Group Asthma Education in a Pediatric Inpatient Setting

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Asthma education is an important component of asthma care and management. Children and parents often do not receive asthma education, and frequently, education programs are time consuming. The purpose of this medical record review was to retrospectively determine the impact of a short, group-based, inpatient asthma self-management program on the number of children/parents who received complete asthma education before discharge. The self-management program was instituted in 2006. Participants consisted of all children admitted to a New England children's hospital from January 1, 2005, through December 31, 2006, with a primary diagnosis of asthma. Findings revealed that significantly more ($p < .001$) children/parents received complete asthma education before discharge in 2006 versus 2005.

Key words: Asthma; Self-management education; Group education

ASTHMA IS A common chronic lung disease that affects approximately 22 million people in the United States, 6.5 million of whom are children (Akinbami, 2006). Asthma is the leading cause of emergency department (ED) visits and hospitalizations in children (Akinbami, 2006). Yearly, direct costs related to asthma are estimated at over $10 billion, and indirect costs related to lost productivity reach $8 billion (Asthma Statistics, n.d.; National Center for Health Statistics, 2002).

Asthma education is a vital component of asthma care and management. Benefits of asthma education have been well documented and include increased knowledge, better adherence to medications, improved quality of life, increased self-efficacy, and improved symptom control (Berg, Dunbar-Jacob, & Sereika, 1997; Butz et al., 2005; Ng et al. 2006; Warschburger, von Schwerin, Buchholz, & Petermann, 2003). Asthma education has also been shown to decrease morbidity factors such as ED visits and hospital admissions (George et al., 1999; Greineder, Loane, & Parks, 1999; Ng et al. 2006).

Despite these documented benefits, several studies indicate that patients and parents are not receiving asthma self-management education (Apter et al., 2001; Asthma In America, 1998; Children and Asthma, 2004; Durna & Ozcan, 2003). One reason cited in the literature by health care providers, patients, and families for not providing or participating in traditional asthma self-management education programs is lack of time (Peterson, Strommer-Pace, & Dayton, 2001; Lemaigre et al., 2005). Therefore, alternatives to traditional asthma self-management education programs in the primary care setting must be made available to increase the number of people who receive asthma self-management education.

REVIEW OF LITERATURE

Asthma is a national problem that has been recognized by the National Asthma Education and Prevention Program of the National Heart, Lung, and Blood Institute (NHLBI) and Healthy People 2010. Both programs call for asthma education for people diagnosed with asthma (Expert Panel, 1997, 2002, 2007; Healthy People, 2000).

Asthma Self-Management Education Programs

Asthma self-management education studies conducted in adults and children have demonstrated an

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increase in asthma knowledge, sense of control, and asthma self-management techniques and a decrease in acute office visits, ED visits, hospitalizations, hospital length of stay, and cost (Chan, Callahan, & Moreno, 2001; Ebbinghaus & Bahrainwala, 2003; George et al., 1999; Greineder et al., 1999; Kelly et al., 2000; Ng et al. 2006; Newcomb, 2006; Taggart et al., 1991; Wesseldine, McCarthy, & Silverman, 1999). Elements of asthma self-management education programs include self-monitoring techniques, medication plans, written asthma action plans, and optimal pharmacotherapy (Gibson, Ram, & Powell, 2003; Gibson et al., 2003; Murphy, Gibson, Talbot, Kessell, & Clifton, 2005; Newell, 2006).

Unfortunately, several studies indicate that children and their parents do not receive asthma self-management education (Apter et al., 2001; Asthma In America, 1998; Children and Asthma, 2004; Durna & Ozcan, 2003; Steurer-Stey, Fletcher, Vetter, & Steurer, 2006; Ward, Willey, Willey, & Andrade, 2001). One study examined the quality of care provided to children with asthma enrolled in Medicaid managed care organizations in Connecticut (Apter et al., 2001). Results revealed that 37% of all children and 24% of high utilizers of services did not have any documentation of having received patient education during the 1-year study period (Apter et al., 2001).

Common reasons cited for not providing asthma self-management in the primary care setting are lack of time to provide adequate education, high costs, and lack of reimbursement (Peterson et al., 2001). Reasons cited by patients and families for not participating in traditional asthma self-management education programs are lack of time, distance to the hospital, lack of symptoms (resulting in poor appreciation of the need to participate), difficulty taking time off from work, and lack of interest in the education program (Lemaigre et al., 2005). In another study, Muntner et al. (2001) conducted an investigation to determine the characteristics of patients who agreed to participate in a clinical trial of disease self-management education for asthma compared with those of patients who did not agree to participate. In addition, the researchers compared the patients who actually attended the self-management program with those who did not attend but said they would. Out of 253 patients, 131 agreed to participate in the program. More severe baseline asthma attack and less confidence in the current treatment plan were the only independent predictors of enrollment in the asthma education study. Fifty-one percent of those who said they would participate attended all three sessions, 13% attended two, 8% attended one, and 28% attended none.

Consequently, when offered in an outpatient setting, participation in asthma self-management education programs is low. Therefore, alternatives to traditional asthma self-management education programs in the primary care setting must be made available.

Hospital-Based Asthma Self-Management Programs

Hospital-based asthma self-management education programs directed at children and/or parents have been evaluated. Findings have revealed a decrease in readmissions, ED visits, and unscheduled visits to the primary care provider (George et al., 1999; Wesseldine et al., 1999). However, all hospital-based studies reviewed incorporated one-on-one teaching, making the education programs labor intensive (Chan et al., 2001; Ebbinghaus & Bahrainwala, 2003; Ng et al., 2006; Madge, McColl, & Paton, 1997; Taggart et al., 1991; Wesseldine et al., 1999).

Two asthma self-management education programs conducted in an inpatient rehabilitation setting were also reviewed (Brazil, McLean, Abbey, & Musselman, 1997; Warschburger et al., 2003). Both studies demonstrated an increase in knowledge and a decrease in functional asthma severity or illness outcomes (Brazil et al., 1997; Warschburger et al., 2003). Unfortunately, both programs required a big-time commitment from both patients and providers.

One study utilized a group-based format for teaching. The group format consisted of two 90-minute sessions or six 90-minute sessions with parents (Warschburger et al., 2003). The other study consisted of a 3-month inpatient family-focused treatment program that included formal teaching sessions with the children by nurse educators three times a week as well as informal teaching sessions on a daily basis (Brazil et al., 1997). In addition, parent-teaching sessions were conducted by the physician and nurses once a month, with weekly reinforcement when the parents picked up and returned their children from weekend home visits (Brazil et al., 1997). The inpatient length of stay for both studies ranged from 3 weeks to 3 months (Brazil et al., 1997; Warschburger et al., 2003).