OBSERVATIONS

Adherence to Guidelines for Diabetes Care in School: Family and School Nurse Perspectives

SARAH A. MACLEISH, DO
LEONA CUTTLER, MD
MICHAELA B. KOONTZ, MD

From the Department of Pediatrics, Rainbow Babies and Children's Hospital, Case Western Reserve University, Cleveland, Ohio.
Corresponding author: Sarah A. MacLeish, sarah.macleish2@uhhospitals.org.
DOI: 10.2337/dc12-2083

To ensure the safe and fair treatment of children with diabetes, the American Diabetes Association (ADA) publishes guidelines for care of children with diabetes in the school setting (1–4). We surveyed 99 families of youth with type 1 diabetes (mean age 12.2 ± 3.2 years; diabetes duration 5.0 ± 3.6 years) and 51 school nurses from corresponding schools in Ohio using structured questionnaires to systematically evaluate reported adherence to these guidelines from the perspectives of key stakeholders. This study has institutional review board approval. Sixteen key ADA recommendations, taking into account guidelines with multiple components, were assessed. For 7 of the 16 ADA recommendations, fewer than half of families reported adherence, defined as providing the service usually or always. Among school nurses, fewer than half reported adherence with 4 of the 16 ADA-recommended services.

Most nurses (94%) but only 60% of families reported the presence of two adults trained in overall diabetes management. Similarly, only 69% of nurses and 33% of families reported having two adults trained in blood glucose monitoring. Adherence was reported infrequently for the presence of school personnel trained in insulin administration (reported by 10% of families and 30% of nurses), glucagon administration (reported by 14% of families and 51% of nurses), ketone testing (reported by 10% of families and 20% of nurses), and provision of nutritional information for school lunches (reported by 26% of families and 49% of nurses). Nearly all families (99%) and nurses (96%) reported immediate access to hypoglycemia treatment by a knowledgeable adult. However, only 40% of families reported continued adult supervision until hypoglycemia resolution, whereas 90% of nurses reported adherence with this recommendation. The majority of families and school nurses reported that students had permission to eat snacks anywhere, see school nurses or other trained personnel upon request, miss school without consequence for diabetes management, use the restroom and access fluids as needed, and store diabetes supplies appropriately. Although all children were given a written diabetes management plan by their healthcare team, only 64% of families stated that such a plan was in place at school.

The results suggest that students do not consistently receive diabetes-related services in school as recommended by the ADA. However, caution must be used in interpreting these results as they represent perceptions rather than actual provision of recommended services by schools. Regardless of whether families underestimate or nurses overestimate school adherence, these findings indicate a lack of communication between school representatives and families and signify substantial gaps in the family–school alliance that is essential for providing a safe and healthy environment for children with diabetes. Implementing ADA recommendations can be challenging for school administrators who must balance financial, safety, and staffing considerations. Nevertheless, it is imperative that all involved in providing care for children with diabetes—including school personnel, families, and healthcare teams—work together to find ways to overcome these challenges, since proper care during the school day is essential to protect the health, safety, educational attainment, and legal rights of children with diabetes.

Acknowledgments—The research of S.A.M. is supported by the Ruth Garber Friedman Fellowship fund.

No potential conflicts of interest relevant to this article were reported.

S.A.M. helped design the study, acquired data, contributed to the discussion, and wrote and edited the manuscript. L.C. helped design the study, contributed to the discussion, and reviewed and edited the manuscript. M.B.K. helped design the study, contributed to the discussion, and wrote and edited the manuscript.

Parts of this study were presented in abstract form at the 69th Scientific Sessions of the American Diabetes Association, New Orleans, Louisiana, 5–9 June 2009, and at the Pediatric Academic Societies Annual Meeting, Denver, Colorado, 30 April–3 May 2011.

References

1. Clarke W, Deeb LC, Jameson P, et al.; American Diabetes Association. Diabetes care in the school and day care setting. Diabetes Care 2012;35(Suppl. 1):S76–S80
2. 504 of the Rehabilitation Act of 1973, 29 U.S.C. 794, implementing regulations at 35 CFR Part 104
3. Individuals with Disabilities Education Act, 20 U.S.C. 111 et seq., implementing regulations at 34 CRF Part 300
4. Title II of the Americans with Disabilities Act of 1990, 42 U.S.C. 12134 et seq., implementing regulations at 28 CFR Part 35