results at other locations. Given that this is the first known adolescent ED screening project in a SBHC, it is challenging to know if these results are reproducible and an actual representation of an underserved population, or if there are other factors that influenced these results. Furthermore, an analysis of this screening project's limitations would not be complete unless there is an evaluation of the wording in the screening tool utilized. Though never directly expressed, it is possible that the questions within the questionnaire were difficult to understand, or even misinterpreted, causing the adolescents to just answer the questions without fully comprehending what the question was exploring.

Lastly, it is challenging to know if a mental health specialist diagnosed any of these adolescents with AN, BN, or BED. Given that this project focused solely on screening for altered patterns and behaviors of eating, there was no follow-up on the diagnosis component. It may be

hasty to assume that each adolescent with a positive screen actually had an ED, especially without further investigation or interdisciplinary communication with a specially trained mental health professional.

Plan for Dissemination

In efforts to follow-through with the data obtained from this screening project, results will be disseminated in several ways. First, results will be presented to board of director members and KUMC providers. Though the screening project has concluded, the significant percentage of adolescents that had a positive screen may be an incentive to continue the screening process. Secondly, data obtained will be presented to the HS administrators, which may also provide impetus to revitalize a healthy eating program that was previously in place at the school. Finally, results will be presented to KUSON faculty and staff.

Future Implication on Practice

Based on the data obtained in this screening project, dietary habits representative of an ED are more common in underserved adolescents than the national average. To investigate if this data is a true representation of the entire underserved adolescent population, additional screening projects are needed on a much larger scale at various SBHCs across the country. If analogous data is reproduced, this will afford primary care providers with additional information about this population of adolescents. This would have a significant impact on the way that care is delivered, as well as guide primary care APRNs on where they need to direct their focus.

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Appendix A

SCOFF questionnaire

-
- 1) Do you make yourself Sick because you feel uncomfortably full?**
-
- 2) Do you worry that you have lost Control over how much you eat?**
-
- 3) Have you recently lost more than One stone (14 lb) in a 3-month period?**
-
- 4) Do you believe yourself to be Fat when others say you are too thin?**
-
- 5) Would you say that Food dominates your life?**
-

Note: Morgan, J. F., Reid, F., & Lacey, J. H. (2000). The SCOFF questionnaire: A new screening tool for eating disorders. *Western Journal of Medicine*, 172(3), 164-165.

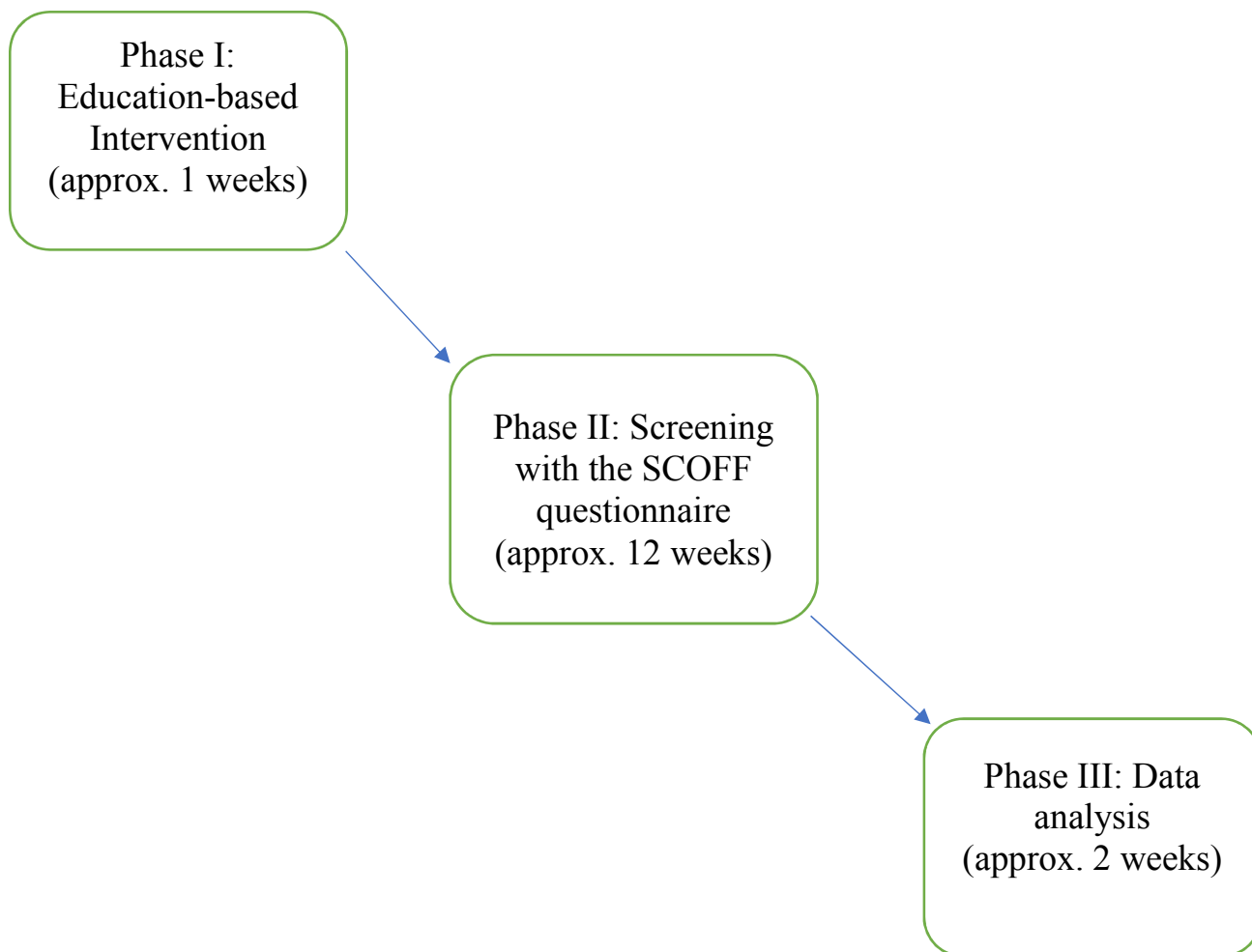
Appendix B

Eating Disorder Definitions

EATING DISORDER	ANOREXIA NERVOSA (RESTRICTING TYPE)	BULIMIA NERVOSA	BINGE EATING DISORDER
ICD-10	F50.9	F50.9	F50.9
DEFINITION	<ul style="list-style-type: none"> -Calorie intake restriction resulting in low body weight -Significant fear of weight gain or becoming fat -Alteration in perception and denial of weight 	<ul style="list-style-type: none"> -Recurrent episodes of binge eating -Recurrent compensatory mechanisms (purging, excessive exercise, use of laxatives) 	<ul style="list-style-type: none"> -Eating large quantities of food in a short period of time -Lack of control during binging episodes -Binge episodes associated with the following: <ul style="list-style-type: none"> *eating beyond the point of being full *eating alone due to embarrassment or shame *feeling disgusted with one's self

Appendix C

Project Timeline



Appendix D

KUMC IRB QI Approval Form

The University of Kansas Medical Center

Human Research Protection Program

QI APPROVAL

July 26, 2018

Kelli Docman
kdocman@kumc.edu
 Joann Peterson
jpeterson2@kumc.edu
 Cara Busenhart
cbusenhart@kumc.edu

Dear Kelli Docman:

Project Title: STUDY00142787: Screening for adolescent eating disorder in a school-based health center using the SCOFF questionnaire

Quality Improvement Determination

Type of Review: Initial Study

Title: Screening for adolescent eating disorder in a school based health center using the SCOFF questionnaire Quality Improvement Project

Investigator: Kelli Docman

IRB ID: STUDY00142787

Funding: None

Documents submitted for the above review:

- Quality Improvement Determination Request
- Docman DNP project proposal.docx

Thank you for your submission. The KUMC Human Research Protection Program (HRPP) has conducted a review of the above referenced project.

The current proposed project plan falls under one or more of the following quality improvement activities:

Determine if a previously-implemented clinical practice improved the quality of patient care

Evaluate or improve the local implementation of widely-accepted clinical or educational standards that have been proven effective at other locations

Gather data on hospital or provider performance related for clinical, practical or administrative uses

Conduct a needs assessment to support changes that will improve care delivery to the local population

Measure local efficiency, cost or satisfaction related to standard clinical practices

Develop interventions that improve the utilization of recognized best practices

Mail-Stop 1032, 3901 Rainbow Blvd., Kansas City, KS 66160
 Phone: (913) 588-1240 Fax: (913) 588-5771 humansubjects@kumc.edu

Implement strategies to improve communication within our local healthcare Environment

Improve tools for patients that promote education, health literacy or treatment plan compliance

Any presentation or publication resulting from this project should explicitly state that it was undertaken as quality improvement.

At this time, IRB review is not required. If a quality improvement protocol is revised to undertake a systematic investigation designed to answer a research question or produce knowledge that would be generalizable beyond the local setting, the HRPP will re-evaluate your project's regulatory status. More information about distinguishing quality improvement from research is available on the OHRP website at: <http://www.hhs.gov/ohrp/policy/faq/quality-improvement-activities/index.html>

Very truly yours,
Karen Blackwell, MS, CIP
Director, Human Research Protection Program

Appendix E
Collegial Letter of Support

September 11, 2018

To whom it may concern,

I am writing this letter to confirm our support of Kelli Docman in her project “Screening for Adolescent Eating Disorders in a School-Based Health Center using the SCOFF Questionnaire” at our affiliated school-based health center in Midwestern, Kansas. This project will enhance the overall healthcare of the students by active screening for early detection of altered patterns and behaviors of eating consistent with an underlying eating disorder. Information collected from this project can be brought back to school administrators to aid in revitalizing a program centered around healthy eating habits.

If you have any questions or concerns, please feel free to contact the Department of Family Medicine at (913) 588-5000.

Warm regards,

Allen Greiner, MD, MPH

Appendix F

English Screening Form

A. Demographic Information

Date: _____
 Age: _____
 Race: _____
 Sex: _____

In the last 12 months, have you ever eaten less food than you should because there wasn't enough money for food? Yes / No

B. SCOFF Questionnaire

6) Do you make yourself Sick because you feel uncomfortably full?	Yes / No
7) Do you worry that you have lost Control over how much you eat?	Yes / No
8) Have you recently lost more than One stone (14 lb) in a 3-month period?	Yes / No
9) Do you believe yourself to be Fat when others say you are too thin?	Yes / No
10) Would you say that Food dominates your life?	Yes / No

Note: Morgan, J. F., Reid, F., & Lacey, J. H. (2000). The SCOFF questionnaire: A new screening tool for eating disorders. *Western Journal of Medicine*, 172(3), 164-165.

Appendix G

Spanish Screening Form

A. Información Demográfica

Fecha: _____

Edad: _____

Raza: _____

Sexo: _____

En los últimos 12 meses, ¿ha comido menos alimentos de lo que debería porque no tuvo suficiente dinero para la comida? Si / No

B. Cuestionario SCOFF

11) ¿Usted se provoca el vómito porque se siente muy llena?	Si / No
12) ¿Le preocupa haber perdido el Control sobre la cantidad de comida que ingiere?	Si / No
13) ¿Ha perdido recientemente más de 14 lb en un período de 3-meses?	Si / No
14) ¿Cree que está Gorda aunque los demás digan que está demasiado delgada?	Si / No
15) ¿Usted diría que la Comida domina su vida	Si / No

Nota: Morgan, J. F., Reid, F., & Lacey, J. H. (2000). El cuestionario de SCOFF: Una nueva herramienta de evaluación para los trastornos alimenticios. *Western Journal of Medicine*, 172(3), 164-165.

Appendix H

Phase II data collection tool

A. DEMOGRAPHIC INFORMATION

Date	
Age	
Race	
Sex	

In the last 12 months, have you ever eaten less food than you should because there wasn't enough money for food? Y / N

B. SCOFF Questionnaire

Tool complete	Y / N
---------------	-------

i. **RESPONSES**

Q1	Y / N / BLANK
Q2	Y / N / BLANK
Q3	Y / N / BLANK
Q4	Y / N / BLANK
Q5	Y / N / BLANK

*each "yes" answer = 1 point

ii. Total score: _____

C. DIAGNOSIS

IDC 10 code assigned to patient	Y / N
Referral to Social Work	Y / N