Goal setting by people with asthma – what do they want?

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Authors' role in the study

All three authors were involved in the data collection, data analysis, data review and writing of the manuscript.

Abstract

Objectives and background: Asthma results in significant morbidity and health care expenditure. National and international asthma management strategies are designed to help health care professionals facilitate patient self-management of their asthma. However, despite the presence of these strategies and evidence that they improve asthma outcomes, asthma control remains poor. We have recently undertaken two intervention studies in Australian community pharmacies which included patient goal setting to help address the issue of asthma self-management. The aim of this study was to determine the extent to which the patient goals data gathered in these studies could be mapped to the National Asthma Council Six Step Asthma Management Plan (SSP).

Methods: Data from the two intervention studies were analysed using a relational table which mapped patient self-management goals to the SSP.

Results: Between 65% and 85% of goals set by patients were consistent with the SSP. Most of these goals related to Steps 3 and 4. Up to 35% of goals set by patients were not consistent with the SSP and related to exercise, losing weight and keeping healthy and stress free.

Conclusions: These results suggest that people with asthma set a range of personal asthma goals which do not always align with current clinical practice recommendations. Future research could target patient's personal preferences for asthma management so that a closer alignment between treatment and patient asthma management behaviours can be obtained.

Keywords: asthma, asthma management plan, goal-setting

Short title: Goal setting by people with asthma

Introduction

Asthma is a chronic inflammatory disorder of the airways, the symptoms of which are associated with significant morbidity and mortality and poor quality of life.[1-3] Asthma, like other chronic diseases, requires daily self-management practices which include monitoring and managing of symptoms, adhering to treatment regimens, maintaining a healthy lifestyle, and managing the impact of the illness.[4]

The Six Step Asthma Management Plan (SSP) (Table 1) was launched by the Australian National Asthma Council (NAC) to combat the burden of asthma and includes a series of targets, some of which are aimed at improving asthma self-management.[5] The most recent edition of the *Asthma Management Handbook* [6] also includes a section on self-management education of the patient and encompasses the major aspects of asthma treatment and care,[7] such as asthma severity, lung function, medications, and review, along with algorithms and specific treatment goals to facilitate effective asthma management. Despite the development and implementation of the SSP and international statements for best practice,[8] asthma morbidity and mortality nevertheless remains of concern in both Australia and other western countries,[9-10] and uptake of these management plans is less than optimal.[11]

Asthma self-management has also been targeted through numerous clinical interventions,[12-24] via education

Table 1: National Asthma Council Six Step Asthma Management Plan[5]

Step 1 – Assess asthma severity
Step 2 – Achieve best lung function
Step 3 – Maintain best lung function: identify and avoid triggers
Step 4 – Maintain best lung function: optimise medication program
Step 5 – Develop an asthma action plan
Step 6 – Educate and review

provision,[16,18-19] action plan utilisation,[12,14,20] spirometry,[15] culturally sensitive programs,[21-22] and developing mutual understandings between health care provider and patient regarding asthma treatment and on-going care.[23-24] These patient-centred solutions aimed to promote asthma self-management behaviour and increase adherence to recommended treatment. However, increasing patient motivation has not been entirely successful and these interventions have met with limited success. Thus, the disparity between asthma management plans and their utilisation in previous intervention studies to help improve patient self-management on the one hand, and indices of optimal asthma control on the other, suggest that not enough is known about those factors which motivate patient behaviour.

Community pharmacy asthma interventions

Goal-setting is based on the self-regulation of illness behaviour theory[25] which proposes that individuals use their perceptions and experiences to bridge gaps between their current health status and their ideal status. Whilst goal-setting is often a subconscious process, making this an explicit problem solving activity allows the individual to develop clear objectives, strategies and goal monitoring, thus increasing the likelihood of increasing their motivation to be more actively involved.[26] This process may have the potential to improve current patient asthma self-management practices and hence improve asthma control and quality of life. We recently conducted two asthma interventions in the Australian community pharmacy setting with patient goal-setting being a key component of the service delivered.[27-28]

The **Community Pharmacy Self-Management Project (CPSP)** was a randomised, controlled, parallel group study developed from the self-regulation model of health behaviour.[29] Participating pharmacies were located in the Sydney metropolitan area and 109 patients aged 18 years and over with a previous diagnosis of asthma were recruited. The project's service delivery included identifying and prioritising patient-perceived problem areas associated with asthma management, setting personal goals and developing strategies to achieve these goals, monitoring of progress in terms of achieving set goals, and feedback between the pharmacist and study participant. This process took place over six visits scheduled within nine months.

The **Pharmacy Asthma Care Program (PACP)** utilised a multi-site, randomised intervention versus control, repeated measures design within four sites in Australia. A total of 396 patients between the ages of 18 and 75 with poorly managed asthma were enrolled in this study. Community pharmacies were recruited randomly from New South Wales (NSW), Victoria and Queensland. The elements of the PACP service were based on the SSP and included identification of people with poorly managed asthma followed by an ongoing cycle of assessment, management and review in collaboration with GPs. Four visits to the pharmacy were scheduled over a six month period. The service included: spirometry, education on condition, medication, and lifestyle issues such as trigger factors, inhaler technique review and feedback, adherence assessment and detection of drug-related problems, patient-focussed goal-setting and review and referrals as appropriate to health care professionals.

Thus, while there were some differences between these two intervention services, patient-centred goal setting was common to both studies, and pharmacists were trained to facilitate rather than direct the types of goals patients nominated. Outcome measures common to the two studies included asthma quality of life, asthma control, asthma self-efficacy, medication adherence and goal setting. Results showed that both interventions delivered significantly improved health outcomes with respect to asthma control, asthma self-efficacy, medication adherence and quality of life.[27-28]

The objectives of the current study were to compare the goals-related data obtained during these two studies with the SSP to investigate the extent to which the two were aligned. By identifying those goals which patients most want to achieve, our understanding of patient motivation will be enhanced.

Methods

Study design

Data from two asthma self-management projects were analysed retrospectively. Data analysed included patient-developed goals relating to aspects of asthma management and their alignment with the SSP. For the purpose of this study and to match patients with demographics similar to those in the CPSP, PACP data from metropolitan Sydney pharmacies only were used for analysis in this study. Ethics approval from the University of Sydney Human Ethics Committee was obtained prior commencing this study.

Data collection and primary synthesis

A data collection form was developed which consisted of a section for recording the goals set by patients during the two intervention studies. Other information collected included the pharmacy code and the number of goals set and achieved. Goal themes were identified and analysed following the completion of the data collection process. This process was undertaken by one researcher, then the interpretation and assigning of themes was cross-checked and discussed by two others in order to minimise potential researcher bias.

The patients' goal-setting data sheets from the original projects were used to collect and document the goals set. The number of different goals set was also confirmed from these sheets. The raw number of goals set and goals achieved were recorded on the data collection form. Goal achievement was calculated as a percentage for each patient.

Qualitative data analysis

Mapping patients' goals

Defining criteria were developed to classify goals as either concordant or not concordant with the elements of the SSP. Using a list of possible keywords, objectives and goals were compiled for each of the six steps. These were unique for each step, to allow for differentiation of patient goals into each step. If goals satisfied the criteria, they were deemed to be concordant with that step of the SSP. Goals that did not meet any of the criteria were classified as 'None' and later investigated independently to reveal any emergent themes or motives. A relational table was created so that goals could be mapped to the relevant steps of the SSP. A conservative approach was taken in the mapping of goals to the SSP. For example, a number of participants set a goal of quitting smoking to improve their overall health, as opposed to preventing an exacerbation of their asthma. For the purposes of this study, however, any goals relating to smoking were mapped to Step 3 of the SSP.

Thematic analysis of goals

Following the compilation of all data required from the patient files into the data collection forms, goals were grouped into emergent themes. Once groups of similar goals were grouped into these themes, they were labelled with an overall theme name and tallied.

Quantitative data analysis

Comparison of themes

Counts were used to determine the frequencies of emergent themes and frequencies of goals that were concordant with the SSP. The percentage of goals achieved for each individual patient was calculated. These data were entered into Microsoft Excel and the Statistical Package for Social Sciences (SPSS).

Results

Overall 35 completed patient files from nine different intervention pharmacies were available for analysis from the CPSP and 55 completed patient files from eight different intervention pharmacies from the PACP. The number of patients per pharmacy ranged from one to 10 for the two projects. All patient files (n=90) had completed goal-setting sheets, setting a total of 250 goals at an average of three goals each.

Mapping goals to the Six Step Asthma Management Plan[5]

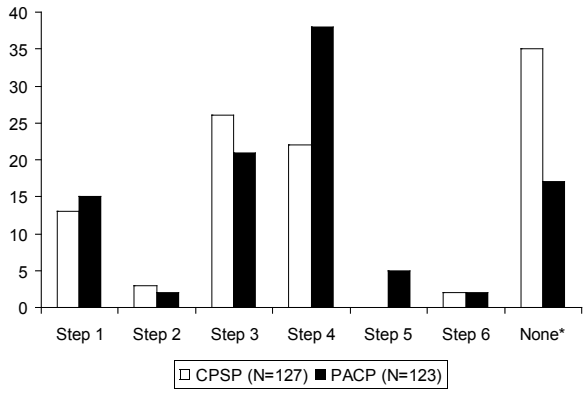
Using the relational table to map goals, results indicated that between 65% of the CPSP and 83% of the PACP goals set by patients were consistent with the SSP (Figure 1). Steps 3 and 4 of the SSP accounted for 54% of the total number of goals for the two projects combined: most patients wanted to focus on issues relating to medication management and the majority of these goals aligned with Steps 3 and 4 (Maintain best lung function – identify and avoid triggers; Maintain best lung function – Optimise medication program) (Table 2). Clearly these are important issues to patients, suggesting that they are motivated and interested in wanting to address these areas of asthma management. Goals set by patients that aligned with Steps 1, 2, 5 and 6 featured infrequently in both projects; these Steps combined accounted for approximately

Table 2: Goal themes identified for CPSP and PACP

Goal Themes (n=250)	% of total goals	CPSP %	PACP %	NAC Step
Exercise and diet	18.8	23.3	13.8	'None'
Allergy/trigger management	10.0	14.8	4.8	3
Symptom minimisation	9.2	8.6	11.4	1
Adherence to medication	8.8	10.1	7.3	4
Medication reduction	8.4	8.6	8.1	4
Inhaler technique	5.6	1.5	9.7	4
Avoidance of other illnesses	4.8	5.4	3.2	3
Exercise-induced asthma	4.8	4.7	5.7	3
Review condition/ medication	4.8	0.0	10.6	4
Asthma self-assessment	4.0	3.9	4.0	1
Smoking cessation	4.0	0.8	7.3	3
Anxiety/stress control - general	3.6	5.4	1.5	'None'
Action plan	2.4	0.0	4.9	5
Side-effect management	2.4	2.2	2.4	4
Overall health and energy	2.0	3.1	0.0	'None'
Acquiring disease knowledge	1.6	1.5	1.5	6
Improve lung function	1.6	3.1	2.4	2
Other*	3.2	3.0	1.4	
Total	**100**	**100**	**100**	

*Included themes that were not classifiable by neither the SSP or 'none'. Statements included: 'Get on top of asthma', 'Become more confident in my control of asthma', 'Keep looking after myself'.

Figure 1: Percentage of goals concordant with Six Step Asthma Management Plan[5]



* Includes: Exercise and diet, anxiety/stress control – general, overall health and energy, and other.

19% of total goals set. Step 5: 'Develop an Action Plan' was unique to the PACP data and it represented only 2% of goals set.

Goals that did not align with the Six Step Asthma Management Plan[5]

Between 35% (CPSP) and 17% (PACP) of goals set were not concordant with the SSP (Figure 1). Analysis of the goals that were classed as 'None' revealed a range of issues which, whilst important to the patient, were not reflected in the SSP. These included increasing exercise to lose weight and keeping fit, maintaining a healthy diet, reducing stress and anxiety, and improving overall health and energy (Table 2).

The theme of 'Exercise and Diet' was the most prevalent theme identified. Patients expressed their desire to undertake some form of physical activity in order to lose weight or become fit. For example:

'Try to do some swimming'.
'To do more walking'.
'To get down to 60 kg'.
'Continue to use pedometer to lose weight'
'Be careful with diet over Christmas'.
'Not to put on weight during holiday'.

The theme 'Anxiety and Stress Control' also emerged as a set of goals not classifiable as part of the SSP (Table 2). These patients did not view anxiety or stress as a trigger of their asthma, rather they expressed a desire to reduce overall stress in life and alleviate any anxiety, for example:

'Reduce stress in life'.
'Remain anxiety free'.

Patients also expressed a desire to improve their overall health status. This was reflected by goals such as:

'Avoid getting run down'.
'Keep looking after myself'.
'Have more energy'.

Discussion

We have explored the goal setting data from two asthma management interventions which had positive outcomes for patients. A large proportion of goals set by patients were consistent with the SSP, thus indicating those aspects of asthma management which are important to patients. Between 17% and 35% of goals set by patients in the two studies were not concordant with the SSP. Despite differences in the proportions of goals between the two studies which did not align with the SSP, there remains a clear indication that patient goals may not always match those of the clinician. These goals related to weight loss, maintaining a healthy diet and stress reduction.

Studies have shown that such themes are of greater importance to patients than their clinical counterparts. Steven *et al.*[30] found that 'exercise' and 'encounters with triggers' were some of the personal aspects which contributed to the achievement of a normal life by patients living with asthma. Lifestyle goals such as these require motivational counselling[31-33] and a focus on intrinsic sources of motivation such as personal satisfaction and interest.[34] This is in keeping with Steven *et al.*'s[30] findings that patients prefer to improve their asthma as a means of achieving life goals such as socialising, family and relationships. Patients setting personal goals also illustrates the need for acknowledgement of patient-centred care in clinical practice.

In the UK a cross-sectional qualitative study concluded that despite the British Thoracic Society's asthma management guidelines being based on best available scientific evidence, their practicality in the primary care setting was limited due to the lack of patient representation in deciding the content of the guidelines.[24] Similarly, Nishimura *et al.*[35] found that psychosocial factors associated with asthma management are not improved even if asthma control is improved, as they are not sufficiently addressed by British asthma guidelines. People's goals and motivations both in this study and in previous goal setting studies[24,30] were not predominantly to improve asthma morbidity *per se*, but rather to undertake behavioural change, some of which can lead to improved asthma self-management. Hence, it seems worth considering that future revision of asthma management plans such as the SSP should aim to address patient concerns and motivations when addressing asthma management.

It is these 'personal factors' which may ultimately motivate the patient to be more actively involved in asthma management and this could be taken into consideration in the future. By facilitating patient motivation and interest to asthma management adherence to treatment will be enhanced.

The disparity observed between clinical targets and patient targets could also be because patients are not well informed. Major gaps between recommended asthma management and patient knowledge and perceptions have been observed in a number of other studies.[36-38] For example in a sample of asthma patients in Australia the uptake of asthma action plans had halved (42.2% to 20.8%) between 1994 and 2003.[39] Thus, there appears to be a need for patients to be more informed of treatment goals.

The results of this study suggest that community pharmacists could include some discussion of goal setting when counselling their patients on asthma management. This can be achieved by firstly identifying those asthma management issues of most interest and importance to the individual patient, and working with the patient to set achievable and realistic goals. As shown by our analyses, many of these issues will have a clear clinical focus, such as those relating to medications and avoiding triggers. Others may be more lifestyle-related and not be directly associated with asthma control. However, as our previous work in this area shows,[27,28] adopting a patient-focussed goal setting approach by the pharmacist can be lead to improved health outcomes.

There are some limitations of this study: firstly, the themes of goals were derived from secondary sources; these were the goal-setting sheets completed by the patient during their visits to their pharmacist. Future investigations may choose to include individual interviews with patients to further explore the goals which are important to them. Secondly, the sample used in this study was limited to those patients residing in the Sydney metropolitan area and thus may not be generalisable to other populations. Lastly, the qualitative methodology was restricted to thematic analysis, and comparison between goals and the SSP was quantitative. In-depth, face to face interviews would have enabled a more sophisticated qualitative analysis of patients' asthma management goals.

Conclusion

Patients with asthma set personal goals which can differ to clinical treatment goals. From our work, the studies described here resulted in better health outcomes for patients and provided a source of data showing that there is a range of goals important to patients which do not currently align with current clinical practice recommendations. By achieving a closer alignment of patient and clinician goals these changes may help to improve patient self-management of asthma and overall quality of life. Future research into asthma management could explore the means of harnessing patient motivational processes via personal goals so that clinical treatment targets can be reached.

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