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NURSING CARE IN CHILDREN WITH TYPE 1 DIABETES MELLITUS

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Abstract

Type 1 diabetes mellitus (T1DM) is one of the most common chronic endocrine disorders affecting children and adolescents worldwide. The disease develops as a result of autoimmune destruction of pancreatic β-cells, leading to absolute insulin deficiency and persistent hyperglycemia. Unlike type 2 diabetes mellitus, children diagnosed with type 1 diabetes require lifelong insulin replacement therapy and continuous monitoring of blood glucose levels. The incidence of pediatric type 1 diabetes has increased steadily over the past decades, making it a significant public health concern. Without appropriate treatment and regular follow-up, the disease may lead to severe acute complications such as hypoglycemia, diabetic ketoacidosis, and diabetic coma, as well as long-term microvascular and macrovascular complications that negatively affect quality of life.Nursing care is an essential component of comprehensive diabetes management in children. Pediatric nurses play a crucial role in early assessment, continuous monitoring, insulin administration, nutritional counseling, prevention of complications, psychological support, and patient-family education. Effective nursing interventions contribute to maintaining optimal glycemic control, reducing hospitalization rates, preventing disease-related complications, and improving both physical and psychosocial outcomes. Furthermore, educating parents and caregivers regarding insulin administration techniques, blood glucose monitoring, carbohydrate counting, healthy nutrition, physical activity, and emergency management of hypo- and hyperglycemia significantly improves treatment adherence and disease self-management.The nursing process for children with type 1 diabetes includes systematic assessment, identification of nursing diagnoses, planning individualized nursing interventions, implementation of evidence-based care, and continuous evaluation of patient outcomes. Nurses are also responsible for recognizing early signs of metabolic imbalance, maintaining infection prevention measures, monitoring growth and development, and promoting healthy lifestyle habits appropriate for the child's age.This article discusses the etiology, pathophysiology, clinical manifestations, diagnosis, treatment principles, and particularly the role of nursing care in managing pediatric type 1 diabetes mellitus. It also highlights the importance of family-centered care, multidisciplinary collaboration, patient education, and evidence-based nursing practice in improving long-term health outcomes and quality of life for children living with this chronic condition.

Keywords: Type 1 diabetes mellitus, children, nursing care, insulin therapy, pediatric nursing, blood glucose monitoring, hypoglycemia, diabetic ketoacidosis.

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Introduction

Type 1 diabetes mellitus is a chronic autoimmune disease characterized by the destruction of insulin-producing β-cells of the pancreas, resulting in absolute insulin deficiency. It is one of the most common endocrine disorders among children and adolescents and represents a lifelong health challenge requiring continuous medical treatment and comprehensive nursing care. According to international epidemiological studies, the incidence of pediatric type 1 diabetes has been increasing in many countries, emphasizing the need for improved prevention of complications and effective long-term disease management. Children with type 1 diabetes experience not only metabolic disturbances but also psychological, emotional, educational, and social challenges. The diagnosis often changes the daily lives of both patients and their families because successful treatment requires regular insulin injections, frequent blood glucose monitoring, individualized nutrition planning, physical activity management, and continuous medical supervision. Therefore, the participation of qualified nurses is fundamental throughout every stage of care.The nursing process plays a significant role in achieving optimal glycemic control and preventing both acute and chronic complications. Nurses are responsible for monitoring the child's clinical condition, administering insulin safely, identifying early manifestations of hypoglycemia and hyperglycemia, educating parents about disease management, and supporting children in adapting to lifelong treatment. Family-centered nursing care is especially important because parents become active participants in daily diabetes management.Modern pediatric nursing emphasizes evidence-based practice, individualized care plans, multidisciplinary collaboration, and continuous patient education. Through comprehensive nursing interventions, healthcare professionals can improve treatment adherence, reduce hospital admissions, enhance quality of life, and promote healthy growth and development among children with type 1 diabetes mellitus.

Conclusion

Type 1 diabetes mellitus remains one of the most significant chronic diseases affecting children worldwide. Although the disease cannot currently be cured, appropriate insulin therapy, continuous blood glucose monitoring, balanced nutrition, regular physical activity, and comprehensive nursing care allow children to maintain good metabolic control and lead healthy, productive lives.Nursing care represents a cornerstone of pediatric diabetes management. Nurses not only provide direct clinical care but also serve as educators, counselors, advocates, and coordinators within the multidisciplinary healthcare team. Early recognition of complications, accurate implementation of insulin therapy, ongoing assessment of the child's condition, psychological support, and continuous education of patients and families significantly reduce the risk of severe complications and improve long-term outcomes.

Family involvement remains an essential element of successful diabetes management. Educating parents and caregivers about daily disease management promotes independence, treatment adherence, and confidence in caring for the child. Therefore, strengthening pediatric nursing education and implementing evidence-based nursing interventions should remain priorities for healthcare systems seeking to improve the quality of diabetes care.

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