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Effectively Enhancing Health Resilience in Adolescents with Type 1 Diabetes Mellitus: An Integrative Literature Review

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Effectively Enhancing Health Resilience in Adolescents with Type 1 Diabetes Mellitus
An Integrative Review of Literature

**Background:**
Type 1 diabetes mellitus is a leading chronic condition in childhood and adolescence (CDC, 2018). The CDC National Diabetes Report (2018) estimates >17,000 newly diagnosed cases of type 1 diabetes each year in children and adolescents younger than 20 years old. Type 1 diabetes occurs due to the destruction of pancreatic beta cells that produce insulin. Patients that are diagnosed with this illness will be insulin dependent for their entire life. Furthermore, management of type 1 diabetes is complex and requires adherence to ensure prevention of diabetic complications such as cardiovascular events, neuropathy, nephropathy and retinopathy (CDC, 2018).

Adolescence is a particularly difficult time for diabetes management. Lord, Rumburg & Jaser (2015) suggest that glycomic control deteriorates during this time and only approximately 20% of adolescents will meet the target for hemoglobin A1C. There are many factors that could contribute to this lack of glycomic control. Management of type 1 diabetes includes frequent blood sugar checks, multiple insulin injections and proper monitoring of diet. During adolescence, individuals are presented with a drive for independence as well as peer pressures and seeking peer acceptance. As a result of these factors and poor health management, "chronically elevated glycomic control during childhood and adolescence puts individuals at an increased risk for developing diabetes – related complications in adulthood” (Rohan et al., 2015).

**Problem Statement:**
Nurses play a vital role in ensuring adherence and compliance for chronic conditions such as diabetes. It is imperative to determine the factors that can be utilized to increase resilience in adolescents with type 1 diabetes to decrease the risk for these patients to develop future detrimental health problems. According to Hilliard, McCuick, Nabors & Hood (2015), resilience is defined as achieving positive outcomes despite being exposed to adversity or significant risk factors. By increasing resilience in adolescents, there would be decreased risk for developing diabetes complications and an increase in the likelihood of adherence to the complex therapeutic regimen.

**Research Questions:**
1. What are the current identified factors that contribute to resilience among adolescence with type 1 diabetes mellitus?
2. How can these factors be promoted within the clinical setting to enhance resilience?

**Conceptual Framework**

The Childhood Adaptation Model to Chronic Illness: Diabetes Mellitus defines adaptation of chronic illness as "the degree to which an individual responds both physiologically and psychologically to the stress of living with a long – term illness” (Whittmore, Jaser, Guo & Grey, 2010). The framework incorporates both physiologic and psychosocial components. The specific factors that are seen to influence adaptation include individual and family characteristics, such as age, socioeconomic status, race/ethnicity, and treatment modality, psychosocial responses such as depression and anxiety and the individual and family responses that include coping, family functioning and social competence. The Childhood Adaptation Model to Chronic Illness suggests that all of these individual factors contribute to the ability of the adolescent to adapt and become resilient in order to decrease the risk of unfavorable health outcomes due to diabetes.

**Methods:**
A computerized search of literature was completed using online databases accessed through Rosalind Franklin's library website. The databases searched included PubMed, Cumulative Index to Nursing and Health Literature (CINAHL) and Academic Search Complete. Multiple text combinations used in the search include the following key words: adolescence, adolescent, diabetes mellitus type 1, insulin dependent, resilience, outcomes, health outcomes, diabetes. Inclusion criteria: research articles published within journals in the last 10 years, available in English. Full text versions had to be available. Exclusion criteria: articles that focused on resilience within the family of the patient with type 1 diabetes were eliminated from the review. Articles that were not related to the target population of adolescents with type 1 diabetes were excluded.

**Results & Discussion:**
There were found to be three contributing factors associated with health resilience among adolescents with type 1 diabetes mellitus. These three factors were coping strategies, positive affect and self-efficacy. Various positive coping strategies were found to be associated with an increase in glycosmic control and health outcomes. It was also found that negative coping strategies can lead to other detrimental symptoms such as depressive or anxious feelings. By promoting engagement versus disengagement coping strategies, better metabolic management and glycomic control could occur.

Positive affect was another contributing factor to resilience identified in this literature review. It was found that positive affect allows for greater coping with the stresses that can arise from a complex health diagnosis. It was determined that providing positive emotion surrounding diagnosis and the complexities of the diabetes regimen can lead to increased adherence and compliance. Lastly, self-efficacy was identified in the majority of the studies analyzed for this literature review. It was found that the belief of one's ability to perform these diabetes related care tasks greatly influences achieving positive health outcomes. Research supports that higher levels of self-efficacy leads to better self-management which in turn leads to better health outcomes.

**Nursing Practice Implications:**
Nurses are at the forefront of care when it comes to diabetes management and education. The identification of these three contributing factors to health resilience will allow nurses to provide interventions that will promote these factors through education. Nurses will be able to provide direct care that integrates measures to promote the various positive coping mechanisms and discourage the use of negative coping mechanisms. They will also be able to determine an individual's affect towards their diabetes diagnosis. By doing so, they can encourage measures that promote positive affect and increase adherence. Providing adequate education and allowing the patients to demonstrate their competence can lead to increased self-efficacy. Nurses can utilize the information provided by this literature review to provide educational interventions that will increase resilience within this patient population.