

# Treating asthma with a self-management model of illness behaviour in an Australian community pharmacy setting

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## Abstract

Asthma affects a considerable proportion of the population worldwide and presents a significant health problem in Australia. Given its chronic nature, effective asthma self-management approaches are important. However, despite research and interventions targeting its treatment, the management of asthma remains problematic. This study aimed to develop, from a theoretical basis, an asthma self-management model and implement it in an Australian community pharmacy setting in metropolitan Sydney, using a controlled, parallel-groups repeated-measures design. Trained pharmacists delivered a structured, step-wise, patient-focused asthma self-management program to adult participants over a 9-month period focusing on identification of asthma problems, goal setting and strategy development. Data on process-clinical- and psychosocial-outcome measures were gathered. Results showed that participants set an average of four new goals and six repeated goals over the course of the intervention. Most common goal-related themes included asthma triggers, asthma control and medications. An average of nine strategies per participant was developed to achieve the set goals. Common strategies involved visiting a medical practitioner for review of medications, improving adherence to medications and using medications before exercise. Clinical and psychosocial outcomes indicated significant improvements over time in asthma symptom control, asthma-related self-efficacy and quality of life, and negative affect. These results suggest that an asthma self-management model of illness behaviour has the potential to provide patients with a range of process skills for self-management, and deliver improvements in clinical and psychosocial indicators of asthma control. The results also indicate the capacity for the effective delivery of such an intervention by pharmacists in Australian community pharmacy settings.

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## Introduction

Asthma is a major health problem and its impact is both physical and psychological, extending beyond the well-being of individuals, to their families and the community. Worldwide, the prevalence of asthma makes it one of the most commonly occurring chronic diseases (The Global

Initiative, 2005). Recently published figures indicate the prevalence of diagnosed asthma ranging from 2.7% of the population in Germany, to 7.1% in the United States of America (The Global Initiative, 2005). In Australia, asthma affects 10–12% of adults and 14–16% of children (The Australian Institute of Health and Welfare, 2005). Consequently, it is one of the most common reasons for hospital and medical practitioner visits (Britt et al., 2003). However, despite active campaigning, training and promotion by Federal bodies such as the Australian National Asthma Council, and State-based Asthma Foundations, asthma management practices in Australia are suboptimal. It has been suggested that new strategies are needed within primary care to ensure that asthma care meets current standards of best practice (Coughlin, Wilson, & Gibson, 2000; Reid, Abramson, Raven, & Walters, 2000; Ruffin, Wilson, Southcott, Smith, & Adams, 1999).

Self-management of chronic illness is becoming increasingly important in the community as life expectancy increases and the population becomes more susceptible to diseases such as circulatory and respiratory disorders. Effective self-management of asthma is a complex process that is influenced by patients' attitudes and beliefs about their asthma, their perceived competence and confidence in their ability to self-manage their illness, and perceptions of high-quality healthcare provider (HCP) support (Battersby, Ask, Reece, Markwick, & Collins, 2004; Bender, 2002; Horne & Weinman, 2002).

Individuals need to engage in various cognitive and behavioural processes, ranging from a simple recognition that there is an absence of any asthma symptoms on a given day, to a complex array of almost hourly assessments of symptoms, identification of known triggers of asthma, and subsequent modifications of medications and behaviour. The uptake of complementary therapies (Blanc, Ware, Katz, Smith, & Yelin, 1997; Ernst, 1998) and inappropriate use of reliever medications (e.g. Short-acting beta-2 agonist inhalers) for the treatment of asthma (Cerveri et al., 1999; Reid et al., 2000) reflects the desire by people to self-manage their illness. For many, however, attaining optimal asthma self-management can be a difficult task (Clark & Partridge, 2002). Some of this difficulty may be due to the episodic nature of asthma and patients' reluctance to take preventer medication when they are symptom-free. Thus, providing skills and guidance is

essential for lifelong and appropriate asthma management.

Recent research into the psychosocial aspects of asthma management has centred around patient perceptions and beliefs about asthma (Goeman et al., 2002; Horne & Weinman, 2002), the development of asthma-related measuring instruments (Hicks & Harris, 2001; Marks, Dunn, & Woolcock, 1992; Tobin, Wigal, Winder, Holroyd, & Creer, 1987) or the delivery of an intervention based on HCP-directed methods to encourage changes in patient illness behaviour (Narhi, Airaksinen, & Enlund, 2002; Put, van den Bergh, Lemaigre, Demedts, & Verleden, 2003; Thoonen et al., 2002). Although these intervention studies have sought to equip the patient with the desired asthma self-management skills, there do not appear to be any intervention studies designed to test a theoretical model of self-management in asthma care.

Given the focus on improving primary-care management of asthma, pharmacists often represent an underutilised resource. Pharmacists have high levels of therapeutic knowledge and skills, and are very often the first point of contact for people with asthma. Pharmacy-based asthma interventions in Australia so far have included the identification, education, management, review and appropriate referral of people at risk, and have demonstrated significant improvements in clinical, psychosocial and economic outcomes (Burton et al., 2001; March, Gilbert, Roughead, & Qunitrell, 1999; Saini, Krass, & Armour, 2004). A pharmacy-based asthma self-management intervention has also been undertaken in England (Barbanel, Eldridge, & Griffiths, 2003) resulting in significant improvements in intervention group participants' asthma symptoms at 3-month follow-up. However, while the facilitation of self-management skills was included in some of these studies it was not the main focus, and the process did not reflect a strong theoretical basis. In the current study we sought to redress this imbalance by focusing almost entirely on patient self-regulation of asthma management behaviour, using a theoretical framework to underpin the intervention, within a community pharmacy health-care setting.

The current study tested an intervention based on a self-management model of illness behaviour (Bandura, 2005; Horne & Weinman, 2002; Leventhal, Brissette, & Leventhal, 2003; Maes & Karoly, 2005; Wright, Barlow, Turner, & Bancroft, 2003) in an asthma population in Australia. This

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