

# A home-based coping skills programme for high-risk asthma sufferers

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## ABSTRACT

**Objective:** To assess the effect of an intervention on the control a patient has of their asthma.

**Design:** A specialist nurse carried out a programme of home visits, education and support over six months for patients identified as high-risk asthma sufferers.

**Setting:** Of 19 high-risk asthma sufferers in the Norwich area nine were randomised to the intervention group.

**Results:** The intervention programme was effective in encouraging patients to successfully manage their asthma and reduce the risk of exacerbations.

**Conclusions:** The results of this small pilot study support the use of this type of intervention programme.

## INTRODUCTION

Despite the availability of effective asthma medications, a significant number of patients continue to have severe exacerbations and die from this disease. The three main potentially preventable factors associated with asthma deaths have been identified as:<sup>1</sup>

- underestimation of the severity of asthma by the doctor;
- underestimation of the severity of asthma by the patient;
- under-treatment with systemic steroids.

Confidential enquiries into asthma deaths have also highlighted the contribution of adverse psychosocial factors to asthma deaths. Campbell *et al*<sup>2</sup> recommended intervention studies to explore the contribution of denial and psychiatric symptomatology to morbidity and risk of death in asthma.

In two studies, psychological intervention was effective in motivating patients to comply with treatment in a range of conditions. It was concluded that altered behaviour, as well as education plays an important role in improving outcomes in asthma.<sup>3,4</sup>

## METHODS

High-risk asthma patients were defined as those who had had at least one emergency admission for asthma and had missed two clinic appointments in the previous year. These patients were identified and invited to participate in the study after giving informed consent. The study was approved by the local Ethics Committee.

All patients were asked to complete six different questionnaires<sup>5-10</sup> to assess health-related quality of life and they were then allocated at random to intervention or control groups.

Intervention consisted of:

- home visits by a specialist nurse every two weeks for eight weeks, with weekly telephone contact;
- monthly telephone contact for the following four months.

Through forming a therapeutic and trusting relationship with the patient and allowing patients to ask questions, the specialist nurse provided education, advice and support. The patient was asked their reaction to the diagnosis of asthma and their understanding of the disease. Sources of

stress and constraints on compliance such as patient's learning skills, personality and coping styles were identified.

Self-management plans were developed for each patient, including advice on smoking cessation, weight control, exercise tolerance, relaxation and allergen avoidance. Each patient was asked to think about the impact of asthma on home/social life/work and conversely the effects that home/social life/work had on their asthma and their main concern with asthma. They were asked to identify their own social support structure. Patients were encouraged to keep a record of daily events/emotions as well as peak flow rates which gave them insight into the relationship between symptoms, peak flow rates and asthma severity.

## RESULTS

Thirty two patients were invited to enrol in this study of whom 19 agreed to participate. Of these, nine were randomised to the intervention group. No changes in behaviour patterns or self-management were seen in the control group; five of the 10 control patients dropped out.

At the start of the study, only one patient in the intervention group was keeping a peak flow chart, but all nine kept a chart throughout the study period. Unexpectedly, all nine patients demonstrated good inhaler technique before the study and only one did not understand how their asthma medication worked. The effects of the intervention on patients' attitude to and knowledge of their asthma are summarised in Table 1.

Case histories of three patients illustrate the success of the intervention programme in achieving lifestyle changes which reduced the risk of asthma.

### Case 1

A 15 year old girl living at home with her mother, sister and stepfather. Both parents smoked, there were 11 cats, three dogs and two budgerigars in the home and the house smelt strongly of air fresheners. By the end of the intervention period, the mother had stopped smoking, the stepfather smoked only outside, the number of cats had been reduced and air freshener use had been reduced.

The identified psychological problem was an over-anxious mother whose daughter had a difficult birth and nearly died. The mother had developed raised anxiety levels about her daughter's health. This subject had never been formally approached and dealt with. The mother's new heightened knowledge of asthma and its treatment proved successful in reducing her anxiety, enabling the daughter to take charge of her own asthma.

**Table 1: Effects of intervention on patients' attitude and knowledge**

	Pre-intervention	Post-intervention
PEF chart	1/9	9/9
Good inhaler technique	9/9	9/9
Knowledge of how medication works	8/9	9/9
Able to explain physiology of asthma	2/9	9/9
Appropriate reaction to worsening asthma	1/9	9/9
Overestimation of severity of asthma	4/9	1/9
Underestimation of severity of asthma	5/9	1/9

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Studies have shown that reduction to allergen exposure can reduce allergic symptoms. In the home these allergies are primarily caused by house-dust mites, pets and tobacco smoke.

### Case 2

A young mother who lived with her two sons. She had always denied her asthma: she did not take her inhaled steroids, she smoked, was overweight and took no exercise. After the intervention period, her attitude towards her asthma had changed: she complied with her medication and kept a peak flow chart; she was reducing her cigarette smoking, taking exercise and had joined a diet club.

Without objective measurements i.e. PEF readings, people with asthma could over or under estimate the severity of their asthma. Breathlessness caused by being unfit or overweight could be interpreted as 'asthma' without this objective measurement.

### Case 3

One lady, aged 56, who lived with her partner was on step 5 asthma treatment from her general practitioner. There had never been any PEF records to back up the need for all this medication. Since keeping a record chart this lady's treatment has been reduced from step 5 to step 4 of the asthma management in accordance with the *British Guidelines on Asthma Management*.<sup>11</sup>

There was a general agreement that keeping a PEF chart was helpful for both the patient and the nurse. The patients agreed that thinking about their asthma and keeping a diary of their feelings helped them in controlling their asthma symptoms. Self-management of their asthma came higher in the patients' list of priorities at the end of the intervention period.

### CONCLUSIONS

Although the numbers are very small, the results indicate that the intervention programme was effective in encouraging patients to develop their own priorities

for managing their asthma and reducing the risk of asthma exacerbations. Home visits provided a more relaxed atmosphere which was more appropriate for this type of psychological intervention than a busy outpatient clinic. All the patients were grateful for the one-to-one attention which ensured that some one listened to their views.

This was a small pilot study but the results support the use of this type of intervention and further studies would be justified.

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### References

1. Harrison B D W, Pearson M G. Audit in acute severe asthma – who benefits? *J R Coll Physicians Lond* 1993; **27**: 387-90.
2. Campbell D A, Yellowlees P M, McLennan G *et al*. Psychiatric and medical features of near fatal asthma. *Thorax* 1995; **50**: 254-9.
3. Kirscht J P, Kirscht J S, Rosenstock I. A test of intervention to increase adherence to hypertensive medical regimens. *Health Educ Q* 1981; 261-72.
4. Yoon R, McKenzie D K, Bauman A *et al*. Controlled trial evaluation of an asthma education programme for adults. *Thorax* 1993; **48**: 110-16.
5. Zigmond A S, Snaith R P. The hospital anxiety and depression scale. *Acta Psychiatr Scand* 1983; **67**: 361-70.
6. Goldberg D P, Williams P. *A users guide to the general health questionnaire*. Windsor, NEFR Nelson 1988.
7. Pilowsky I, Spence N. *Manual for the Illness Behaviour Questionnaire*. Adelaide, University of Adelaide 1994.
8. Rand: 36 item Health Survey. *1.0 Rand Health Sciences Programme*. Santa Monica, C A Rand Corporation 1992.
9. Wallston B S, Wallston K A, Kaplan G D *et al*. Development and validation of the Health Locus of Control (HLC) Scale. *J Consult Clin Psychol* 1976; **44**: 580-5.
10. Hyland M M. The living with asthma questionnaire. *Resp Med* 1991; **85**: 13-6 (Suppl B).
11. The British Thoracic Society, The National Asthma Campaign, The Royal College of Physicians of London *et al*. British guidelines on asthma management. *Thorax* 1997; **52**: S1-21.

## Evaluating Asthma Audit – experiences from practice

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### ABSTRACT

**Objectives:** To elicit how a clinical audit package is used within general practice and explore perceptions of audit as an educational tool.

**Design and subjects:** Semi-structured interview of health professionals within eight selected general practices who participated in a National Audit of Asthma Management.

**Results:** The audit process was found to be valuable in highlighting the strengths and weaknesses in asthma management. In seven out of the eight practices the lead person conducting the audit was a nurse. The most common problems encountered

were time constraints, incomplete information in the notes and lack of a common working practice.

Three practices complained of patients who did not attend for assessment, one complained that the audit had been imposed on her and two found the randomisation procedure difficult to follow. The feedback was found to be fair, relevant and thought provoking. Proposed changes were identified including updating of asthma lists and of recall systems, improved information recording, and an increased role and more training for nurses. The importance of repeating the audit was acknowledged.