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Adolescent Celiac Disease and Diabetes: Using Diabetes Research to Frame Celiac Counseling Practice

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Abstract

Celiac disease and diabetes are autoimmune disorders that are directly affected by individuals' lifestyle choices. While each share various commonalities, including their medical basis and potential psychological symptoms, the prevalence of research on diabetes in various settings appears to overshadow research on celiac disease, providing minimal guidance to addressing aspects of celiac disease in a counseling context. The current article will utilize a biopsychosocial model to target both conditions and will investigate whether foundations of diabetes research may be beneficial to targeting celiac disease in counseling practice. A case illustration is provided.

Keywords: celiac disease, diabetes, chronic illness, counseling, adolescents

Various sources (e.g., American Diabetes Association, 2015; National Diabetes Information Clearinghouse [NDIC], 2014) have identified the prevalence of diabetes, especially among children and adolescents, as a significant epidemic not only in the United States but in various areas of the world. Impacted by lifestyle choices including those dealing with diet and exercise, overweight children and adolescents have become the poster people for waging a war against diabetes. In fact, the *Let's Move* campaign, developed by First Lady Michelle Obama, was created to target issues of childhood obesity linked to poor eating habits and increased risk of diabetes (The White House, 2015).

While the increased epidemic of childhood obesity has brought the issue of children with diabetes to the forefront, other, serious issues involving children have appeared to be significantly overshadowed. As Flamez, Clark, and Sheperis (2014) noted, celiac disease is one disorder with prevalence in children that often is not targeted in counseling research. Undiagnosed but prevalent in society, celiac disease is linked with various psychological issues. Although celiac disease and diabetes are two separate and

unrelated diagnoses, the presence of similarities regarding their biological basis, their cyclical relationship with lifestyle choice (i.e., food, exercise, sleep) and psychological well-being, and their social impact provide the possibility to utilize tenets of diabetes research outcomes in counseling to develop effective practices in working with individuals affected by celiac disease. In addition to targeting these issues, a case illustration is provided.

Biological Aspects

According to the research of Vitoria et al. (1998), many disorders have some type of biological basis whether through a genetic inheritance or a change in the underlying function, structure, or physiology of cells. Diabetes and celiac disease are no exceptions to this rule. While the specific biological components are different, these similarities should be noted.

Diabetes

Diabetes, referred to as diabetes mellitus, is a group of medical conditions categorized by high levels of blood sugar (American Diabetes Association, 2015). Primarily occurring as Type 1 and Type 2, diabetes is caused either by an inadequate production of insulin within the body or the diminished ability of the body to properly process insulin intake. According to NDIC (2014), Type 1 diabetes, which most often is diagnosed in childhood, is the most common type of diabetes seen in childhood. This condition, caused by the pancreatic inability to process insulin, has been identified as an autoimmune disorder due to the body's production of antibodies that attack the walls of the pancreas, reducing its functioning (NDIC, 2014). Type 2 diabetes, on the other hand, is the type of diabetes which is often more likely to be attributed to adulthood and obesity. According to American Diabetes Association (2015), however, this disorder has become increasingly prevalent in adolescents. With the connection between Type 1 diabetes and genetic factors, Type 2 diabetes is often seen as more environmentally driven (Williams, Sharpe, & Mullan, 2014). While previous research has identified Type 2 diabetes as purely metabolic in nature due to its association with poor diets and unhealthy lifestyles, increased research has uncovered underlying autoimmune implications on this type of diabetes as well (Umpierrez, 2006). Given this information, individuals with Type 2 diabetic predisposition will experience the production of similar antibodies that alter the body's ability to respond to the insulin intake. This means that while two individuals may experience the same unhealthy lifestyles, they may not both develop diabetes.

Linking to biological predisposition, research has demonstrated that the greatest risk factor associated with diabetes is genetic vulnerability (NDIC, 2014). The Centers for Disease Control and Prevention (CDC; 2014) identified factors including race and ethnicity (i.e., higher rates of diabetes among minorities), age (i.e., higher rates for individuals 65 and older), and gender (i.e., higher rates in males than females) to be associated with diabetes, while Peykari et al. (2015) noted poorer socioeconomic statuses as having a greater risk of developing the disease. Rates are further increased for individuals with multiple risk factors (i.e., minority females are at greater risk than White females with White males having the lowest risk of the group). In all, a total of

approximately 9% of individuals are believed to have diabetes with slightly over 25% of these individuals undiagnosed (CDC, 2014).

Although overall prevalence rates of diabetes among the general population as reflected by the CDC (2014) reveal these underlying themes, Dabelea et al. (2014) noted that prevalence in children is different. According to their research, White youth were at a greater risk for developing Type 1 diabetes than minority youth with rates ranging from the highest at approximately .25% to the lowest at approximately .04%. For Type 2 diabetes, a completely opposite pattern was found with minority youth at an increased rate of Type 2 diabetes than White youth. These rates were slightly lower with the highest identified rates at approximately .12% and the lowest rates at approximately .02%. While the U.S. Department of Health and Human Services (2014) cautioned that these rates demonstrate a significant increase in the diseases prevalence within children, the occurrence of diabetes in children still represents a small portion of the population.

Celiac Disease

Similar to Type 1 diabetes and Umpierrez's (2006) identification of Type 2 diabetes, celiac disease is classified as an autoimmune disorder. Celiac disease is caused by the body's reaction to the intake of gluten. According to the Celiac Disease Foundation (2015), gluten, a protein found in products such as wheat, barley, and rye, is responsible for significant physical effects to the body in individuals who are genetically predisposed to the condition. Specifically, the intake of gluten causes damage to the lining of the small intestine walls that reduces the body's ability to absorb nutrients (The University of Chicago Celiac Disease Center, 2014). Untreated, this can lead to further medical issues.

As with diabetes, individuals with a genetic predisposition to celiac disease have the greatest risk factor of developing the disorder. According to the National Foundation for Celiac Awareness (2014), an estimated 1% of the population has celiac disease with an estimated 83% of those individuals undiagnosed. Individuals with a first degree relative with celiac disease were noted as having a six times greater risk of also having the disease (The University of Chicago Celiac Disease Center, 2014). Unlike diabetes, which has been shown to have higher rates of occurrence among minority populations, celiac disease has been shown to have higher rates among White populations. According to The University of Chicago Celiac Disease Center (2014), White individuals are twice as likely to have celiac disease than minority populations.

Mariné et al. (2011) noted that unlike diabetes where lower rates have been identified in children, children are more than five times more likely to have celiac disease than adults. The University of Chicago Celiac Disease Center (2014) further noted that children were also more likely to be undiagnosed or misdiagnosed than their adult counterparts. With higher rates than diabetes, celiac disease is actually more prevalent in children, despite receiving less national attention.

Psychological Components

Both celiac disease and diabetes are disorders that have witnessed a highly medical or physical focus. While these physical symptoms can be significant, the presence of psychological symptoms is also important to consider from a therapeutic

lens. Understanding these similarities is also important in evaluating the potential role of diabetes research in developing therapeutic treatment approaches.

Diabetes

As early as the 1970s, researchers began to collect evidence demonstrating the link between mental health and physical conditions, including diabetes (Harris & Lustman, 1998). Given the totality of research, a cyclical relationship was noted between the physical disorder and psychological symptoms. Whereas psychological symptoms can lead to behaviors that influence or cause the physical disorder, the physical disorder can also lead to psychological symptoms, which further complicate the disorder. For example, an individual's poor eating habits may lead to obesity and increase the risk of developing Type 2 diabetes, while an individual may experience lethargy as a result of his diabetes, which may result in him not adhering to his medications, further impacting the physical symptoms of the disorder.

As Harris and Lustman (1998) pointed out, although psychological symptoms associated with diabetes may not rise to the level of a psychological diagnosis, this does not mean that psychological components of diabetes should be ignored. According to Llorente and Urrutia (2006), nearly 95% of diabetes maintenance relies on the individual's ability to self-manage. This responsibility often leads to increases in anxiety symptoms and depressive symptoms and is associated with lower rates of self-esteem.

Hidden symptoms associated with diabetes often go unnoticed. While symptoms such as excessive urination, excessive thirst, fatigue, weight loss, and blurred vision are often subtle, implications of poor or ineffective treatment can be serious (American Diabetes Association, 2015). As Williams et al. (2014) noted, successful management of these symptoms is increasingly complicated within the child and adolescent population due to the reduced control that children have over their lives. This occurs because children are often unable to make decisions about what foods to buy or when to contact their physician. What is often left for children with diabetes is worry. According to Naranjo and Hood (2013), psychological symptoms present in children with diabetes are often influenced by social pressures and the desire to avoid social criticism.

Celiac Disease

As with diabetes, celiac disease has been found to have physical and psychological implications. According to The University of Chicago Celiac Disease Center (2014), celiac disease has been linked to symptoms of anxiety and depression as well as symptoms affecting energy levels, physical appearance, and behavior. Also like diabetes, these psychological symptoms appear to have a cyclical effect with celiac disease. Whereas psychological symptoms related to poor lifestyle choices (i.e., diet) can increase the symptoms associated with celiac disease, the presence of celiac disease can impact the severity of symptoms. Left untreated, these symptoms can have significant consequences.

The responsibility to self-manage is also important for individuals with celiac disease. Given that there is no cure for the disorder and the only appropriate management is adherence to a gluten-free lifestyle (The University of Chicago Celiac Disease Center, 2014), a significant responsibility is placed on the individual to avoid gluten. This may be increasingly difficult for an individual with celiac disease as opposed to an individual

with a diabetic diagnosis. Whereas symptoms of diabetes require an individual to monitor their glucose levels through limiting intake of certain foods and even through medication, celiac disease requires the complete elimination of foods containing gluten (Celiac Disease Foundation, 2014). Furthermore, gluten in common everyday household products (e.g., shampoo, soap, cleaning supplies, etc.) is also a risk factor for celiac disease symptoms.

As with diabetes, the ability to manage celiac disease is complicated in adolescence due to the lack of control that children and adolescents may have over their dietary intake. While parents share part of this responsibility, misconceptions regarding the amount of gluten contained in gluten-free products further reduce an individual's control. Specifically, the U.S. Food and Drug Administration (2014) indicated that food and drug regulations allow gluten-free to be printed on any product which has a content of 20 parts per million. Despite this standard, the Celiac Disease Foundation (2014) has noted that any amount of gluten, including under 20 parts per million can have a significant effect on the health and well-being of individuals with celiac disease. Furthermore, identification of a product as gluten-free provides no indication as to whether a product was manufactured in an environment contaminated by gluten products. Because of the lack of transparency in these products, the amount of control that a child or adolescent with celiac disease has on their disorder is significantly reduced.

Social Components

Psychological components of diabetes and celiac disease are not the only components which have a cyclical effect. According to Fox (2014), food and socialization are often intertwined, and the act of eating is often a shared occasion. Families sit and eat together; friends share a cup of coffee in the morning. These occasions often lead to conversation. In the same way, social events frequently include a food or drink component. During birthday parties, individuals often share a slice of cake to celebrate. Work events may include light refreshments. With connections between diet and the severity of both diabetes and celiac disease, an evaluation of the associated social aspects is important.

Diabetes

According to the American Diabetes Association (2015), proper dietary choices have the potential to prevent, reduce, or reverse diabetic symptoms. For individuals with diabetes, healthy eating involves choices of food as well as time of intake. Specifically, individuals with diabetes are encouraged to have a diet high in fiber and low in fats and sugars. While calorie intake and amount of food varies by person, an individual with a recommended caloric intake of between 1,600 and 2,000 calories is encouraged to eat 8 servings of starch, 4 servings each of fruits and vegetables, 2 servings of milk, and between 5 to 7 ounces of meat or meat products. Fat and sugars are recommended to be less than 5 servings (NDIC, 2014).

Because individuals with diabetes must control their glycemic index, it is also important to eat smaller meals, more often. This will help to avoid peaks or drops in an individual's glucose level. The NDIC (2014) recommends eating three meals with an additional three snacks spread evenly throughout the day to avoid these spikes. While

diabetes maintenance involves adjustment in the amounts and types of food, the focus is on moderation and monitoring as opposed to elimination.

In order for some individuals with diabetes to effectively monitor and manage their glucose levels, routine testing is required. According to the American Diabetes Association (2015), for many individuals with diabetes such testing is essential. In fact, individuals who are required to test for sugar levels are encouraged to test at any time if they experience tiredness, weakness, shakiness, confusion, or hunger (NDIC, 2014). If lower levels of glucose are noted, the individual then is encouraged to intake a serving of milk, hard candy, soda, or sugar in order to increase their sugar levels.

For children and adolescents with diabetes, especially those required to test their sugar level, the social implications of food modification as well as testing can be highly difficult. These implications of diabetes often result in feelings of depression and isolation for children with the disorder (American Diabetes Association, 2015). A teen with diabetes and the need to test, for example, may be embarrassed to pull out his testing kit in the school lunchroom, while another child may have to call his parents prior to accepting cake at a friend's birthday party. As Naranjo and Hood (2013) noted, these social pressures and fear of being different are associated with increased rates of depression symptoms.

Celiac Disease

Like diabetes, symptoms of celiac disease are strongly influenced by dietary choices. As opposed to diabetes, which targets moderation instead of elimination, celiac disease requires elimination of gluten from an individual's diet in order to avoid the symptoms. According to the Celiac Disease Foundation (2014), a gluten-free lifestyle is the only treatment to avoiding the physical symptoms of celiac disease. Because gluten is contained in many foods and common household products, socialization without exposure to gluten can be increasingly difficult.

One social avenue in which food is often consumed is in restaurants. While some restaurants have attempted to provide a gluten-free menu, these products are often prepped and cooked in the same areas as products containing gluten (The University of Chicago Celiac Disease Center, 2015). Even a small amount of cross-contamination can have significant implications (Celiac Disease Foundation, 2014). Because of this, individuals are often limited with their choices within a social context.

As with diabetes, these limitations and implications in a social context can be increasingly difficult for children. Because gluten is found in various products, including cake and pizza, childhood birthday parties at the local skating rink may be anxiety provoking for a child with celiac disease to attend. In order to avoid the symptoms which accompany the intake of gluten, the child would have to pass on both the pizza and slice of cake, even just a little one.

Treatment Options and Recommendations

Utilizing a review of existing literature, the U.S. Department of Health and Human Services (2014) compiled a list of various treatment considerations and approaches which have been identified as important and effective in integrating diabetes care within the mental health system. Specific to this guidance, the following were

identified: (1) importance of education, both to staff and clients, (2) availability of mutual support, (3) a coordinated and integrative approach involving collaboration with primary care and other providers, (4) behavioral modification encompassed within treatment plans, (5) cognitive behavioral techniques and motivational interviewing, and (6) problem-focused coping. By addressing each of these components within the context of diabetes and celiac disease, a more informed approach is developed.

Education of Clients and Staff

The underdiagnosis and misdiagnosis of diabetes (CDC, 2014) and celiac disease (Flamez et al., 2014) coupled with the decreased awareness of its potential severity and causes (American Diabetes Association, 2015; Celiac Disease Foundation, 2014) requires the need for additional information and education to be provided to both clients and staff. According to the U.S. Department of Health and Human Services (2014), lack of knowledge often results in those with physical health conditions failing to receive the necessary psychological care, while Scott and Happell (2011) noted that often individuals with mental health issues fail to receive the necessary physical health care. Although communication between medical and mental health providers is partly to blame for the lack of consistency in care, lack of education regarding symptoms and symptom diagnosis should also be considered.

Notation that individuals with mental health issues often have undiagnosed or untreated physical health issues provides the opportunity for mental health providers to become more aware of symptoms and potential symptom causes in order to make the appropriate referrals. Symptoms, including lethargy, depression, and anxiety, which can be attributed to both celiac disease and diabetes, may lead an individual to seek attention through a mental health provider. Understanding potential medical disorders associated with these symptoms could increase early intervention, which has been associated with better overall outcomes (University of North South Wales, 2013). As the U.S. Department of Health and Human Services (2014) noted, mental health counselors may also be a support to provide accurate information to clients to increase their awareness. While researchers have identified this to be the case in diabetes care, the biopsychosocial similarities demonstrate its potential efficacy in working with individuals with celiac disease.

Mutual Support

While Tejada-Tayabas and Lugo (2014) cautioned that previous researchers have questioned the efficacy of utilizing groups in treating issues of diabetes, the results from their study indicate that provided the right structure, these groups can be highly beneficial. Components such as strong facilitators, easily accessible and convenient meeting times, and continuity of care are all important elements in ensuring the success of a group. Research has also noted that these facilitators do not necessarily have to be professionals given the success of peer-support groups in addressing the common concerns and barriers encountered by individuals with diabetes (U.S. Department of Health and Human Services, 2014).

According to the American Diabetes Association (2014), 47 states have local diabetes offices that are available to provide resources, including the availability of support groups. These organizational offices also hold various events throughout the year

to provide information to the community as well as an opportunity for individuals with diabetes to network with others. While such groups and events are readily available across the country for individuals with diabetes, the National Foundation for Celiac Awareness (2014) revealed that the availability of support groups and resources is much less common. Given the success of diabetes support groups and awareness initiatives, advocacy groups have begun to wage similar efforts. As these advocacy groups attempt to increase attention, education, and develop support groups, the potential for mental health providers to integrate smaller support groups into their practice exists. In treating individuals with celiac disease, given its prevalence, mental health counselors should consider the development of similar support groups.

Coordinated or Integrative Services

Sperry (2009) identified collaborative or integrative services as necessary in addressing many of the common health problems faced by individuals. Of these health issues, diabetes is identified. Understanding the importance of the relationship between physical health and mental health is fundamental to this view. Through collaboration between various treatment members, clients are provided a more comprehensive evaluation, which allows for more informed decision making.

As the U.S. Department of Health and Human Services (2014) noted, mental health coordination is an important aspect of successful outcomes for individuals with health related issues. While physicians concentrate on the medical aspect of the diagnosis, mental health professionals have the opportunity to concentrate on the psychosocial elements. In order to work effectively, communication must occur between the two realms. With diabetes, medications have the potential to regulate the body's level of insulin (American Diabetes Association, 2015). With celiac disease, medication may be utilized to control the symptoms (National Foundation for Celiac Awareness, 2014). In both cases, mental health counselors have the ability to work with physicians and clients to develop a plan targeting both the biological and psychosocial aspects of the disorders. While celiac disease is not mentioned within this research, its continued similarities to diabetes in various biopsychosocial aspects results in the need to consider this approach.

Behavioral Modification

As noted by various researchers (e.g., Harris & Lustman, 1998; Llorente & Urrutia, 2006), both diabetes and celiac disease have a behavioral component. As Matvienko and Hoehns (2009) noted, behavioral modification techniques have been shown to be effective in the treatment of diabetes, including reduction of weight and other risk factors associated with its prevalence. Because symptoms of diabetes can be prevented, reduced, or eliminated through dietary regulation (American Diabetes Association, 2015), modification of individuals' behaviors is important, especially in regards to eating. Given that celiac disease shares a common link between eating behavior and disease progression, approaches that target behavioral modification in reducing or reversing the symptoms of celiac disease are also possible. Therefore, these programs should be explored for mental health providers in the treatment of individuals with celiac disease.

Cognitive Behavioral Approaches and Motivational Interviewing

Beliefs and motivation are two components of diabetes research. According to Harvey (2015), researchers have demonstrated the importance of utilizing motivational interviewing and cognitive behavioral therapy in targeting mental health issues for individuals with diabetes. While motivational interviewing targets factors that may motivate an individual towards making a change, cognitive behavioral therapeutic approaches target the negative belief patterns that prohibit an individual from meeting their goals.

The U.S. Department of Health and Human Services (2014) further supports the utilization of these approaches when working with individuals with diabetes. Because self-care is an instrumental part of disease progression, it is important for individuals to identify how their thoughts influence their behaviors. By providing individuals with the ability to reframe their thoughts, they can make steps in changing. For individuals with celiac disease, the same focus could be made. If individuals with celiac disease have a negative perception of their life as a result of the limitations placed on them by the dietary restrictions of celiac disease, it would be realistic to believe that their behaviors would reflect this. By targeting these thoughts, the individual's behaviors may also change, leading to compliance with a gluten-free lifestyle.

Problem-Focused Coping

According to Folkman and Lazarus (1988), there exists two types of coping strategies: (1) emotionally-focused coping and (2) problem-focused coping. Of the two types, Folkman and Lazarus noted that problem-focused coping has been demonstrated to be far superior in the treatment of diabetes as opposed to emotionally-focused coping strategies. Problem-focused coping attempts to identify the stressor in order to resolve it. In order to accomplish this goal, strategies must be developed through information gathering and evaluation of the pros and cons in order to target the stressor.

Saha, Huebner, Hills, Malone, and Valois (2014) identified the importance of coping skills education for children with diabetes in order to increase compliance with a healthy lifestyle. Success of this approach is increased whenever counselors take into consideration child or adolescent perspectives, which may be significantly different than adults'. As Harvey (2015) noted, this requires assessment of the adolescents' current coping skills, their functions, and ways to integrate potentially more effective coping skills. Given the effectiveness of this approach, consideration should be made for integration into mental health counseling for individuals with celiac disease.

Case Illustration

Juanita, a 12-year-old female, has been seen by her counselor, Kenya, for the past 6 months. During this time, Juanita has reported continued issues with depressed mood and anxiety. She also reveals several somatic complaints including chronic bloating, constipation, and weight gain. She reports increased difficulty in school concentrating, noting that her grades have recently dropped. She also notes that she always feels tired.

Feeling stuck with 6 months of minimal progress, Kenya consults with her supervisor, Gina. Gina informs Kenya that her daughter was recently diagnosed with celiac disease and had experienced the same complaints that Juanita is reporting. Gina

provides Kenya with some resources that her daughter's physician had provided to her and tells her to read it.

Upon review of the information, Kenya realizes that the reason that the case appears to be stuck is that Juanita's diet may be resulting in the physical symptoms. Without addressing this, Juanita is likely to continue to experience the same symptoms which appear related to her anxiety and depressed mood. Juanita decides that for the next session, it would be beneficial to invite Kenya's parents to review and update the treatment plan.

During the next session, Kenya invites Juanita's parents, Hal and Anne, to join the session. Kenya explains that she was recently informed of a diagnosis called celiac disease and wonders if this may be what Juanita is experiencing. Kenya hands the parents some additional brochures and processes how this could be affecting Juanita's symptoms. Kenya recommends that the family follow up with a local physician with knowledge of celiac disease and provides the family with a list of potential providers. After looking at the information, Hal and Anna ask Kenya to help them set up an appointment. They call and an appointment is set up the following week.

Kenya has the family sign a release of information in order to provide her psychological assessment to the doctor as well as to maintain ongoing communication. The family and Kenya agree to schedule a follow-up counseling appointment in 2 weeks to review the results from the physician as well as to make additional changes to the treatment plan. The family is excited with the new information and states, "finally, we may have an answer."

During the next visit, Juanita's family reveals that Juanita's doctor completed testing and confirmed that Juanita does indeed have celiac disease. Their excitement has changed, however, to anxiety as they note that all of Juanita's favorite foods are those which contain gluten. They also note that Juanita does not understand why she can no longer have these foods and attempts to sneak these foods whenever they are not watching.

Case Review

In the case of Juanita and her counselor Kenya, there are a lot of areas in which Kenya can help Juanita and her family, even though the diagnosis has been changed to a medical one. Providing additional information about food substitutes that Juanita can eat as well as information about local resources that sell gluten-free foods is one place to start. Given that Juanita is upset about the impact of her diagnosis on her ability to eat the foods she has grown accustomed to, behavioral modification, cognitive behavioral therapy, motivational interviewing, and problem-focused coping may all be beneficial in ensuring successful treatment outcomes.

Conclusion

There is no doubt that the body and mind are connected. When an individual's body encounters issues, it is likely that the mind will respond in a negative way. When an individual becomes depressed, it is also likely that the body will have a negative response. Identifying ways to coordinate care to address both the mind and body is

important in an individual's overall health. While insurance companies may only approve mental health services for individuals with a mental health diagnosis, this need does not go away.

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