



Use of Digital Games in Disease Self-Management of Diabetic Children

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Abstract

Aim

The purpose of this presentation is to draw attention to the effects of digital games on the use of diabetic children in their self-management and routine health care.

Method

In this review, the key words "diabetic child, self-management, digital games" were scanned in Turkish-English from the databases "Google Academic", "PubMed" and "SAGE Journals Online". The review includes games used in both Type 1 and Type 2 diabetes management.

Results

Digital games are games played on any digital device, ranging from personal computers to game consoles, tablets or mobile phones. Games are mostly used for entertainment purposes. Nowadays, there are games that are used for non-entertainment purposes and are called 'serious games'. These games differ from fun games, learning and training. Serious digital games are an educational and entertaining type of intervention. Its use in health is also increasing. The disease self-management of diabetic children is one of these areas. Diabetes is one of the most common chronic diseases in children around the world. With different types, children usually have Type 1 Diabetes, but the incidence of Type 2 Diabetes has also increased in recent times. Regardless of the type, diabetes requires the use of technology such as diet, exercise, insulin / drug, blood glucose monitoring, the use of glucometer, dealing with complications such as hypo / hyperglycaemia, and diabetes self-management education. This lifelong process requires that the diabetic child be managed and changed behavior. In order for children with diabetes to change behavior, self-management education for children and families should be done. Diabetes self education training; is a collaborative process in which diabetic individuals acquire the knowledge and skills needed to successfully manage disease and disease-related situations and to change behavior. In this process, digital games are important interventions to improve self-management in diabetic children. Twenty-four games (Packy and Marlon, Captain Novolin, Tantei, Tamagoya, Buildup Blocks, INSULOT, Escape from Diab, Nanoswarm, Glucoboy, Bayer DIDGET, Testing for Hypoglycemia While Driving, The Magi and The Sleeping Star, Starbright Life Adventure Series CD-ROM, HealthSeeker, GRIP, Glymetrix Diabetes Game, The Diabetic



Dog, Dbaza’s Diabetes Education for Kids, Diabetic mario, MySugr/MySugr Junio, Carb Counting with Lenny, MonsterManor, L ’AffaireBerman, Koodak-e-Tavana) related to diabetes management have been reached in the literature. These games are mostly based on prizes / reinforcements, social cognitive theory and social learning theories. It motivates children with diabetes and offers playable techniques such as grading to provide diabetic children with a risk-free space, alternative, fun and interesting way of finding and solving different scenarios for the management of the disease. In games, children are learning about basic diabetes knowledge such as diet, carbohydrate count and intake, exercise, blood glucose monitoring, insulin use for diabetes self-management, how insulin and foods affect blood glucose, eating healthy foods and using blood glucose to balance blood glucose. Children use decision making and problem solving to keep their blood glucose levels within the normal range. Children with diabetes play these games through computers, websites, mobile and wearable technologies. Those who play the game during the studies stated that the games are easy to use, enjoyable, fun, motivating, useful and should be recommended to others. In addition to these, it has been found that the level of knowledge of diabetes self-management in games increases and that stress levels decrease.

Conclusion

While the use of digital gaming in diabetic children is promising to develop diverse aspects of self-management, the majority of the work has been done in small samples, often assessing usability and satisfaction. In future studies, multidisciplinary collaboration should be undertaken to establish evidence-based studies demonstrating that the larger samples have positive effects on behaviors and clinical outcomes of digital games in diabetic children.

Key words: diabetic child, digital games, self-management,