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The Effects of Computer-Based Education on Children's Knowledge about Asthma

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ABSTRACT

Asthma is a global health problem affecting people of all ages that can cause severe limitations when uncontrolled. In the United States, asthma was the most prevalent chronic disease among children and youth in 2008 (U.S. Department of Health and Human Services, 2009). Because day-to-day management of asthma is the responsibility of the child or the parent, education of patients is one of four crucial components to effectively provide quality asthma care. Changes in workload complexities with primary care visits has increased and visit duration decreased, resulting in less available time to address individual patient needs including the education aspect in patient care. Introducing an innovation within the clinical practice is a customization based on needs. The purpose of the EBP project was to assess the impact of the use of a computer-based asthma initiative in 10 to 14 year old patients with asthma, followed at a local allergy and asthma clinic in Northwest Indiana. A critical appraisal of the literature was conducted to determine best practice. A multidisciplinary approach using Rogers' Diffusion of Innovations model and Dorothea Orem's self-care theory guided the implementation process. This author created a website and developed a new measurement tool consisting of a 20 knowledge questionnaire on asthma. The website was accessed by the participants from home, using an individually assigned username/password. Each participant completed a one hour computer-based education program consisting of reading materials and three videos that lasted from 3 to 5 minutes. Outcomes were evaluated using within-group pretest/posttest scores. Data were analyzed using the SPSS 18.0 statistical package. A paired-samples *t* test compared the mean pretest scores to the mean posttest scores. The findings suggested that the use of the computer-based asthma education program resulted in increased knowledge about the basic concepts on asthma.

Keywords: asthma, education, pediatrics, computer-based, chronic disease