Depressive Symptoms and Social Support in Adolescents With Type 2 Diabetes

Kristiana Cullum, PhD, CPNP, Lois C. Howland, DrPH, MSN, RN, & Susan Instone, DNSc, CPNP

ABSTRACT

Introduction: Disease management outcomes, depressive symptoms, and levels of social support may differ between early and middle adolescents. The purpose of this study was to explore the relationships between depressive symptomatology, perceived social support, body mass index, hemoglobin A1c (A1C), and months since diagnosis for adolescents with type 2 diabetes ages 13 to 17 years.

Methods: This cross-sectional, descriptive, correlational study surveyed adolescents at an endocrinology clinic regarding depressive symptoms and perceived social support.

Results: Depressive symptoms were not significantly related to other variables; however, mean depressive symptoms scores were higher among early adolescents. Middle adolescents had lower body mass index percentiles but higher A1C levels. Early adolescents had greater mean scores of social support and reported that this support was more important compared with middle adolescents.

Discussion: The results show that differences exist in perceived social support, depressive symptoms, and A1C levels among early and middle adolescents. J Pediatr Health Care. (2016) *30*, 57-64.

KEY WORDS

Adolescent, depression, social support, type 2 diabetes

Kristiana G.H. Cullum, Lecturer, School of Nursing, San Diego State University, San Diego, CA.

Lois C. Howland, Associate Professor, Hahn School of Nursing and Health Science, University of San Diego, San Diego, CA.

Susan Instone, Professor, Hahn School of Nursing and Health Science, University of San Diego, San Diego, CA.

This research was supported in part by a grant from the Doctoral Incentive Program, California State University.

Conflicts of interest: None to report.

Correspondence: Kristiana Cullum, PhD, CPNP, School of Nursing, San Diego State University, 5500 Campanile Dr, San Diego, CA 92182-4158; e-mail: kcullum@mail.sdsu.edu.

0891-5245/$36.00

Published online July 18, 2015.

http://dx.doi.org/10.1016/j.pedhc.2015.06.008

In the past 20 years, the number of adolescents diagnosed with type 2 diabetes mellitus has increased dramatically. What was once believed to be an adult disease has now reached into the adolescent population. The comorbidities of diabetes are well known, but the prevalence of depression in this younger group may be underestimated. The Centers for Disease Control and Prevention (CDC, 2011) reports that the likelihood of depression is twice as high in adults with diabetes as in adults without the disease; in adults, diabetes management can be complicated by depression. Children and adolescents with diabetes have a greater risk for depression compared with those who do not have diabetes (Anderson et al., 2011; Lawrence et al., 2006; Levitt Katz et al., 2005; Reynolds & Helgeson, 2011). Depression is a potential comorbidity of diabetes that may lead to poor glycemic control in children and adolescents with type 1 diabetes, resulting in additional comorbidities (Hood, Rausch, & Dolan, 2011; Lernmark, Persson, Fishert, & Rydelius, 1999; McGrady, Laffel, Drotar, Repaske, & Hood, 2009).

Research suggests that greater social support is associated with lower levels of depression and greater

treatment adherence in adults with type 2 diabetes (Osborn & Egede, 2012; Sacco & Yanover, 2006; Yang, Li, & Zheng, 2009). However, these associations have yet to be as clearly demonstrated in adolescence. Auslander, Sterzing, Zayas, and White (2010) and Brouwer and colleagues (2012) qualitatively explored social support and self-management with adolescents who had type 2 diabetes. This research suggested that adolescents tend to turn to their family for diabetes care needs, such as glucose testing and medication adherence. In terms of peer support, the researchers found that if adolescents disclosed their disease to peers, they were more willing to accept generalized disease support, such as reminders, eating healthy, and exercise. However, for adolescents unwilling to disclose their diagnosis, they sought more emotional support unrelated to diabetes (Auslander et al., 2010; Brouwer et al., 2012).

Adolescence, the period between the ages of 11 and 20 years, marks a time of transition and change that leaves lasting effects on a person's health, both physical and mental. Adolescent development guides the conceptual framework for this study. This theory recognizes specific developmental stages in adolescent development. These stages describe the cognitive and socioemotional tasks that characterize adolescence. "Early" adolescents (ages 11-14 years) are rapidly growing both physically and emotionally. In early adolescence, teens transition from concrete thinking to limited abstract thinking. Further, there is a renegotiation of relationships as the adolescent seeks independence from parents and acceptance in a peer group. Mood swings and an outward expression of emotions are common. Later in "middle" adolescence (ages 15-17 years), individuals turn more to introspection when faced with emotional dilemmas. Abstract thought is further developed and parental conflict is high as peer acceptance becomes extremely important. In "late" adolescence (ages 18-20 years), individuals are physically mature, independent, able to think abstractly, and increasingly value individual friendships over peer groups (Garzon & Dunn, 2013). This study focused on early and middle adolescence because of the rapidly increasing incidence of type 2 diabetes in these age groups.

Type 2 diabetes is a disease that requires daily management and multiple provider visits each year with a multidisciplinary team. The dietary requirements alone set these adolescents apart from their peers at a time when peer acceptance is most critical. As abstract thought becomes more refined, disease management may become less cumbersome. However, independence from parents may be threatened as parents continue to insist on assisting with disease management.

The purpose of this study was to evaluate the prevalence of depressive symptomatology in a population of adolescents between the ages of 13 and 17 years who had type 2 diabetes. Further, we examined sociodemographic, clinical, and social support factors in relationship to depressive symptomatology from a developmental perspective, comparing early versus middle adolescence.

We examined the following hypotheses in a study sample of adolescents with type 2 diabetes:

1. Higher level of social support will be associated with fewer depressive symptoms.
2. Early adolescents will report higher social support from parents compared with other sources of social support.
3. Middle adolescents will report a higher level of social support from peers or friends compared with other sources of social support.
4. Specific clinical and sociodemographic factors will predict higher depressive symptoms in the study sample.

METHODS

Design

This research was a cross-sectional, descriptive, correlational study of a convenience sample of culturally and economically diverse adolescents with type 2 diabetes. Participants were patients in a pediatric endocrinology clinic in a large metropolitan city of California.

Recruitment

University and hospital Institutional Review Boards approved the study prior to recruitment. Eligible participants attending the pediatric endocrinology clinic received an Institutional Review Board–approved brochure, in English or Spanish, describing the study, as well as a short explanation by the clinic staff or principal investigator. Eligible and interested families spoke with the principal investigator in detail before proceeding to the informed consent process, which consisted of parental consent, adolescent assent, and a Health Insurance Portability and Accountability Act waiver to obtain further information from the medical record. A certified translator performed all Spanish translations.

Setting

The study was conducted in a pediatric endocrinology clinic in a large metropolitan city in southern California. The clinic has an interdisciplinary clinical team of physicians, nurse practitioners, nurses, diabetes educators, dieticians, and social workers.

Participants

Adolescents who met inclusion/exclusion criteria at their clinic visit were invited to participate in the study. Inclusion criteria for the study included diagnosis of type 2 diabetes; age between 13 and 17 years; and the