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## REFLECTION

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# Promoting Self-Care Among Youth with Type 1 Diabetes Mellitus.

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### ABSTRACT

Each year, diabetes camps provide fun, stimulating, and safe experiences to approximately 20,000 children across North America. At camp, children and teenagers with diabetes connect with one another in an inclusive and welcoming environment, designed to meet their social, emotional, and medical needs. A multidisciplinary team of allied healthcare professionals are on-site as well to encourage and facilitate campers' acquisition of disease management strategies.

Camp Carowanis is a specialized camp for children with Type 1 diabetes in Sainte-Agathe-des-Monts, Quebec. The camp offers youth a memorable summer experience, where they are empowered to become more autonomous in managing their diabetes. The site also serves as an undergraduate medical education elective in pediatric endocrinology for clerkship students at McGill University.

In this article, Laura Pinkham, a third-year medical student at McGill University, shares her observations on the opportunities for promoting self-care among children with type 1 diabetes at Camp Carowanis.

### KEYWORDS

Type 1 diabetes, Camp, Pediatrics, Self-care, Self-management

## A REFLECTION ON TYPE 1 DIABETES MANAGEMENT AND SELF-CARE AT CAMP CAROWANIS

'Hey, do you think I could start using an insulin pump?' a curious camper asks, looking up at me with interested eyes as I scan his plate, double-checking the number of carbohydrates before his lunchtime insulin injection. 'Oh, for sure, look how easy it is! Plus, then you don't have to prick yourself with needles all the time' chimes

in another enthusiastic camper, manipulating his insulin pump with ease and showing his tent buddy how it works.

As I think about the benefits of insulin pumps versus injections in pediatric patients with type 1 diabetes mellitus (T1DM), the campers have changed subjects and are now chatting about the prize they won during their morning activity. It's my second day on the medical team at Camp Carowanis, a specialized summer camp for children with T1DM. I'm trying to catch up on the knowl-

edge and skills the kids seem to demonstrate rather effortlessly, so I can appropriately manage their glucose levels over the next ten days.

T1DM is one of the most common chronic diseases affecting pediatric patients in Canada. The autoimmune disorder destroys insulin-producing beta cells in the pancreas. (1) Without adequate insulin levels, glucose is unable to enter the body's cells and instead accumulates in the blood. Immediate symptoms of hyperglycemia include thirst, increased urination, fatigue, and blurred vision. (1) More long-term complications include damage to small and large vessels. (2) Exogenous insulin therapy is the mainstay of treatment to manage glucose levels, which are influenced by a variety of factors such as food, activity levels, stress, and insulin. (3-5) At Camp Carowanis, the interprofessional team strives to anticipate and manage these variables to provide campers with a safe and fun experience.

Beyond maintaining glycemic control, an important role for the staff at Camp Carowanis is to promote self-care among campers. Self-care can be broadly understood as behaviors and actions undertaken by individuals to promote their wellbeing. (6) In the context of a chronic illness, self-care also involves health-related activities required for daily living. (7, 8) For children with T1DM, self-care entails monitoring glucose levels, disinfecting injection sites, administering insulin, and preventing and managing hypoglycemic episodes, among others.

Existing literature has established the importance of children with T1DM developing self-care skills to promote long-term health and minimize the risk of disease-related complications by keeping glucose levels within a safe range. (8) Self-care skills also increase children's autonomy and confidence in managing their illness. In turn, medical and nursing students at Camp Carowanis assess campers' comfort levels with different disease management activities and build on their existing skillset.

The discussions surrounding self-care come up naturally at camp, and I'm immediately impressed by the campers' engagement. They ask me why their insulin dose was adjusted at dinner time, if they can change their fixed carbohydrate meal plan to eat more snacks

before bed, and how to prevent having another low during water sports. We talk through each decision that intrigues them, and I'm given the opportunity to share the knowledge I've recently acquired. At the same time, campers share hints with me on how to remember long-acting versus short-acting insulin by the needle encasement colors. They let me know how the current insulin doses are working for them, and our team reviews their prescriptions daily. The campers are patient and gracious in a way I couldn't have imagined as I learn about this disease that imbues their daily lives and we explore self-care practices together.

Mealtimes at camp are ideal opportunities to promote best practices in self-care, as medical and nursing trainees visit each tent to verify carbohydrate counts and supervise insulin administration. As I remind a camper to clean her injection site at lunch, she sighs audibly as the rest of her friends have already begun eating and she wants to join them. She proceeds to take an alcohol swab and clean her lower abdomen, showing me the units on her insulin pen before injecting the dose. I take the encased needle from her and make a mental note to see her first at dinner, so she isn't the last one to start her meal again.

Being in a fast-paced and immersive environment like camp is a great setting for trainees to quickly assimilate new knowledge and skills, but the learning curve can be steep. As the days progress, I become more confident in the knowledge and skillset I've acquired, and the campers become more autonomous in a range of different tasks related to their disease management as well.

The degree of self-care undertaken by pediatric patients is affected by their age, maturity, interest levels, and the support network and resources available to them. (9) The number of self-care responsibilities to manage T1DM in pediatric patients can be overwhelming, particularly at the time of diagnosis. (10) For some campers, this is their first year living with diabetes, and members of their support network may assume many of the tasks required to manage their illness. Specific approaches to enhance the adoption of self-care practices among children with diabetes is an area of ongoing research. (9, 11) However, specialized camps for children

with diabetes have demonstrated psychosocial benefits on campers, including an increase in self-care independence. (12)

At Camp Carowanis, children can expand their disease management skillset to include activities like changing their own subcutaneous insulin catheters or updating the settings in their insulin pumps. New practices are taught by medical personnel at the camp's clinic, but are also sprinkled throughout mealtimes, boating rides, and walks between activities. At the camp's session-based award ceremonies, self-care practices are recognized alongside campers' archery and swimming skills.

The award ceremonies are also opportunities to highlight the contributions of adolescent campers participating in Camp Carowanis' unique six-week leadership program. Twelve adolescents are selected annually to participate in the program, designed to meet the needs of teenage campers and promote their development as a leader within their communities. The *Leaders program* includes a provincially recognized camp counselor certification, specialized training to meet the needs of campers living with diabetes, and medical education sessions which teach participants the fundamentals of insulin dosing.

During their first week at camp, leaders participate in an interactive session with the camp's medical director, pediatric endocrinologist Dr. Preetha Krishnamoorthy, to learn how and why changes are made in the administration of basal and bolus insulin doses. The session mirrors the training provided to medical students, pediatric residents, and pediatric fellows joining the Camp Carowanis team for a rotation.

Following the training session, leaders are given copies of their medical charts to identify trends and patterns in their glycemic control. A collaborative relationship takes form between the leaders and the on-site physician, who may share suggestions via a colorful post-it as needed. Leaders thus take on greater self-care responsibilities than they did as campers, ensuring continuous growth and self-development at Camp Carowanis.

Over the course of a two-week session, campers and leaders make new friends, try novel activities, and

hone self-care skills to optimize their diabetes management. Simultaneously, healthcare students acquire the essential knowledge and skills that underpin effective diabetes management in pediatric patients. At the end of a session at Camp Carowanis, campers, leaders, and trainees alike leave with a greater appreciation and understanding of how to live a healthy and fulfilling life with T1DM.

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