

Introduction

The prevalence of Type 1 diabetes (T1D) is increasing worldwide by 4-5% per year. In Ireland, there are currently almost 3,000 children and adolescents with T1D, approximately 40% of whom attend primary school.

With this increase, schools and teachers are faced with the extra challenge of supporting more students with T1D while in school. Alongside this, new research, medications and technologies while positively supporting more effective diabetes management is further adding to the challenge. Ireland currently lags behind international best practice with regard to management of T1D in the primary school setting. This deficit has been recognised by the National Paediatric Diabetes Working group. A committee of key stakeholders are currently drafting a framework for diabetes management of young children during school hours in line with best-practice, but flexible enough to allow effective implementation at local level by school authorities. This group consists of a Paediatric Consultant, Paediatric Diabetes nurses and representation from the IPPN, the NCSE and Diabetes Ireland.

Legislative context

In Ireland, multiple frameworks exist which require schools to support the care of children with T1D. The *Disability Act 2005* and the *Education for Persons with Special Educational Needs 2004* (EPSEN) aim to ensure that school environments are inclusive and the needs of such children are accommodated. While T1D is not considered a disability in educational terms, children with the condition are covered under this legislation and schools must not prevent students from engaging in particular activities, except in cases of reasonable justification.

Why is good blood sugar control important?

The Diabetes Control and Complications trial (DCCT) demonstrated that maintaining near-normal blood glucose levels was associated with a reduction in the risk of long-term complications such as damage to the eyes, kidneys and nerves in people with diabetes.

Being diagnosed with T1D during childhood adversely impacts cognitive development. Children with T1D have lower verbal and full-scale IQ, compared to unaffected children. Risk factors include diabetes onset before 5 years of age, severe hypoglycaemia (low blood sugars) and cumulative exposure to high blood sugars.

In addition, it is recognised that blood glucose fluctuations can produce short term impairments in attention and information processing which affect academic performance and may persist for a period after returning to normal values. In a school-based study of children with T1D, both low and high blood glucose levels were associated with slowed mental efficiency and approximately 20% longer was needed to complete prescribed arithmetic tasks. Factors such as this have translated into lower academic test scores in some students.

Inadequate blood glucose control is also associated with poorer school attendance and lower test scores. Children with T1D miss 10 more days per year than their siblings and in one study, absenteeism occurred on nearly 10% of scheduled school days. In a population based study from Sweden, those with childhood-onset T1D were significantly less likely to be employed as young adults

Supporting Diabetes Management in schools

Over the past decade, initiatives to facilitate greater supports for children with diabetes in schools have been successfully introduced in areas of the UK. Such supports, in addition to providing greater diabetes education for school staff and individualised diabetes care plans for children have facilitated use of more effective treatments. This has translated into more than twice as many primary school children meeting the blood sugar targets required to minimise their risk of long-term medical complications.

Teachers knowledge of Type 1 diabetes

Numerous studies internationally have assessed the knowledge of schoolteachers regarding T1D. The proportion of respondents deemed to have adequate diabetes knowledge ranges from 16-33%. Research regarding Irish primary school teachers' knowledge of T1D is currently ongoing, with preliminary findings largely in line with that reported in the international literature. Only 2% of PE teachers in the UK had adequate knowledge of T1D, which is particularly concerning given the effects of exercise on glucose levels. In a separate study, half of those currently teaching a child with T1D, as well as teachers who received direct nurse educator instruction were not able to identify the signs of low blood sugar or to indicate its correct treatment. Results were more concerning, as might be expected, among teachers in general. Another study found that just 12% of primary school teachers could correctly recognize the symptoms of low blood sugar when presented with items in a multiple-choice test format.

Role of the Special Needs Assistant

In recent Irish study of over 400 primary school children with T1D, over 50% reported having shared access to a Special Needs Assistant (SNA). Not all children with T1D require SNA access, but younger children (≤ 8 years) and those who don't get physical warning signs of low blood sugar certainly do. The function of the SNA is to provide for the care needs of such children. While there is extensive literature regarding teachers knowledge of T1D, there is no information regarding the diabetes knowledge and attitudes of SNAs. We have constructed a brief anonymous SurveyMonkey™ questionnaire to explore this. **The survey is solely for SNAs and is open to those with and without experience of caring for a child with T1D.** The survey can be accessed at the following link (<https://www.surveymonkey.com/r/2YH6QDQ>) which we would be grateful if you could pass on to any SNAs in your school for completion by the end of the academic year.