


# Barriers in the management of asthma and attitudes towards complementary medicine

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**Abstract** *Background:* Undertreatment is said to be an important problem for those with asthma. Misconceptions regarding the nature and treatment of asthma may contribute to this. This study was planned to evaluate the perception of those with asthma about various aspects of their condition. *Methods:* A total of 1012 patients with asthma volunteered to complete the questionnaire. Questions included those regarding severity, nature, regularity of use of medicine and attitudes towards trying complementary medicine. Forced expiratory volume in 1 s (FEV<sub>1</sub>) was measured to assess the severity of airway obstruction. *Results:* Only 9% of patients took treatment for asthma according to the advice of the doctor. The remainder reported stopping treatment when they became free of symptoms or were able to tolerate their symptoms. A majority of the patients had moderately severe airway obstruction as determined by spirometer and reported being unable to assess the severity of their disease with only 11.9% reporting that they could perceive the warning symptoms of an acute attack. Seventy-nine percent of the patients had used complementary medicine. Home remedies, such as tea, hot water, walking, ginger and turmeric, were perceived to provide relief in asthma. *Conclusion:* Patients with asthma have many barriers in the way of optimal treatment. These include a failure to recognize warning symptoms, belief in a permanent cure; not continuing treatment for as long as needed; and, an inclination to seek complimentary medicines. © 2002 Elsevier Science Ltd. All rights reserved.

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**Keywords** asthma; complementary therapies; misconceptions about asthma.

## INTRODUCTION

Asthma is a common condition affecting 15–20 million people in India (1). It is an important cause of morbidity and causes 148 000 deaths annually (2). Though the exact factors responsible for it are not clearly known, undertreatment has been suggested to be an important problem in the management of asthma. In our study in India, only 10% of the patients were using inhaled therapy and use of preventive treatment was even less (3). Various cultural misconceptions regarding the nature and treatment of the disease may be contributing to this problem and many patients seek complementary medicines. This study was planned to evaluate the perception of patients with asthma regarding various aspects of the disease.

## METHODS

Names and addresses of patients attending the asthma clinic were obtained from the clinic register. Letters were sent to them with a request for their participation

in the project. Two reminders were sent to the non-responsive patients. In all, 1012 (62%) patients responded and gave informed consent and were included in this study. All were diagnosed according to the criteria of the American Thoracic Society (4). Questionnaires were completed by the patients themselves or with assistance from a health worker. Forced expiratory volume in 1 s (FEV<sub>1</sub>) was determined with “Medspiror” spirometer and was expressed as a percentage of the predicted FEV<sub>1</sub>.

## Preparation of questionnaire

The aim of the study was to identify potential problems in the behavior of patients. To aid in this, an initial study was carried out in 50 new patients attending the asthma clinic. The questions were designed to elicit spontaneous comments. Based on the answers to the initial questionnaire, the questions with predictable replies were formatted as multiple choice answers. These were then used in the main study. The question of severity of asthma were based on four questions used in an earlier study (5). One question, “Apart from medicine what provides you relief during an

attack of breathing trouble?" remained open ended. The percentages of positive replies were recorded.

## Statistical method

Comparison of proportion between pairs of groups was done by chi-square test. Percentage in positive responders was compared with percentage of negative responders, using two-sample *t*-test.

## RESULTS

A total of 1012 patients replied to all the questions. These included 401 males, 396 females and 215 children (mean age 28.5+12.3 years). According to the patients' perception, the clinical state of the disease was stable in 891 (87%). Four hundred and thirty-nine (43.4%) of the patients were prescribed inhalers while 382 (37.8%) were advised to take oral medicines (Table 1). Symptoms reported by the patients are described in Table 2. Only 155 (15.3%) knew that asthma is a controllable but not curable disease while 857 (84.7%) expected a complete cure or were ignorant about the likely long-term nature of their condition (Fig. 1).

Only 120 (11.9%) of the patients were able to perceive warning signals before an attack of asthma (Fig. 2), and wheeze and chest tightness were the most frequently perceived warning symptoms. Cough, wheeze and breathlessness were the most frequently reported

symptoms (Fig. 3). Chest tightness was reported by only by 153 (15.1%) patients.

In response to the question regarding the regularity of the taking of medicines, results showed that only 91 (9%) were taking continuous regular treatment (Fig. 4). After an attack of asthma, a majority of patients stopped treatment when they became asymptomatic or the symptoms became tolerable. Only 93 (9.2%) stopped therapy on the advice of their doctor (Fig. 5). In the sample, 670 (66.2%) of the patients had asthma more severe than mild persistent, since the symptoms were occurring more frequently than once a week (Table 2); 489 (48.3%) of the patients had FEV<sub>1</sub> less than 60% of the predicted. (Fig. 6).

With regard to the differential use of oral and inhaled medication, there was variation in acceptance in children, and between males and females. Inhalers were preferred by 103 (48%) children and 152 (38%) males, while only 28 (7%) females chose inhalers (Fig. 7). Among children, 63 (58.8%) boys and 40 (40%) girls preferred inhalers to tablet therapy.

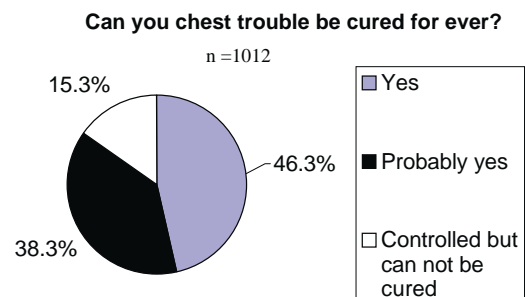
Regarding the type of therapy, 972 (96%) had taken modern medicines, while 799 (79%) had tried complementary medicine. Among the complementary therapies reported to have been used, ayurved (traditional Indian system of medicines mainly herbal), homeopathy and yoga were used by 335 (33%), 334 (33%) and 213 (21%) patients, respectively. A majority of participants reported relief through modern medicines and yoga, while some found relief from other types of complementary therapies (Fig. 8).

**TABLE 1.** Characteristics of the patients (n=1012)

	Number of patients (%)
<i>Asthma control: patient's perception</i>	
Controlled	891 (87)
Not controlled	121 (13)
<i>Prescribed therapy of the subjects</i>	
Oral	382 (37.8)
Oral with inhaler	191 (18.8)
Inhaler	439 (43.4)

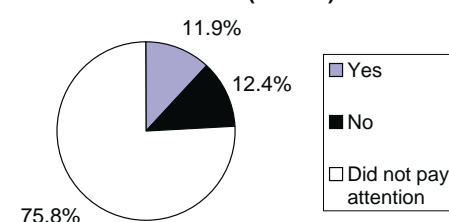
**TABLE 2.** Frequency of asthma symptoms in the subjects

Frequency of symptoms	Number of patients (%)
Every day	88 (8.7)
On most days of a week	207 (20)
Once or twice a week	375 (37)
Once or twice a month	113 (11)
Less than once a month	95 (9.4)
Not at all	134 (13.2)



**FIG. 1.**

**Do you feel symptoms just before attack of chest trouble? (n=1012)**



**FIG. 2.**

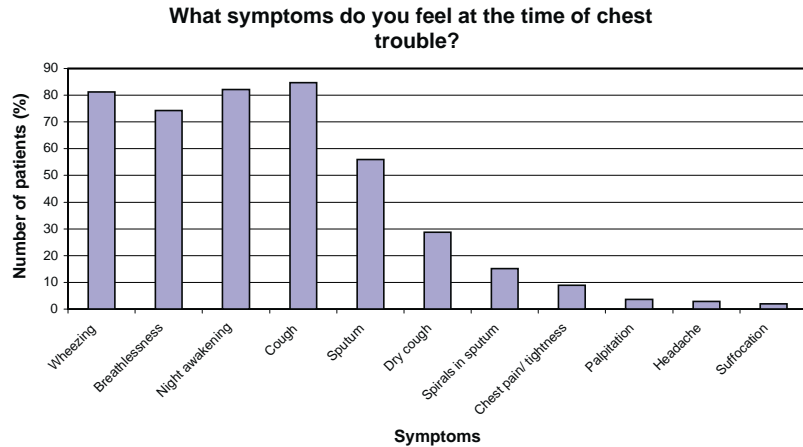


FIG. 3.

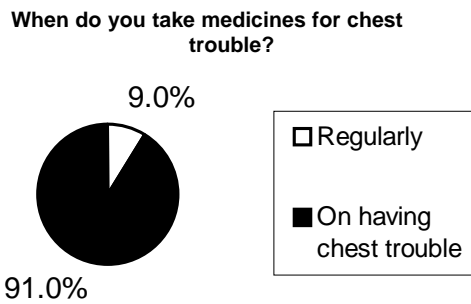


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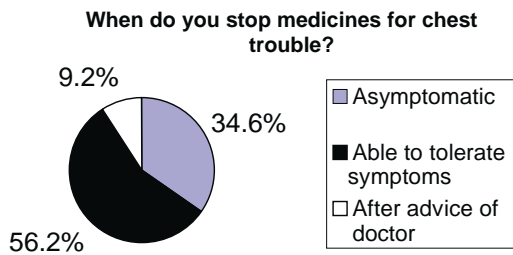


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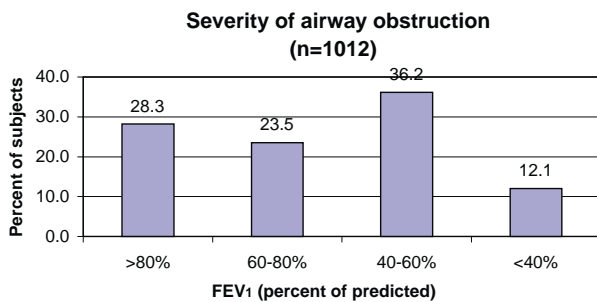


FIG. 6.

As many as 506 (50%) people reported being better in the day time. At the time of an attack, many people tried to find relief by using simple home remedies, or change in

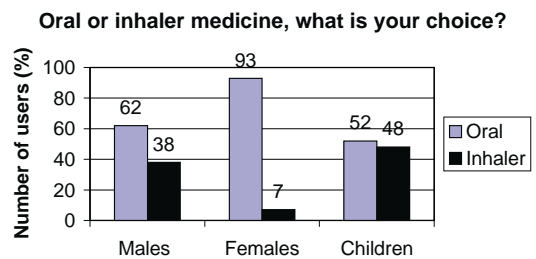


FIG. 7.

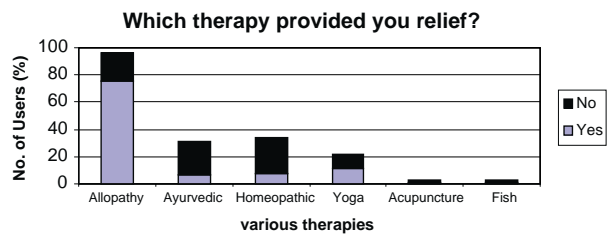


FIG. 8.

life style. Hot substances, especially tea, were reported to have provided relief by 479 (47.3%) subjects. Ginger, Turmeric, sugar crystals, cloves and light meals were reported to be useful. Activity was reported to provide relief by some individuals. Rest and sitting appeared beneficial to some, while others got relief with walking (Table 3).

## DISCUSSION

Nearly two-thirds of the patients had been advised to use inhaled drugs, compared with only 10% of patients in an earlier study in India (3). This suggests increasing prescriptions of inhaled drugs for the management of asthma in India. Asthma is a controllable disease but it cannot be cured (6). Remissions, spontaneously or after therapy—sometimes for a prolonged period—are

**TABLE 3.** Apart from medicine what provides you relief during attack of breathing trouble?

	Number	Percent
1. Day time	506	50***
2. Hot		
Hot tea	479	47.3*
Water	170	16.8*
Meals	77	7.6
Saline gargles	61	6.0
Fomentation	26	2.6
Environment	26	2.6
Bath or putting legs in hot water	13	1.3
3. Edibles		
Ginger	71	7.0**
Turmeric	64	6.3*
Light meals	36	3.6*
Sugar crystals	34	3.4
Clove	21	2.1
Long Pepper ( <i>Piper longum</i> )	12	1.2
4. Rest	121	12.7**
5. Sitting	66	6.5
6. Walking	46	4.5
7. Breath in fresh air	26	2.6
8. Miscellaneous	111	11.0

*n* = 1012

The last column is percentage in positive responders to each triggers compared to percentage in negative responders by chi-square test.

\**P* < 0.05.

\*\**P* < 0.01.

\*\*\**P* < 0.001.

common characteristic features of asthma. This fact was known to only 15.3% of the patients. The rest had expectations of a permanent cure. The "Sick again and well again" cycle in the background of expectation of permanent cure may add to a patient's stress. On recurrence of asthma, such patients may stop regular treatment and switch over to less scientific therapies but with unsubstantiated claims of a permanent cure.

Many people believe that therapies like yoga, homeopathy and Ayurveda do not provide immediate relief but can cure asthma, provided one takes the therapy for a long period and with strict dietary restrictions. Some studies have observed beneficial effects of complementary therapies, especially yoga (7–10). Failure to obtain a cure may motivate a patient to search for magic cures as claimed for many complementary therapies. This leads to noncompliance with regular treatment of asthma. In the present study, 79% of those with asthma had tried complementary medicines in the hope of a permanent cure. Though a majority of the users did obtain relief, a minority reported relief with complementary medicine, especially with the use of yoga. This emphasizes the need for evaluation of these therapies in proper controlled trials.

Eighty-eight percent of patients were unaware of signs and symptoms suggesting severe asthma, and were ignorant of the fact that asthma can lead to hospitalization or even death. The prevalence of asthma is increasing and the condition is now an important cause of morbidity and mortality (11–12). This emphasizes the need for proper education of patients (13). Perception of warning signals and taking treatment according to a written personalized asthma action plan, can reduce risk of death from asthma (14). Systematic review of randomized controlled trials shows that written asthma management plans result in significant reduction in hospitalization (15). Therefore, proper education is as important as asthma therapy in the avoidance of severe attacks of asthma.

The reported severity of symptoms in this study suggested that 65% of the patients were having asthma at least as severe as the mild persistent category. This was corroborated by the FEV<sub>1</sub> data. According to guidelines, all such patients should take regular preventive therapy (16). However, only 9% of our sample of Indians with asthma were taking regular treatment and the rest took it only at the time of acute exacerbations of asthma. More than 90% stopped treatment without advice of a doctor when they became asymptomatic or were able to tolerate the symptoms. Thus, gross under-treatment appears to be a basic problem in management of asthma. What are the consequences of such under-treatment? Under-treated patients may develop permanent occlusive changes in the airways (17–19) and this may explain the fact that despite a stable condition, moderate airflow obstruction was observed in a majority of the subjects.

Regarding the choice of therapy between oral and inhaler, a majority of the patients preferred oral medicine despite the superiority of inhalers. This preference has been shown by other workers (20). There was greater acceptance of inhalers by children, but in females the acceptance rate was only 7%. The explanation for this probably lies in social beliefs. Indian society is a male-dominated society and asthma is considered a big stigma and a barrier with regard to marriage prospects, especially for females. Therefore, females usually conceal the diagnosis and treatment of asthma. Since an inhaler is obvious from even a distance, and as it cannot be used in a concealed way, it is not the preferred therapy among females. Results among children show that 40% female and 55% male children preferred inhalers. This may demonstrate an emerging trend of increasing acceptance of inhalers amongst the future generation but it is possible that amongst females stigmatization only occurs around the age of marriage.

Can patients get relief in asthma even without taking medicines?

Since ancient times, many non-pharmacological remedies have been known to improve asthma (21). Certain foods are still believed to be effective and are used frequently by many patients with asthma at the time of an

attack, though these are not recommended in various global guidelines. However, in India, a large number of subjects with asthma use these as remedial measures. Hot meals, avoidance of heavy meals especially during nights, and edibles such as ginger, turmeric, cloves and long pepper (*Piper longum*) were found useful by some people. Rest and walking gave relief to many patients. How these substances provided relief is not known and it is a matter of further study.

It can be concluded that optimal care of patients with asthma in India has many barriers. Inability to recognize warning signals, belief in a permanent cure for asthma, preference to getting treatment only at the time of an asthma attack, aversion to inhaled therapy and inclination towards complementary therapies are some of the barriers to optimal asthma management in India. These result in under-treatment with resulting moderate air-flow obstruction in a majority of subjects.

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## QUESTIONNAIRE

Please answer all the questions by ticking one box only. Which of the following statements describe your chest condition best:

Q1. My chest trouble can be cured for ever

- Yes
- Probably yes
- Controlled but can not be cured

Q2. I feel symptoms just before an attack of chest trouble

- Yes
- No
- Did not pay attention

Q3. I take medicines for chest trouble

- Regularly (according to advice of doctor)
- On having breathing trouble

Q4. I stop medicines for my chest trouble

- When do not feel chest trouble
- Able to tolerate chest trouble
- Able to tolerate chest trouble
- After advice of doctor

Q5. For chest trouble I want to take

- Oral medicines
- Inhaler medicines

Q6. During last one month my chest trouble is

- Controlled
- Not controlled

Q7. During the last six months I have had attacks of breathlessness/wheezing/night waking/cough

- Every day
- On most days of a week
- Once or twice a week
- Once or twice a month
- Less than once a month
- Not at all

Please answer the questions by ticking the appropriate boxes. Which of the following statements describe your chest trouble best:

Q8 I feel following symptoms at the time of attack of chest trouble

- Wheezing
- Breathlessness
- Night waking
- Cough
- Sputum
- Spirals in sputum
- Chest tightness
- Palpitation
- Headache
- Suffocation

Q9 Following therapy provided relief in my chest trouble

- |   |     |    |
|---|-----|----|
| <input type="radio"/> Allopathy (Modern medicine) | Yes | No |
| <input type="radio"/> Ayurvedic medicines         | Yes | No |
| <input type="radio"/> Homeopathy                  | Yes | No |
| <input type="radio"/> Yoga                        | Yes | No |
| <input type="radio"/> Acupuncture                 | Yes | No |
| <input type="radio"/> Fish                        | Yes | No |

Q10 Apart from medicines what provide you relief in asthma?

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