

ASTHMA EDUCATION

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ABSTRACT

Worldwide, studies show that adherence in chronic asthmatics is less than optimal, both in terms of using preventer medication and in inhaler technique. Asthma education aims to reduce exacerbations by enabling the patient or parent to recognise and act upon early warning signs. This in turn will result in shorter hospital stays and reduce the need for oral therapy. A number of studies evaluating educational intervention in children and adults and its effect on health outcomes are discussed.

Worldwide, studies show that adherence in chronic asthmatics is less than optimal.^{1,2} Steroid-phobic asthmatics are notoriously non-adherent to inhaled corticosteroids, the most effective preventer treatment for asthma. In addition, it is well recognised that inhaler technique is often flawed in asthmatic children.³⁻⁵

Health care professionals will agree that patient involvement is a vital part of the management of any chronic condition, and asthma is a particularly good example of this. Asthma education aims to reduce exacerbations, because the patient or the parent will be able to recognise early warning signs and act accordingly. This leads to shorter hospital stays, decreases effects of hospitalisation and reduces exposure to side-effects from repeated courses of oral corticosteroids. It may also result in decreased disruption of the family unit, decreased expenses to the hospital and individual, patient empowerment and reduced absenteeism from school or work.

BENEFITS OF ASTHMA EDUCATION

Why is education more important in asthma than in many other diseases? An asthmatic only sees his/her doctor at check-ups or during acute exacerbations, but asthma is a disease that varies from day to day. Because patients must make decisions about their treatment on a day-to-day basis, it is essential that they are educated and empowered about how to do so.

The current edition of the *Cochrane Database of Systematic Reviews* contains six completed meta-analyses of studies assessing the effects of asthma education in adults and children. Two studies concerned educational interventions in children. In a meta-analysis of 32 studies involving 3 706 patients, Wolf *et al.*⁶ found that educational programmes during regular follow-up visits were associated with improvement in measures of airflow, reduced days of school absenteeism and reduced emergency room visits. In con-

trast, meta-analysis of studies assessing education given during an emergency visit for an acute exacerbation⁷ did not seem to be as effective.

Three studies assessed educational interventions in adults. Limited education only⁸ (transfer of information about asthma, its causes and treatments) without intensive education (how to prevent exacerbations, use medication effectively, monitor symptoms and implement self-management plans) did not appear to improve health outcomes. However, the meta-analysis⁹ comparing usual care vs. usual care plus intensive education and self-management plans showed clear benefits. Self-management education reduced hospitalisations, emergency room visits, unscheduled visits to the doctor, days off work or school and nocturnal asthma, and had positive effects on quality of life scores. In an attempt to assess whether there was benefit (or adverse effect) from patient self-management, sub-analysis¹⁰ was carried out to assess the effects of patient self-management using a written care plan vs. adjustment by a doctor. The two interventions were found to be equal. In addition, written peak-flow-based plans vs. symptom-based plans were found to be of equal efficacy;¹¹ however the study¹² analysing whether written plans alone were associated with better outcomes for adults and children with asthma showed inconsistent results.

The studies show intensive education has more benefit than limited education. Key elements of intensive education should be the recognition of symptoms and the provision of a self-management plan. We must now face the truth: given appropriate training, the asthmatic patient can make the decision to step treatment up or step down on a daily basis. In addition, although symptoms correlate poorly with peak expiratory flow rates, both can be used to tailor self-management plans. They give different information and symptoms are often more important in the mild asthmatic while peak flow rates may be more useful in severe disease and in those with poor symptom recognition.

When should education be done? The studies support education during regular follow-up visits rather than during emergency visits. This underlines the need for a service that specialises in the treatment of asthma, and develops resources, policies for treatment and protocols and techniques of education. Yet, in developing countries, chronic conditions present mainly at the primary health care level and need to be handled principally in these settings. Most primary health care is orientated towards acute problems and the urgent needs of patients. Improving health care for chronic conditions thus requires dissemination of education goals and techniques out of sub-specialised clinics into every primary health care setting, both public and private, in order to reduce the burden of chronic conditions and enhance the patient's quality of life.

Who should do the education? We propose that an effective way to provide such a service is to train nurses in asthma education. Such training courses are offered by the National Asthma Education Programme.

The asthma nurse is well placed to reinforce the doctor's prescription and suggestions. In addition, nurses are far more likely than doctors to acknowledge

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that patient education means more than inhaler technique or the merits of anti-inflammatories. The nurse, possibly, has more time to spend with and listen to the patient. **Nurses with a positive, non-judgemental attitude contribute towards adherence, and the elicitation and transfer of simple, but important information.** It is vitally important to deal with asthma myths and preconceptions. These include that being sick is inevitable (and thus prevention treatment is undermined). In addition many patients believe that asthma can be cured by the force of personal will or that asthma is psychosomatic.

WHAT DO PATIENTS NEED TO KNOW?

'Limited education'

- Nature of disease
- What triggers their asthma attack, and why it is important to reduce exposure to all irritants such as cigarette smoke and identified allergens such as house dust mites and cats
- The difference between preventer and reliever treatment.
- How to effectively use an inhaler. When patients receive nebulisation at the hospital they often note a cloud of medication around and outside the mask. So patients often do not realise that when administering medication via a metered-dose inhaler, no medicine should be seen escaping. Spacers are recommended for most children. In children, particular attention is given to whether the spacer should contain a valve and have a mask attached. Studies comparing home-made bottle spacers with commercially available spacers show equal clinical efficacy¹³ and better lung deposition¹⁴ with homemade spacers!
- Side-effects of treatment and how to address them. For example, hoarseness can be addressed by using a spacer, re-examining technique and encouraging mouth rinsing.

'Intensive education'

- How to recognise symptoms and signs of worsening asthma, and self-manage appropriately.
- How to increase short-acting beta-2 agonists when necessary and at which level of symptoms to increase inhaled corticosteroids or seek further medical advice.
- How to use a symptom diary or peak flow meter.

Over and above these elements of asthma education, one should also

- Assess the status of the spacer months after it was first issued.
- Ensure that the medication prescribed by the doctor is still in the same format as originally dispensed. For example, attempts to replace the canister of one pump in the inhaler device of a different pump can lead to an inhaler not fitting the spacer.
- Assess the basics at each visit to ensure that bad habits have not formed to impair initial good technique.
- Identify the number of occasions in the last months that the patient has taken oral corticosteroids.
- Identify transition. A child seen regularly since the age of 2 using a mask becomes a 6-year-old who could use a spacer in the mouth.
- Enquire about social issues. Financial restraints may force the patient to make inhaled corticosteroids last longer, in spite of deteriorating control.
- Be aware that even should the parent arrive with the patient at every consultation, it may be a care-

giver who administers the medication, who may choose to follow her own beliefs.

- Have the time and ability to just listen – remembering that the patient with asthma lives with the condition '24/7'.

CONCLUSIONS

Asthma education is an effective intervention in the treatment of asthma. It is a rewarding and enjoyable experience for patients and caregivers.

Two messages are crucial to a basis for effective education. They may well be self-evident, but we make no apology for this. The first is **that it is essential to let patients express their wishes and discover what it is that they want to know about asthma.** If they are able to do this, they may reveal their wishes, knowledge, prejudices and beliefs about asthma.

The second is that all **patients are individuals with different needs, attitudes and beliefs.** Hence the standard educational package does not really exist. It is certainly a good idea to have a wide range of leaflets and charts, but it should be accepted that they will often not be read. Such 'limited information' should be viewed as part of the wider goal of involving patients in discussions about their asthma that can have a truly beneficial effect on their illness and quality of life.

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