

Title of Intervention: Asthma Command Computer Program

Intervention Strategies: Individual Education

Purpose of the Intervention: To improve self-management of asthma

Population: Children ages 7-12 with asthma

Setting: Healthcare providers in New Haven, Connecticut; health care facility-based

Partners: None mentioned

Intervention Description:

- Individual Education: Participants played an interactive computer game called Asthma Command. The game was written to emphasize four basic principles in the management of childhood asthma: the recognition of symptoms and allergens, the appropriate use of medications, the appropriate use of the emergency room and doctor and the encouragement of school attendance. The object of Asthma Command was to have the player live through simulations of one day in each season of the year and score as many points as possible. Players had to use their knowledge for the management of asthma to maneuver through the many obstacles presented in the game. Players also had to remember to choose the option of taking their regularly prescribed medications. A high score was achieved by avoiding allergens, appropriately using medications, the emergency room and the doctor's office and attending school. Subjects used their own specific medications and allergens, entering both into the memory of the game during the first playing session. After playing, the participant was presented with a computer printout describing strengths and weaknesses of their asthma management in the game.

Theory: Not mentioned

Resources Required:

- Staff/Volunteers: Facilitators
- Training: Not mentioned
- Technology: Computer, printer
- Space: Not mentioned
- Budget: Not mentioned
- Intervention: Asthma Command game
- Evaluation: Questionnaires

Evaluation:

- Design: Randomized controlled trial
- Methods and Measures:
 - Questionnaires assessed behaviors, knowledge, health locus of control and psychological factors such as self esteem.
 - An Asthma Condition Scale determined how the child interpreted and responded to problems related to the game.

Outcomes:

- Short Term Impact: Participants exposed to Asthma Command showed a significant improvement in their knowledge of asthma, behaviors related to the management of their disease and behaviors toward their disease. However, the intervention did not affect such inherent characteristics as self-esteem or self-control.
- Long Term Impact: Not measured

Maintenance: Not mentioned

Lessons Learned: An asthma-specific computer game can significantly affect knowledge and behavior and may potentially affect morbidity in childhood asthma.

Citation(s):

Rubin, D. H., J. M. Leventhal, et al. (1986). "Educational intervention by computer in childhood asthma: a randomized clinical trial testing the use of a new teaching intervention in childhood asthma." *Pediatrics* 77(1): 1-10.