

Student Research

Disturbed Eating Behaviors in Youth with Type 1 Diabetes

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Youth with type 1 diabetes mellitus (DM) have been reported to be at increased risk for disordered eating behaviors (DEBs) because coping with diabetes requires careful diet management at a time when youth are dealing with developmental tasks associated with body acceptance and independent eating decisions.^{1,2} Type 1 DM is an autoimmune disorder that can be diagnosed at birth, but may occur at any time in the lifespan,³ and has a prevalence rate of 3 to 4 children per 1,000 in Western countries.⁴ Most individuals with type 1 DM must obtain insulin exogenously for the rest of their lives. In addition to insulin injections, specialized exercise, diet, and weight maintenance plans are needed to keep blood glucose levels normal as uncontrolled levels increase patients' risk for heart disease, hypertension, dyslipidemia, and diabetic nephropathy, neuropathy, and retinopathy,³ as well as coma and death.⁵

Before diagnosis, patients usually drop weight unintentionally, and it is suspected that, initially, some patients may feel positively about this weight loss.⁵ However, once diagnosed and placed on an insulin regimen, patients tend to regain lost weight and fluids, sometimes gaining substantially more weight than was lost prior to treatment (sometimes up to 5 kg overnight).⁶ This weight gain is correlated with the extent of correction of hyperglycemia emphasizing the importance of maintaining proper glycemic control.^{3,7} A large increase in weight over a short period of time may negatively affect some type 1 diabetic patients' body image and self-esteem causing them to fear that

they will be unable to control their weight.^{6,8,9}

The constant need to follow a strict diet and monitor blood sugar levels may cause some type 1 diabetic patients to become overly concerned with their diets.⁷ Dietary management may be especially difficult for young children and adolescents when they notice others who are able to eat without restrictions. Over time, this constant awareness of one's diet and disease treatment may lead to eating disturbances.¹⁰

To determine if there is an increased risk for DEBs in type 1 diabetics, a comprehensive qualitative review of peer-reviewed research (published 1980-2009; n=63 references) investigating DEBs in youth with type 1 DM was conducted with 9 of these references meeting criteria examining the prevalence rates. MEDLINE, PSYCINFO & SCIENCE DIRECT was searched using the following keywords: chronic disease, diabetes, eating behavior, disordered eating, eating disorders, and body image. An additional search of references cited in papers meeting the search criteria was also conducted.

Results indicated that nearly half of the studies reported that eating disorders are more prevalent and persistent among those with type 1 diabetes¹¹⁻¹⁵ than in the general population, whereas other studies indicated the risk is no greater than the population in general.¹⁶⁻¹⁸ A recent review found similar results; females with type 1 diabetes were found not to be at an increased risk for developing an eating disorder (i.e., anorexia nervosa and/or

bulimia nervosa), but suggested evidence for a two- to three-fold increase in Eating Disorders Not Otherwise Specified (EDNOS) in this population.¹⁹ In general, disturbed eating in type 1 diabetic patients was more common among girls than boys.²⁰ Bingeing and purging^{11,21,22} (i.e., bulimia nervosa, and EDNOS or Binge Eating Disorder) were the most common types of disturbed eating identified among girls with type 1 diabetes. In the general population, purging includes vomiting, the misuse of laxatives, and excessive exercise, while those with type 1 diabetes may purge by omitting insulin (i.e., "diabulimia"²³).^{22,24-27} The side effects of continuous misuse of insulin can be detrimental, possibly leading to retinopathy, neuropathy, nephropathy, heart disease, and urinary tract infections.

The conflicting findings related to incidence of eating disorders among type 1 diabetic patients may be due to the use of different screening tools, as well as the age of diagnosis, duration of type 1 diabetes at time of assessment, the type of medical care received (e.g., general vs. specialized physician, nutrition counseling, psychological counseling), small sample sizes and salient psychographic characteristics not being taken into account.²⁸ It is unclear why some patients with type 1 diabetes are at increased risk for eating disorders, however, Ismail⁶ has proposed that family psychiatric history, age of diagnosis, personality characteristics (i.e., perfectionism and impulsiveness), peer environment, stigma, diabetes-related fears (e.g., fears of injection), and other factors are involved. Overall, the characteristics of those

with type 1 diabetes that have DEBs are not well understood making it more difficult to identify at risk patients and create care plans and interventions designed to prevent the development of disturbed eating.

Future studies are planned to explore psychographic and demographic risk factors associated with eating disturbances in youth with and without type 1 DM. Recommendations for standards of care aimed at reducing the risk of disturbed eating in youth diagnosed with type 1 diabetes may assist health care professionals in counseling their patients and caregivers to increase awareness in patients regarding their health and well-being.

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