

Title of Intervention: Packy & Marlon: Educational video game for juvenile diabetes

Intervention Strategies: Individual Education

Purpose of the Intervention: To improve self-care among children and adolescents with diabetes

Population: Children and adolescents aged 8-16 with diabetes

Setting: Homes in San Jose, California; home-based

Partners: Diabetes clinics, video game developers

Intervention Description:

- Individual Education: Participants received a Super Nintendo video game system and a diabetes education-based video game called Packy & Marlon. This video game was designed to improve self-confidence, ability and motivation to undertake the rigorous self-care necessary to control insulin-dependent diabetes. In the game, children avoided certain threats to their well-being and engaged in healthy activities. To win, players had to learn how to avoid enemies, select desirable items and engage in behaviors that would help their character stay healthy. The characters were two adolescent elephant friends with diabetes who were on their way to a diabetes summer camp. The game could be played in English, Spanish or French and included levels where meals or snacks had to be eaten, blood glucose had to be measured and logged and insulin injections had to be taken.

Theory: Social Cognitive Theory

Resources Required:

- Staff/Volunteers: Not mentioned
- Training: Not mentioned
- Technology: Not mentioned
- Space: Video game connection
- Budget: Not mentioned
- Intervention: Television, Super Nintendo game system, Packy & Marlon game
- Evaluation: Interviews, surveys, blood glucose logbooks

Evaluation:

- Design: Randomized controlled trial
- Methods and Measures:
 - Participants were interviewed and a parent filled out a questionnaire several times during the intervention to assess knowledge and level of self-care.
 - HbA_{1c} levels were repeatedly measured.

Outcomes:

- Short Term Impact: No change was seen in factual knowledge of diabetes. The intervention group showed gains in self-efficacy, communication with parents about diabetes and diabetes self-care.
- Long Term Impact: There was no statistical difference in HbA_{1c} between groups. Urgent doctor visits for diabetes-related problems declined in the intervention group.

Maintenance: Not mentioned

Lessons Learned: Video games may serve as a means for children to improve their self-care when theory-based principles of health promotion are integrated into the instructional design.

Citation(s):

Brown SJ, Lieberman DA, Gerneny BA, Fan YC, Wilson DM, Pasta DJ. Educational video game for juvenile diabetes: results of a controlled trial. Med Inform (Lond). Jan-Mar 1997;22(1):77-89.