

### Endocrinología, Diabetes y Nutrición



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#### ORIGINAL ARTICLE

# Teachers' attitudes and perceptions about preparation of public schools to assist students with type 1 diabetes\*



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#### **KEYWORDS**

Type 1 diabetes mellitus; Children and adolescents; Schools; Teachers

#### Abstract

*Objective:* To assess teachers' attitudes and perceptions about preparation of public primary and secondary education schools in the Puerto Real University Hospital (Cádiz, Spain) area to care for students with type 1 diabetes mellitus (T1DM).

*Methods:* A descriptive observational study where answers to an attitude and perception questionnaire on the preparation of schools to care for pupils with T1DM were analyzed. A total of 765 teachers (mean age,  $44.3 \pm 8.8$  years; 61.7% women) from 44 public schools in the area of the Puerto Real University Hospital were selected by random sampling.

Results: Overall, 43.2% of teachers surveyed had or had previously had students with T1DM, but only 0.8% had received specific training on diabetes. 18.9% of teachers reported that one of their students with T1DM had experienced at least one episode of hypoglycemia at school, and half of them felt that their school was not prepared to deal with diabetic emergencies. 6.4% stated that their school had glucagon in its first aid kit, and 46.9% would be willing to administer it personally. Women, physical education teachers, and headmasters had a more positive perception of the school than their colleagues. Teachers with a positive perception of school preparation and with a positive attitude to administer glucagon were significantly younger than those with no positive perception and attitude.

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Conclusions: The study results suggest that teachers of public schools in our health area have not been specifically trained in the care of patients with T1DM and perceive that their educational centers are not qualified to address diabetic emergencies.

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#### PALABRAS CLAVE

Diabetes tipo 1; Niños y adolescentes; Centros educativos; Profesores Actitudes y percepción del profesorado de centros educativos públicos sobre la atención a alumnos con diabetes tipo 1

#### Resumen

*Objetivo:* Evaluar las actitudes y la percepción del profesorado sobre la preparación de los centros públicos de educación infantil, primaria y secundaria del área del Hospital Universitario Puerto Real para atender a alumnos con diabetes tipo 1 (DM1).

*Métodos*: Estudio observacional descriptivo en el que se analizan las respuestas a un cuestionario de actitud y percepción sobre la preparación del centro educativo (17 preguntas) para la atención de los alumnos con DM1 de 765 profesores (edad media:  $44,3\pm8,8$  años; 61,7% mujeres) de 44 centros educativos públicos del área del Hospital Universitario Puerto Real (Cádiz, España) seleccionados mediante muestreo aleatorio.

Resultados: El 43,2% había tenido o tiene actualmente alumnos con DM1 y solo el 0,8% reconoce haber recibido formación sobre diabetes. El 18,9% refería que alguno de sus alumnos con DM1 había experimentado al menos un episodio de hipoglucemia en el colegio (el 42,5% de los profesores que tienen o han tenido alumnos con DM1) y la mitad opinaba que su centro educativo no está capacitado para atender las urgencias diabéticas. El 6,4% refería que su centro dispone de glucagón en su equipo de primeros auxilios y el 46,9% estaría dispuesto a administrarlo personalmente. Las mujeres, los profesores de educación física y los directores mostraron una percepción más positiva del centro educativo con respecto a sus compañeros. Los profesores con percepción positiva de la preparación del centro y con actitud positiva para administrar glucagón eran significativamente más jóvenes que aquellos con percepción y actitud no positiva. Conclusiones: Los resultados del estudio orientan a que los profesores de los centros educativos públicos de nuestra área sanitaria no han sido formados específicamente en la atención a pacientes con DM1 y perciben que sus centros educativos no están capacitados para atender urgencias diabéticas.

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#### Introduction

Type 1 diabetes mellitus (DM1) is the second most frequent chronic disease and the most common endocrine-metabolic disorder in childhood, with a very considerable social and healthcare impact. 1,2 The management of DM1 requires the daily administration of insulin. In this regard, the studies published by the DCCT Research Group have shown that intensive treatment seeking to optimize glycemic control is able to delay the appearance and reduce the progression of chronic complications in adults and adolescents with DM1.<sup>3,4</sup> In order to secure optimum glycemic control, children and adolescents with DM1 require frequent glucose monitoring and the administration of several insulin injections every day (or the use of insulin pumps), as well as adequate adherence to diet and physical activity recommendations, while accepting the considerable likelihood of suffering some hypoglycemic episode. In this regard, recent studies<sup>5-7</sup> have reported that diabetic emergencies (hyperglycemia and, especially, hypoglycemia) are quite frequent in the school setting.

Bearing in mind that an average diabetic child spends one-third of the day in educational centers, 6 schooling could be a limiting factor for both the implementation of modern treatment protocols and for the detection and rapid correction of acute glycemic decompensation episodes, particularly if such patients do not receive adequate help and/or supervision from the health staff of the educational center (if any) or their teachers during school hours. 1,8 Accordingly, guaranteeing the required care of these children and adolescents, who are not yet autonomous as regards the management of their disease, while they are attending their educational centers has become a priority concern for healthcare professionals and others, concerned about their present and future wellbeing and their full social integration. However, very little information is currently available in Spain regarding teacher perception as to the degree of preparedness of the educational centers and concerning the attitude of the teachers themselves to helping children and adolescents with DM1, 10-12 particularly in the event of diabetic emergencies. The present study was therefore carried out to clarify these aspects in our healthcare setting.

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