

# Psychosocial aspects of asthma in adults

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In 1903 Osler wrote: “All writers agree that there is, in a majority of cases of bronchial asthma, a strong neurotic element. Many regard it as a neurosis”.<sup>1</sup> In 1966 the authors of a popular general medical textbook included the following statement: “Psychological influences play some part in nearly every asthmatic and quite often they appear to be mainly responsible, if not in starting the asthma, at least in maintaining it. Anxieties of various kinds, a sense of frustration, or frequently discord and an atmosphere of tension in the home, often underlie the tension in the bronchi. Treatment is not likely to be satisfactory unless these influences are appreciated and the patient handled with sympathetic understanding, tact and firmness, and the difficulties eased as much as possible”.<sup>2</sup>

In 1972 inhaled steroids became available and this ushered in the modern era of asthma management with the emphasis on anti-inflammatory treatment for what is essentially an inflammatory disease of the bronchi and bronchioles. The introduction of much more effective treatment for asthma has been associated with diminished interest in psychological or psychosocial aspects of asthma, to the extent that they are now often ignored or patients, doctors, and nurses pay no more than lip service to them.

In the recent edition of the major British book on respiratory medicine 190 pages are devoted to asthma and there are references to psychological or psychosocial aspects in children and adults on only five.<sup>3</sup> In an 860 page international manual on asthma there were references to psychological or psychosocial factors on only 11 pages.<sup>4</sup> In a recent excellent publication for nurses on asthma management with over 100 contributors there is no chapter on the importance of adverse psychological or social factors.<sup>5</sup>

However, there are striking similarities between patients recognised as being non-compliant with their asthma management, patients with brittle asthma, patients with near fatal asthma, and patients who die from asthma. Indeed, there is so much overlap in the psychosocial features associated with these four groups of patients that they can be regarded as a spectrum ranging from non-compliance at one end to death at the other.

This review attempts to summarise the evidence for this and looks at strategies that have been employed to recognise such patients and address the problems they face.

## Poor compliance with asthma management

Poor patient adherence to prescribed treatment is a widespread problem in asthma. Poor adherence has been associated with increased

mortality from asthma<sup>6,7</sup> and several studies<sup>8–11</sup> have shown that there is no association between compliance and sex, socioeconomic group, level of education, or personality traits. Furthermore, clinicians, whether doctors or nurses, find it very difficult to identify poor compliance.

In a study designed to determine whether compliance was greater with reliever  $\beta$  agonist medication than with preventer steroid anti-inflammatory medication<sup>12</sup> Bosley and colleagues found that there was no difference in inhaler use, recorded by a microchip in the Turbohaler, between  $\beta$  agonist and steroid medication. However, they did make some interesting observations about compliance in general. Firstly, those enrolled in the study who were subsequently lost to follow up were significantly younger than those who continued in the study and they were more likely to have higher scores for depression on the Hospital Anxiety Depression Scale (HADS).<sup>13</sup> For patients who continued in the study, those who were non-compliant, as identified by the microchip recording, were younger than those who were compliant and they had a significantly higher mean depression score on the HADS than the compliant patients. Others<sup>14</sup> have also noted that patients with asthma feel ashamed, embarrassed, and angry about their asthma. Furthermore, they are specifically concerned about side effects of steroids and addiction to the medication they are required to take regularly.

## Brittle asthma

Two forms of brittle asthma are recognised. In type 1 there is a greater than 40% diurnal variation in peak expiratory flow (PEF) for more than 50% of days for at least 150 days, together with persistent symptoms despite multiple drug treatment.<sup>15</sup> Type 2 describes asthma which becomes severe within minutes or a few hours, despite little instability in the preceding days.<sup>16</sup>

Ayres and his group in Birmingham have undertaken a number of studies in patients with type 1 brittle asthma. In the first study<sup>17</sup> in which 20 patients with brittle asthma were compared with 20 asthmatic controls without features of brittle asthma a significantly higher lifetime prevalence of psychiatric disorder, either current or past, was noted in the patients with brittle asthma. In an extension of this work<sup>18</sup> 29 patients with brittle asthma were compared with 29 matched asthmatic controls using the General Health Questionnaire-60 item (GHQ-60)<sup>19</sup> and a score of >11 was reported in 21 of the 29 patients with brittle asthma compared with three of the 29 patients with non-brittle asthma ( $p = 0.006$ ). A score of more than 11 indicates psychiatric caseness.

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Table 1 Near fatal asthma

Risk factors
Age
Ethnicity (may indicate social and/or economic barriers)
Previous life threatening exacerbation
Hospital admission within the last year
Inadequate general management
Psychological and psychosocial problems
Lack of access to medical care
Precipitating factors
Allergens
Infections
Lack of appropriate assessment or treatment
Air pollution
Weather changes
Emotional upsets
Drugs

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Overall, in the GHQ-60 the mean score in the patients with brittle asthma was significantly greater than the mean score in the matched asthmatic controls (19.5 versus 7.2,  $p = 0.0002$ ). They also found evidence of denial in the brittle asthma group where 14 of the 29 patients would not have summoned help despite finding it difficult to walk to the kitchen to get a drink.<sup>14</sup>

Patients with type 2 brittle asthma have not been studied so systematically. They are frequently admitted with near fatal asthma<sup>20</sup> or die of their asthma,<sup>21</sup> sometimes with “empty lungs” at necropsy. Such attacks may be associated with profound emotional upsets, high concentrations of air pollutants and/or aeroallergens, weather changes, or sensitisation to food stuffs, preservatives or aspirin.<sup>21–22</sup> There is considerable overlap between the characteristics of patients with both types of brittle asthma, patients with near fatal asthma, and patients who die of asthma.

### Near fatal asthma (NFA)

Near fatal asthma is defined as an attack of asthma in which the patient is admitted to the intensive care unit (ITU) and requires intermittent positive pressure ventilation (IPPV) (with raised inflation pressures), or a patient who is admitted to hospital with asthma with a raised  $P_{aCO_2}$  ( $>6.0$  kPa)—that is, in ventilatory or type II respiratory failure—but who recovers without requiring IPPV. Several studies have looked at the characteristics of patients recovering from near fatal asthma. Most such patients have had previous admissions and many of them have had previous admissions for NFA. In a review of NFA<sup>22</sup> in 1994 Molfino and Slutsky listed the risk factors and precipitating factors shown in table 1. References to the different aspects of NFA discussed in that review show that much less attention has been paid to the social, psychological, psychosocial, and emotional aspects of this medical emergency than to the physical and medical risks and precipitating factors. Adverse psychosocial factors that have been associated with NFA are summarised in table 2.

The group that has looked at NFA in greatest detail is based in Adelaide, South Australia. In an early paper<sup>23</sup> Yellowlees and Ruffin studied 25 patients with NFA (19 women) whom they interviewed an average of 13 months after

Table 2 Adverse psychosocial factors in near fatal (NFA) and fatal asthma

	NFA	Fatal
Depression or other psychiatric illness currently or previously	+1 <sup>2</sup>	+5–8
Denial	+1 <sup>2,3</sup>	+7 <sup>8</sup>
Personality disorder		+5
Psychiatric caseness	+2	+7
Current or recent use of major tranquilisers or sedatives	+4	+4 <sup>9</sup>
Deliberate self harm		+8
Learning disability or mentally retarded	+3	+8
Psychiatric history in a first degree relative	+2	+7
Alcohol or drug abuse	+3	+5 <sup>6,8</sup>
Recent bereavement		+5
Severe domestic stress	+3	+8
Social isolation, living alone, homeless	+3	+6 <sup>8</sup>
Unemployment, self employment, threatened redundancy	+3	+5 <sup>8</sup>
Marital problems		+6
Separated or single parenthood	+3	+8
Extreme poverty		+8
Childhood abuse		+6 <sup>8</sup>
Smoking or passive smoking	+3	+8
Legal problems		+6

<sup>1</sup>Yellowlees and Ruffin<sup>23</sup>; <sup>2</sup>Campbell *et al.*<sup>24</sup>; <sup>3</sup>Innes *et al.*<sup>27</sup>; <sup>4</sup>Joseph *et al.*<sup>29</sup>; <sup>5</sup>Rea *et al.*<sup>24</sup>; <sup>6</sup>Wareham *et al.*<sup>27</sup>; <sup>7</sup>Campbell *et al.*<sup>26</sup>; <sup>8</sup>Mohan *et al.*<sup>27</sup>; <sup>9</sup>Ryan *et al.*<sup>30</sup>.

Many patients had more than one adverse factor.

their NFA attack. Ten patients (40%) had a psychiatric diagnosis (table 2) and seven had had the psychiatric diagnosis before their attack of NFA. Nine had an anxiety state, seven panic disorder, two post-traumatic stress disorder, and one depression, and the group of NFA patients had higher denial scores than matched controls (table 2). The same group extended their studies to 77 patients with NFA (32 women)<sup>24</sup> and, using the GHQ-28 where a score of five or more indicates psychiatric caseness, they found caseness in 33 patients (43%) (table 2). Using the Illness Behaviour Questionnaire,<sup>25</sup> where a score of more than 3 out of 5 on the denial scale indicates denial, they found evidence of denial in 44 patients (57%) (table 2). Fifteen of their patients (20%) had a psychiatric history. They found that the GHQ score correlated with reported asthma morbidity and that a high denial score correlated with sudden collapse with NFA. They hypothesised that this latter group tends to ignore the warning features of a developing attack. In a comparison of NFA and asthma deaths<sup>26</sup> they concluded that psychosocial features could have contributed to the NFA attack in 88% of cases.

In our own study<sup>27</sup> in a hospital serving a population of 0.5 million we have treated 23 episodes of NFA in 19 patients in an eight year period. Two women were admitted twice and one woman was admitted three times with NFA; 13 of the patients were women, 16 had had previous admissions for asthma before their NFA episode (nine with previous NFA) and, of the 19 patients, 11 were attending respiratory medical outpatients. The psychosocial risk factors in these 19 patients are also recorded in table 2. Comparisons of patients with NFA and those with fatal asthma in New Zealand,<sup>28</sup> South Australia,<sup>26</sup> Canada,<sup>29</sup> and Britain<sup>27</sup> have shown many similarities between patients in these two groups. In addition to the features listed in table 2, patients with NFA

and with fatal attacks showed a preponderance of women, the attacks were more likely on Sundays, patients usually had severe asthma, with frequent symptoms, an adverse impact on school or work attendance, frequent visits to accident and emergency departments, frequent admissions to hospital and ITU, and the routine care of their asthma was suboptimal in about 75% cases. Two studies have shown that current or recent use of major tranquillisers or sedatives are risk factors for NFA<sup>29</sup> and death from asthma.<sup>29-30</sup> There are also significant differences between the two groups in that patients with NFA are younger than those who die, they have higher denial scores, a shorter delay in receiving their medical care, and fewer concurrent medical conditions.<sup>26-28</sup>

### Asthma deaths

Two major studies of asthma deaths published in the early 1980s<sup>6,7</sup> showed that there were three main potentially preventable factors involved in asthma deaths: (1) doctors failed to assess the severity of the patient's fatal attack of asthma, largely because they failed to make objective measurements, particularly of peak expiratory flow; (2) patients or their relatives failed to appreciate the severity of the attack, partly because they too failed to make measurements, but also because patients become accustomed to having a chronic disease; and (3) as a consequence, there was underuse of the most effective and most powerful anti-inflammatory treatment—namely, systemic oral or intravenous corticosteroids. These factors have been confirmed in at least nine other studies published from Britain since 1975 (table 3).<sup>31-39</sup>

Recent population studies have shown that asthma mortality is related to deprivation. In Auckland asthma deaths were four times higher in Pacific Islanders than in Europeans with the rate in Maoris being intermediate.<sup>41</sup> Also, in New Zealand asthma mortality was twice as high in disadvantaged neighbourhoods as in middle class or advantaged neighbourhoods in 1976, and the subsequent increase in mortality was 2.3 times higher in the lower socioeconomic class areas than in the higher social class areas.<sup>42</sup> In Philadelphia asthma death rates were significantly higher in census

tracts with a higher percentage of black subjects, Hispanics, women, and those with incomes in the poverty range.<sup>43</sup> Similar results have been found in epidemiological studies in New York City<sup>44</sup> and in Chicago.<sup>45</sup> In the years 1969–1972 asthma mortality in the United States in 5–34 year old patients was very similar, between 0.2 and 0.3 deaths per 100 000 population in all socioeconomic groups. Nearly 20 years later, between 1987 and 1989, asthma mortality in this young age group had doubled to 0.6 per 100 000 in the poorest quintile of the population of 3000 counties whereas asthma deaths had only increased very slightly to 0.32 per 100 000 population in the highest income quintile.<sup>46</sup> In South Africa asthma deaths were four to five times higher in the coloured population than in white subjects,<sup>47</sup> and the statistics for the most deprived black population were simply not available. Although there is evidence that all cause premature mortality rates in England are strongly related to deprivation,<sup>48,49</sup> a study of the effects of social class on asthma mortality in England and Wales between 1979 and 1987<sup>50</sup> found an association with manual occupational groups (socioeconomic classes 3b–5) only in men aged 35–64 years. A more recent study has shown that asthma mortality was strongly associated with the proportion of district households where the head was of social class 4 or 5.<sup>51</sup>

A number of enquiries, including confidential enquiries, have looked at groups of individuals who have died from asthma and looked at factors, including psychological and social problems, which may have contributed to their deaths (table 3). Rea *et al*<sup>52</sup> in New Zealand in 1981–3 found that psychosocial problems recorded in the notes were significantly more common in patients who died than in controls who had required admission to hospital and were associated with 39% of those who died. These recorded problems included alcohol abuse, personality disorder, depression, recent bereavement, and unemployment (table 2). Wareham *et al*<sup>57</sup> reported that psychosocial factors were considered to have been important in contributing to the deaths in Norfolk from 1988–91 of 17 of the 24 (71%) patients with asthma reviewed, and these factors were listed as social isolation, abuse as a child, neurotic

Table 3 Studies of asthma deaths: preventable factors

	Undertreatment with steroids	Inappropriate therapy	Underestimation of condition by doctor	Underestimation of condition by patient	Failure to recognise or treat months or weeks prior to acute attack	Adverse psychosocial factors
Cochrane and Clark <sup>31</sup>	*	*	*	*		
Macdonald <i>et al</i> <sup>32</sup>	*	*	*	*	*	
Macdonald <i>et al</i> <sup>33</sup>	*	*	*	*	*	
Bateman and Clarke <sup>34</sup>	*		*	*	*	
Ormerod and Stableforth <sup>35</sup>	*	*	*	*	*	
British Thoracic Association <sup>6</sup>	*		*	*	*	
Sears <i>et al</i> <sup>7</sup>	*	*	*	*	*	*
Rea <i>et al</i> <sup>52</sup>						*
Eason and Markowe <sup>36</sup>	*	*	*	*	*	*
Robertson <i>et al</i> <sup>33</sup>	*	*	*	*	*	*
Wareham <i>et al</i> <sup>57</sup>	*	*	*	*	*	*
Somerville <i>et al</i> <sup>38</sup>	*	*	*	*	*	*
Mohan <i>et al</i> <sup>39</sup>	*	*	*	*	*	*

Modified from Harrison and Pearson with permission.<sup>40</sup>

illness, marital or legal problems, and alcohol abuse (table 2). Campbell and colleagues,<sup>26</sup> studying patients who died from asthma in South Australia, also from 1988–91, found a history of psychiatric consultation in 22% and a psychiatric history in first degree relatives of 21%. Using responses from the deceased's next of kin they found high denial scores on the Illness Behaviour Questionnaire in 55% and a mean GHQ score of 5.3 in the patients who died from asthma, indicating a high level of psychiatric caseness (table 2). They concluded that 86% of their patients dying from asthma had psychosocial features which could have contributed to the death.

In an ongoing confidential enquiry<sup>39</sup> into asthma deaths since 1992 in East Anglia in Britain, a region with a population of 2.1 million, 36 patients under the age of 65 have died from asthma in the first three years of the study. Their ages ranged from one to 64 years and only three had been admitted to hospital in their terminal episode. Inappropriate medical factors were found in 14 of the 34 patients where these could be assessed (41%). These correctable medical factors obviously need attention but, considering that such potentially preventable factors were found in 86% of the 90 patients who died in the BTA study in 1979,<sup>6</sup> this does suggest that there has been steady improvement in the medical management of asthma in the last 10–15 years. The most important results from the East Anglian Confidential Enquiry are listed in table 2. Adverse social factors were found in 25 of the 34 patients where these could be assessed and, in 23 of the 31 patients where these could be assessed, there were adverse psychological characteristics. Domestic stress included caring for elderly difficult relatives or an autistic child, living with an alcoholic, severe family disharmony, and being battered. Employment stresses included threatened redundancy or the pressure to keep working because of being self employed. Denial and/or anger was recognised by non-attendance at routine appointments, non-adherence with treatment or monitoring, and self discharge from hospital. The predominant psychiatric illness reported was depression. Only seven patients appeared to have no adverse psychological or social factors, and there were only two patients in whom all medical management of their asthma appeared to have been appropriate, both of whom died of respiratory failure in hospital from end stage irreversible asthma.

It is important to remember that, in studies which rely upon data recorded in patients' notes, the prevalence of adverse psychosocial factors is likely to have been underestimated.<sup>54</sup> A further association with asthma deaths reported from Western Australia<sup>30</sup> and Canada<sup>29</sup> is current or recent use of major tranquillisers or sedatives (table 2). The conclusions from all these studies of asthma deaths suggest that the main problems with preventable asthma deaths in the 1990s are behavioural rather than pharmacotherapeutic.

### Approaches to helping patients with asthma who have major psychological or social problems

One of the earliest studies in this field was that reported by Mayo and colleagues from the Bellevue Hospital in New York.<sup>35</sup> They identified 104 patients with more than four emergency room visits in the past two years or more than one admission to hospital in the past 12 months, and divided them into a control group who continued to receive routine medical care and a special treatment group who were enrolled in the asthma programme. This involved two one hour consultations in which patients were educated about asthma, including the role of different treatments for asthma and the importance of a self-management plan including peak flow monitoring. They had subsequent half hourly visits depending on the patient's preference and on the severity of their asthma. Patients could telephone the clinic during clinic hours or leave a message on an answer phone out of hours. They were encouraged to treat exacerbations vigorously, including self prescribing of prednisolone, and were encouraged to attend the emergency room at an early stage if this treatment proved ineffective. Attempts were made to contact patients who did not attend appointments by telephone or letter. Interestingly, amongst their 108 ineligible patients were 12 drug abusers, 12 patients who were in prison, 16 who left before the evaluation, four with severe alcoholism, five with overt neurological or mental illness, and one deaf mute—in other words, 50 patients who probably needed an asthma programme tailored to their needs! Amongst the 47 patients allocated to the special treatment group 10 never attended the clinic, four of whom were drug abusers, three refused, and in three the reason was unknown. In the 34 patients who eventually attended the special clinic there was a significant reduction in re-admission rates which fell to a third of the pre-intervention rate, and a significant reduction in hospital use which also fell to a third. Nineteen patients were crossed from the routine treatment group to the special clinic group and their use of hospital resources and admissions fell to about a half. One patient in the control group died.

Ruffin *et al*<sup>56</sup> reported an intervention for patients with NFA in Adelaide and concluded that careful follow up with an awareness of the importance of denial in affecting outcome adversely, a mechanism for ensuring reminders to patients who forget or do not comply with follow up, in addition to careful monitoring of peak flow and symptoms and anti-inflammatory treatment, all contributed to improved outcome. Molfino and colleagues<sup>57</sup> reported on the physiological aspects of 12 patients with NFA in whom closely supervised follow up was recommended. Seven of the 12 agreed to this and all survived. Five refused the offer and two died four and five months after discharge from hospital. Their conclusion was that patients who agreed with and complied with close follow up fared better than those who did not.

Yoon and colleagues in New South Wales<sup>58</sup> enrolled 185 patients during their admission to hospital with acute severe asthma into a study of an educational intervention. One hundred and nine of these patients failed to attend the first appointment after discharge; the remaining 76 were divided into a control group who continued to have usual medical care and an intervention group. The population studied were better educated and more affluent than average for the community served by that hospital (A Bauman, personal communication). The intervention included education sessions to which patients were encouraged to bring their next of kin. The education covered the physiology and pathophysiology of asthma including asthma triggers, advice about not smoking, information about the action and use of inhalers including inhaler technique, side effects of medication, training in the use of a peak flow meter and asthma diary, and the use of a personalised treatment management plan. Ten months after this education intervention there was a highly significant fall in the number of admissions to hospital and attendances at the A & E department in the study group compared with the control group but, interestingly, there were no changes at the five and 10 month follow up visit in clinic spirometric values, home peak flows, or peak flow variability.

Patients were recruited to the Auckland Community Asthma Programme after attending an A & E department with their asthma.<sup>59</sup> Two hundred and fifty one patients were allocated to an education group and were compared with 249 controls who were to receive their usual asthma care. Of the 251 in the education group, 61 failed to complete the programme leaving 190 for analysis. Patients participating in the study were from a more deprived background than the average Auckland population (J Garrett, personal communication). At the beginning of the programme patients were taught by community health workers about the pathophysiology of asthma, the recognition and avoidance of asthma triggers, the action of asthma medication, and inhaler technique. Patients were also taught self management skills including peak flow moni-

toring, keeping symptom diaries, and what action to take in response to worsening asthma, and they were given advice on how to access medical care appropriately. Nine months later the education group had greater preventative medication usage, more peak flow meters and better peak flow technique, more self management plans, less nocturnal waking and better self reported asthma control, better knowledge of action to take if their asthma deteriorated, and more people at home who could help in an asthma attack than the control group. However, in contrast to the New South Wales study, there were no differences in compliance, smoking cessation, outpatient attendance, A & E or acute GP visits, admissions to hospital, days lost from school or work, or courses of prednisolone tablets taken.

In summary, recruitment to each of these studies was different, the New York and New Zealand interventions being more targeted to patients with histories or behaviour suggesting they belonged to the vulnerable poorly compliant group. Drop out rates were high and the results of the New South Wales and New Zealand programmes are almost mirror images of each other.

#### Personal experience

As a result of the Confidential Enquiry into Asthma Deaths in East Anglia<sup>39</sup> we have produced recommendations for the care of patients with asthma (table 4). Characteristics used to identify patients at risk of developing severe or fatal asthma are also listed in table 4. These have been circulated to all general practitioners in the region.

In 1987 we established a combined clinic in which a psychiatrist and a physician together see at risk patients. Clearly, patients' housing, employment or relationship problems cannot be resolved at a stroke. However, we can ensure at a practical level that all appropriate benefits are being claimed. At a behavioural level we have observed that an acknowledgement of the issues by the doctors and nurses can be extremely helpful. Furthermore, once issues are out in the open strategies for coping with problems, including asthma, in a more positive

Table 4 Recommendations for the care of asthma patients

- Follow BTS guidelines<sup>16</sup> for prescription of regular anti inflammatory medication, specialist referral and follow up, and recognition and treatment of severe asthma.
- Check and record peak flow every GP consultation for asthma (even if patient is charting their peak flow at home).
- Many patients with asthma and certainly all patients with severe asthma should have an agreed written management plan and their own peak flow meter with regular checks on inhaler technique and compliance.
- Ensure Practice (Asthma) or Clinic Nurse or Doctor contacts asthmatics who do not attend their appointments.
- Always try to involve a close relative, including in adults, in education and understanding about asthma and share the agreed management plan.
- Never prescribe beta blockers, including eyedrops, to patients with asthma.
- In patients presenting with worsening symptoms always agree plan of care with patient, ideally based on peak flow recordings and symptoms to include appropriate use of inhaled or oral steroids. Always arrange and ensure an early follow up appointment.
- Make register of patients "at risk" of developing severe or fatal asthma available to all partners and out of hours emergency doctors.

Patients "at risk" of developing severe or fatal asthma are those:

- With psychiatric morbidity, behavioural difficulties, especially denial, and socio-economic deprivation (recognise denial or anger by non attendance, unwillingness to comply with therapy or monitoring, unwillingness to accept the diagnosis or the need to take regular medication)
- Ever admitted with their asthma
- Requiring emergency steroids and/or nebulised treatment
- Calling for GP, or attending Surgery, or A & E Department with emergency deterioration
- Requiring courses or regular oral steroids
- Requiring high dose inhaled steroid
- Whose peak flow falls below 50% of their best or predicted value
- Requiring two or more bronchodilator inhalers monthly

Discuss these issues frankly with the patient and their relatives

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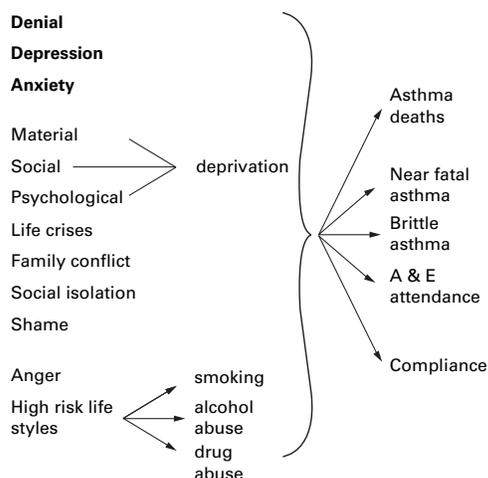


Figure 1 Psychosocial issues related to asthma mortality and morbidity

and less harmful way can be explored. Occasionally, patients have required psychotropic medication, visits from the community psychiatric nurse, or group psychotherapy. On two occasions asthma control in late adolescence improved dramatically once the patient and their family understood that the “bad” asthma was an unconscious strategy aimed at keeping divorcing or divorced parents together. In another teenager her asthma only came under control when her mother’s unresolved grief and anger at her own brother’s death from asthma in his teens was acknowledged and addressed. Understanding the meaning of asthma for these patients and their families was essential before we could improve asthma control and reduce excessive and potentially harmful medication. As Dr Elspeth McAdam, one of my consultant psychiatrist colleagues, has emphasised for all patients, but especially in these at risk asthmatics, we must try and understand not only the meaning of their asthma and of medication to themselves and their families, but also their beliefs about asthma and its treatment, and the effects of their asthma on their family dynamics and social and occupational interactions. We have also recently completed a pilot study designed to evaluate the role of a home based coping skills training programme delivered by an outreach asthma nurse to patients identified as being at risk who were failing to attend hospital clinic or GP surgery appointments. The results of this preliminary study in our population were very encouraging<sup>60</sup> but “such targeted programmes are rare in the UK”.<sup>61</sup>

Conclusions from these different approaches are that education alone is ineffective, though it is a necessary component of programmes designed to change the behaviour of patients. More research is required into the value of input from psychologists, community health workers, outreach asthma nurses, and psychiatrists for these patients.

### Conclusions

In 1987 a workshop on the identification of the fatality prone patient with asthma was held, involving four doctors from paediatric depart-

ments and three adult chest physicians.<sup>62</sup> They listed a number of patient factors, based mainly on studies in children,<sup>63</sup> which placed patients at risk of death. These included denial, psychosocial problems in the family including conflict, manipulation, substance abuse, unemployment, bereavement and low socioeconomic status, non-compliance, depression, and severe emotional disturbance. Characteristics which were useful in recognising patients at risk from severe or fatal asthma included non-compliance, anger or frustration with the patient’s asthma, major life events including bereavement, divorce, job loss and geographical relocation, depression, emotional disturbance, and substance abuse. Ten years later we seem to have reached very similar conclusions.

We agree with Campbell *et al*<sup>26</sup> that greater emphasis should be placed on psychosocial issues in patients who have had near fatal asthma and we would include also patients exhibiting non-compliance with their asthma management and those with features of brittle asthma (table 5). Yoon and colleagues<sup>38</sup> have stated that “attempts to reduce the overall morbidity of asthma will have limited success unless a strategy can be developed to improve the self management practices of patients who do not attend”. Campbell continued “there is an urgent need to educate doctors about the detection of associated psychiatric disorders and high levels of denial in patients with asthma”.<sup>26</sup> He concluded “there is a need for intervention studies and case control studies”.<sup>26</sup> When such patients do not attend our clinics or surgeries we must attempt to attend them. If we do not respond then we will fail to meet one of the most important ongoing challenges of asthma management at the end of the 20th century, and countless patients will be denied effective control of their asthma.

I acknowledge with gratitude the co-operation, advice, and support of my psychiatrist colleagues, Drs Bren Knights, Elspeth McAdam, Mike Noble, colleagues in Norwich involved in district enquiries into asthma deaths and near fatal asthma, colleagues in East Anglia involved in the Regional Confidential Enquiry into Asthma Deaths, and fellow members of the Mortality and Severe Morbidity Working Group of the National Asthma Task Force. I am most grateful to Professor Dick Ruffin and Dr Don Campbell in Adelaide, Professors Richard Beasley and Julian Crane in Wellington, and Drs John Kolbe and Jeff Garratt from Auckland for many helpful discussions. I am very grateful to Mrs A L Neale and Mrs M Jaques for their expert secretarial help.

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