Specialist approach to childhood asthma: does it exist?

RICHARD L HENRY, ANTHONY D MILNER

Abstract

Twenty six paediatricians and 21 consultant physicians concerned in the care of children with asthma answered a postal questionnaire on various aspects of the management of asthma, attitudes to referral, and the nature of advice given to parents and children. The 47 specialists had considerable differences in opinion for more than half the questions, including the role of allergen skin tests and the use of "breathing exercises." In addition, the paediatricians disagreed with the responses of the non-paediatricians on common issues such as whether to use aminophylline suppositories and whether swimming helps children grow out of asthma.

These results have disturbing implications for the advice that specialists give to general practitioners, children, and parents.

Introduction

Despite the very effective drugs which are available for the treatment of childhood asthma, mortality remains unchanged and hospital admissions are actually increasing.[1] Unfortunately, we have clear evidence that many children suffer from undertreatment and mistreatment of their asthma.[2 3] One contributory factor may be poor communication between general practitioner and specialist, resulting in different recommendations for treatment by different doctors. Some specialists believe that the problems are at the community level, but we decided to see how uniform were the views held by a group of consultants who managed children with asthma.

Methods

We posted a questionnaire to 55 British specialists who were about to attend a symposium on communication in childhood asthma. A total of 47 (85%) replied. All the respondents managed children with asthma and were either paediatricians (n=26) or physicians with an interest in chest diseases (n=21). The 25 questions that we asked together with the answers that the doctors gave are tabulated below.

Asthma questionnaire and responses (expressed as percentage of all replies)

	Yes	No	Unsure
(1) A 7 year old boy, whose mother has asthma, has his first attack of wheezing. Would you tell his parents that he probably has asthma?	68	28	4
(2) Do you arrange for every child you see with asthma to have a chest *x* ray on at least one occasion?	83	17	0
(3) An 8 year old girl with asthma has no history of allergy to cats. Should she be allowed to keep a cat as a family pet?	60	32	9
(4) A 10 month old child has wheezed every day for eight months. When his mother brings him for his first immunisation he is fat and happy but has widespread expiratory rhonci throughout both lung fields. Would you be happy to arrange immediate immunisation?	51	47	2
(5) Do you routinely perform estimations of serum theophylline levels on children receiving regular theophylline for asthma?	28	68	4
(6) Do you arrange for asthmatic children to have "breathing exercises"?	40	57	2
(7) Do you recommend vacuuming and dusting the bedroom of an asthmatic child at least three times a week?	68	30	2
(8) A 10 month old infant has had five episodes of wheezing after upper respiratory tract infections. Would you place him on a cows' milk free diet?	6	81	13
(9) Would you use a beta stimulant to treat wheezing in the following cases:			
(*a*) An 8 year old with exercise induced wheezing?	92	6	2
(*b*) A 6 week old infant with bronchiolitis?	11	79	11
(*c*) A 10 month old who wheezes with upper respiratory tract infections?	23	62	15
(*d*) An 8 month old infant admitted to hospital with wheezing?	28	57	15
(*e*) A 12 month old infant who wheezes every day?	60	28	13
(10) Do you use the term "wheezy bronchitis" when talking to parents?	34	64	2
(11) A 4 year old girl, who has had 10 severe episodes of wheezing, has positive skin tests to house dust mite. Would you advise hyposensitisation?	4	96	0
(12) Do you think that swimming helps children grow out of asthma?	21	79	0
(13) Should a child with chronic asthma be allowed to play vigorous sport, such as football?	100	0	0
(14) Should a 12 year old with asthma be allowed to go on a summer camp with the school?	98	2	0
(15) You have decided to prescribe a beta agonist for an 8 year old with asthma. Would you usually administer this as:			
(*a*) Syrup?	4	94	2
(*b*) Tablet?	12	86	2
(*c*) Metered aerosol?	33	65	2
(*d*) Rotahaler?	37	61	2
(*e*) Tube spacer?	11	87	2
(*f*) Other?	3	95	2
(16) Do you arrange for allergen skin tests (or IgE radioallergosorbent tests) for most children with asthma?	66	34	0
(17) Do you think that all children with a nebuliser for home use should be seen by a specialist?	85	15	0
(18) Do you think that all children receiving inhaled or oral steroids should be seen by a specialist?	89	11	0
(19) The parents of a 10 year old asthmatic ask you whether the asthma is likely to be cured by moving to a warm, dry climate. What is your answer?	17	74	9
(20) Do you use rectal suppositories of aminophylline?	30	70	0
(21) A 5 year old boy is seen at home by a general practitioner during an acute severe attack of asthma that requires admission to hospital. Should the general practitioner give intravenous steroids before referral?	66	30	4
(22) Do you recommend that general practitioners should administer intravenous aminophylline at home?	43	55	2

Department of Child Health, University of Nottingham and University Hospital, E Floor, East Block, Queen's Medical Centre, Nottingham NG7 2UH

RICHARD L HENRY, FRACP, research fellow

ANTHONY D MILNER, MD, FRCP, professor of paediatric respiratory medicine

Correspondence to: Professor Anthony D Milner.

	Yes	No	Unsure
(23) When you start a patient on Becotide who is already taking Intal, do you usually stop the Intal?	64	34	2

(24) In a 7 year old, in what order do you usually introduce the following drugs for the management of chronic asthma? (Please number 1 to 5)

	1	2	3	4	5	Unsure
(a) Theophylline	4	19	29	42	4	4
(b) Inhaled steroids	0	16	42	40	2	2
(c) Beta agonists	65	21	6	4	0	2
(d) Ipratropium bromide	0	0	6	2	64	28
(e) Sodium cromoglycate	31	44	17	7	2	2

(25) What is the maximum number of puffs per 24 hours that you would be happy for a 12 year old to take from his metered aerosol? (This applies to beta agonists)

	Yes
(a) Up to 6 puffs	17
(b) Up to 10 puffs	40
(c) Up to 14 puffs	23
(d) Up to 16 puffs	9
(e) Up to 20 puffs	9

We further analysed the data by comparing the 26 questionnaires returned by paediatricians with those from the 21 non-paediatricians (χ^2 test).

Results

We found complete agreement on the answer to only one question (No 13)—namely, should a child with chronic asthma be allowed to play vigorous sport, such as football?—to which all respondents answered "yes." Furthermore, in only eight of the questions were more than three quarters of the responses in agreement. Apart from the wide range of opinions for the group as a whole, the paediatricians and non-paediatricians differed in their answers to several questions. Twenty of the paediatricians (77%) would immunise a happy, wheezy child (question 4) compared with only four (19%) of their adult physician colleagues ($p < 0.001$). On the other hand, eight (38%) of the adult physicians thought that swimming helped children grow out of asthma (question 12) compared with only two (8%) of the paediatricians ($p < 0.05$). The non-paediatricians also had far more faith in rectal aminophylline (10 (48%) answering yes to question 20) and the use of intravenous aminophylline by general practitioners (16 (76%) answering yes to question 22) than the paediatricians, only four of whom (15%) gave affirmative responses to these questions ($p < 0.05$ and $p < 0.001$ respectively). Many consultants gave more than one answer to question 15 (method of administering a beta agonist) but all 10 doctors who chose a tablet as a mode of drug delivery were paediatricians ($p < 0.01$).

Many non-paediatricians considered themselves too inexperienced to answer the last four parts of question 9. Those who did respond were more likely to use a beta agonist than were their paediatric colleagues.

Discussion

This study suggests that specialists—both paediatricians and non-paediatricians—vary widely in their opinions about the appropriate management of childhood asthma. These differences are of great consequence to parents and children, who are very confused by problems such as the importance of allergy tests, whether the family cat should be destroyed, and the need for measures to control house dust mites. The results of the questionnaire indicate that specialists are also in conflict on these matters. If an individual general practice has children who are managed by more than one consultant, it is likely that two children with asthma of similar severity will have received different advice about common problems and philosophies of management.

Some people might argue that the variety of opinions has no effect on the individual doctor's ability to treat asthma. Clearly this is untrue. For example, if "breathing exercises" (question 6) are really of benefit then the 57% of specialists who do not use them are denying their patients a valuable form of treatment. On the other hand, if these exercises are unhelpful 40% of specialists should abandon them.

The questions that we asked were designed to explore current specialist practice rather than test knowledge on how to treat asthma. Roughly half of the questions were ones that parents commonly ask, and most of the rest were other problems which specialists encounter in an average outpatient clinic. We expected differences of opinion on some issues such as whether to use the term "wheezy bronchitis." Nevertheless, we were surprised and concerned that so few questions were answered the same by all specialists. Furthermore, the majority response for some questions was opposite to the view in the latest edition of an important respiratory textbook.[4] For example, Phelan *et al*[4] believe that a chest radiograph is not essential in every child with asthma (question 2), do not support unproved manoeuvres aimed at the house dust mite (question 7), and do not recommend routine allergen tests (question 16).

Presumably each doctor believed that the answers he gave were sound medical practice, but for most questions only one response could be correct. Published work does not contain the factual information necessary to complete the questionnaire. This means that any suggested master copy of answers reflects the authors' personal biases. In most cases we agreed with each other and with the majority specialist opinion. We do not, however, recommend vacuuming and dusting the bedroom of an asthmatic child at least three times a week (question 7)[4] and believe that a therapeutic trial of a beta agonist is worth while in a 10 month old infant (question 9).[4] The recommendation that general practitioners should give intravenous steroids before referral to hospital (question 21) is an untested hypothesis, and our view is that the emphasis should be on the use of nebulised bronchodilators before referral. We also regard 20 puffs of beta agonist as safe (question 25), although it may indicate poor control. The answers on which we could not agree were to questions 2, 16, and 18. The differences reflect degree of emphasis rather than basic philosophy. We both agree that a chest radiograph may be very useful, that skin tests do not often contribute to management, and that specialists should see all children taking oral steroids and most taking inhalational steroids.

What we need now is open debate among specialists to establish a consensus on all the subjects of dispute. Only then can we present balanced opinions to parents and children.

We are grateful for the help of Keymer Pharmaceuticals in posting and collecting the questionnaires. We also acknowledge financial support from the Asthma Research Council and the Nestlé Paediatric Travelling Fellowship (Australia).

References

[1] Anderson HR. Increase in hospitalisation for childhood asthma. *Arch Dis Child* 1978;**53**:295-300.

[2] Anderson HR, Bailey P, Palmer J, West S. Community survey of the drug treatment of asthma and wheezing in children. *Thorax* 1981;**36**:222-3.

[3] Speight ANP, Hey EN, Lee DA. Underdiagnosis and undertreatment of asthma in children of primary school age. *Arch Dis Child* 1980;**55**:735.

[4] Phelan PD, Landau LI, Olinsky A. *Respiratory illness in children*. 2nd ed. Oxford: Blackwell, 1982.

(*Accepted 6 May 1983*)