

Community campaign against asthma

A F COLVER

Riverside Child Health Project, Atkinson Road Infant School, Newcastle upon Tyne

SUMMARY Asthma in children is common, underdiagnosed, and undertreated. We report a childhood asthma campaign in an inner city area, initiated by school doctors who then worked closely with family doctors. The campaign aimed to detect children with asthma, to institute or improve treatment, and to provide information about childhood asthma for families, teachers, school doctors, school nurses, and general practitioners. The symptoms and school attendance of most asthmatic children were reported by parents to have improved after the campaign, which was well received by both families and professionals. Similar campaigns focusing on other common childhood problems may provide concrete opportunities for collaboration between school health services and general practitioners and for improving children's health.

Although asthma is the most common chronic condition in childhood,¹⁻³ it is often undetected or undertreated^{4,5} and results in considerable school absence.^{2,5} Many doctors and parents do not appreciate that asthma and wheezy bronchitis are similar in their epidemiology and response to bronchodilator treatment.⁶⁻⁸

The work of the school health service needs to be evaluated and defined more clearly. General practitioners increasingly recognise the health needs of children⁹ and for such a common condition as asthma the first responsibility for care must rest with them. Where needs are unmet, however, school doctors working closely with general practitioners and community physicians are well placed to introduce new ways of approaching medical problems.

We report a local childhood asthma campaign which operated through existing health services in an inner city area of Newcastle. The aims of the campaign were:

- (1) To identify children in the nursery and primary schools in the area who had asthma.
- (2) To initiate or improve where necessary management of their asthma.
- (3) To increase awareness and knowledge of asthma in parents, children, teachers, and the primary health care team by involving them fully in the campaign and by feeding back the results to them.

Methods

The area. The Riverside area covers four and a half

electoral wards of Newcastle upon Tyne and is considered disadvantaged by local authority education, social services, and housing departments.¹⁰ There are 13 primary schools (7 with attached nursery classes), 17 general practices (43 doctors), and four nurses and 7 doctors attending the schools. The school doctors are members of the Riverside child health project one of the aims of which is to explore new ways in which school doctors can work.¹¹

Coordination between professionals. One school doctor, the campaign coordinator, planned the campaign after discussions with senior community nurses, consultant paediatricians, and general practitioners; drew up an asthma information sheet for parents; evaluated the campaign; and reported the results. School doctors explained and discussed the campaign with head teachers and teachers.

Definition of asthma. Asthma was defined as three or more episodes of wheeze, lasting at least four hours, and interfering with normal activities. When uncertain whether a parent was describing wheeze or upper airway noise, asthma was diagnosed if there was also frequent night cough or exercise induced wheeze or if the family doctor had called the noise wheeze when the child was symptomatic.

Identification of children with asthma. A screening questionnaire was sent to parents in 1981–2. The main question was 'Has your child ever had attacks of wheezing?' (by wheezing we mean noisy breathing

coming from the chest not the throat, with a whistling noise).⁷ This question was validated by Speight.⁵ Consultations with the school doctor were offered to parents of children who had wheezed in the preceding year but were not attending a hospital outpatients' clinic for wheeze. During the consultation, which took about 20 minutes, the diagnosis of asthma was confirmed or refuted. Parents (and older children) were told the meaning of asthma, its implications, and the principles of medication. They were also given the information sheet. Parents were advised to take their child to their family doctor either immediately or at the next episode of wheezing unless the child was on optimal medication. A letter was sent to the family doctor who then became responsible for introducing medication and subsequent management.

Evaluation. Twelve months after the school consultations home visits were made by the campaign coordinator to children who had been newly diagnosed or had been considered undertreated. In two thirds of these cases (81 children) a parent was at home. Family doctors, teachers, school nurses, and school doctors were also visited to discuss their reactions to the campaign.

Results

Children with asthma. Ninety per cent (2668) of 2978 screening forms sent out were returned and 368 forms indicated wheezing. Thirty four children already attending hospital outpatients for asthma were not offered a consultation, nor were 38 children who had not wheezed for the past year. The remaining 296 children and their parents (11% of returned forms) were offered a consultation. Seventy three families did not attend after they had been sent two appointments; these children did not differ significantly with regard to age or school from those who attended.

Asthma with symptoms in the previous year was confirmed by the school doctor in 154 of the 223 children seen. Table 1 shows the estimated prevalence of asthma in the different age groups. Eighty seven of the 154 cases were previously unrecognised and a further 33 were judged to be undertreated. Table 2 shows school days lost, wheeze frequency, and medication in the new cases, the previously diagnosed community cases, and the hospital outpatient cases. Proportionately more of the new cases were mild but many were of similar severity to cases already diagnosed. Asthmatic children attending hospital and previously diagnosed community cases showed a comparable loss of school days and

Table 1 Age distribution and estimated prevalence of asthma in study area

Age (yrs)	No of community cases	No of hospital cases	Estimated prevalence* %
3-4	32	3	9.7
5-6	45	9	10
7-8	37	11	8.5
9-11	40	11	7.9
Total	154	34	

*Estimated prevalence assumes that for each age group the proportion of cases in non-attenders equals the proportion identified in attenders.

Table 2 Number of new cases, previously diagnosed community cases, and hospital outpatient cases in relation to school days lost, wheeze frequency, and medication

	New cases (n=87)	Previously diagnosed community cases (n=67)	Hospital outpatient cases (n=34)
<i>Days lost due to wheeze/school term</i>			
0	26	11	12
1-6	28	19	10
7-13	20	21	3
≥14	6	8	2
Missing data	7	8	7
<i>Number of episodes of wheeze/year</i>			
1-2	16	13	6
3-11	61	35	11
≥12	10	14	10
Missing data	0	5	7
<i>Medication</i>			
None	87	0	0
Salbutamol alone	0	40	2
Cromoglycate alone	0	4	7
Salbutamol+cromoglycate	0	14	13*
Salbutamol+beclomethasone	0	2	5†
Missing data	0	7	7

*One of these on nebulised salbutamol.

†Two also on intermittent prednisolone; one also on nebulised cromoglycate; and one on nebulised salbutamol.

wheeze frequency, and apart from three severe hospital cases were on similar medication.

Routine school medical inspections as a means of identifying asthma. One hundred and twenty of the asthmatic children not attending hospital were 5 years old or over and all of these had had school medical examinations in the past. In only 14 (12%) was there a mention in the school medical record that the child had recurrent wheezing even though 85 (70%) had experienced symptoms before their fourth birthday.

Changes in symptoms and school attendance after the campaign. Sixty two of the 81 families visited

Table 3 School days lost and wheeze frequency at initial consultation and follow up in children rated as improved or unimproved by their parents

	Improved group (n=62)		Unimproved group (n=19)	
	At consultation	At follow up	At consultation	At follow up
<i>Days lost due to wheeze/school term</i>				
0	12	55	7	6
1-6	20	7	5	7
7-13	18	0	5	5
≥14	9	0	2	1
Missing data	3	0	0	0
<i>Number of episodes of wheeze/year</i>				
0	0	20	0	0
1-2	9	28	1	2
3-11	41	14	15	15
≥12	11	0	3	2
Missing data	1	0	0	0

thought their child's asthma had improved. Table 3 shows changes in symptoms reported by parents between the initial school consultation and the follow up visit. There was good correlation between changes in reported symptoms and the overall rating and the improvement in the group in which this occurred was considerable. Symptoms in the 19 families who thought their child's asthma had not improved are also given. Seven children in this group had not visited their family doctor in spite of continuing symptoms and although the remaining 12 had done so, new medication had not been introduced. There were no significant differences with regard to age, frequency of attacks, or time off school between the improved and unimproved groups at the time of the initial school consultation.

Attitudes of parents. At the follow up home visit parents were asked 'Did the consultation with the school doctor make you feel anxious?' Seventy six replied 'No' and five replied 'Yes'. Asked 'Are you still anxious?' one replied 'Yes'. Asked 'Did you find the consultation helpful or not?' only three parents said 'Not helpful'. Parents found one or more of the following aspects helpful (a) the length of time the doctor had for explaining, (b) understanding for the first time what was wrong, and (c) a recommendation by the school doctor to see their family doctor again.

Attitudes of head teachers, teachers, and school nurses. Fifteen mothers approached teachers spontaneously after the school doctor consultation to say

how relieved they were at last to know what the trouble was. All head teachers said the campaign had been useful in establishing a closer working relationship between doctor, nurse, and teacher. Teachers were keen to discuss individual children—especially those who brought inhalers to school. School nurses felt that using the word asthma in wheezing children made discussion easier with parents and teachers. By the end of the campaign almost all teachers were letting children keep their inhalers with them. Four teachers who had allowed children with wheezing to stay in school said they would have sent these children home before the campaign.

Attitudes of family doctors. During his first visits to family doctors the campaign coordinator put forward the view that asthma and wheezy bronchitis are similar; that recurrent wheezing is common in childhood; that the word asthma should be used more widely; and that there was no place for expectorants, antibiotics, sedatives, or ephedrine in the management of asthma. One quarter of practices said the ideas coincided with their own; half found the ideas new but were happy for the campaign to proceed; and the remainder thought the campaign would probably be a waste of time because they thought it unlikely that asthma was undetected. One practice asked that school doctors should not use the word asthma with their patients. All practices wanted hospital referrals to be made by the family doctor. At follow up visits a year later a quarter of practices still remained unconvinced about all the points put forward by the campaign coordinator but even these practices accepted that a need for a greater use of asthma medication had been shown. All practices felt that the campaign had helped wheezy children and provided more information about asthma for doctors.

Attitudes of school doctors. School doctors valued discussions with the campaign coordinator about asthma and its treatment. They welcomed the opportunity to be able to explain to parents about asthma rather than to be evasive about 'chestiness'. They also enjoyed having a clearly defined task and taking part in a cooperative exercise with family doctors.

Discussion

The results of this study re-emphasise the need to improve parental education about childhood asthma and the standard of care provided by doctors. Many children who could have benefited from diagnosis and treatment had not been identified either by

family doctors during consultations or by school doctors during routine medical examinations.

After the campaign the symptoms and school attendance of most asthmatic children improved and this improvement occurred in both the mildly and more severely affected children. The study does not show whether explanation, reassurance, or medication played the greater part in this improvement, however the reported lack of improvement in 19 children who did not receive new medication but who were no different in terms of severity or age from the improved group, suggests that medication must have played a part. It also suggests that the improvement cannot be explained only by the fact that asthma usually improves with age.

One special feature of this study is that it was planned and initiated by the school medical service. This distinguishes it from hospital based research studies which require extra staff and time and generally include family doctors far less. Our study illustrates one way in which school doctors working closely with family doctors can be an essential part of the primary health services for children. The campaign took advantage of the special opportunities the school doctor has for ensuring that health services reach all children, for diagnosing selected (often chronic) conditions, for close contact with parents, and for advising teachers and school nurses so that they have greater confidence in understanding children's health and behaviour.

The work of school doctors may be even more important in disadvantaged inner city areas than elsewhere as families who have young children in inner cities move house and change family doctors frequently. Linkage of records and monitoring of progress becomes difficult and needs may go unnoticed especially in relation to chronic conditions. Regular contact between the school doctor and teachers enables frequent review of children with continuing health problems. Furthermore, there is a social class gradient for many childhood conditions and although the prevalence of asthma does not vary with social class, working class children do have more frequent and more severe attacks¹² and are less likely to be receiving medication.⁴

The other special feature of this campaign is that as well as helping individual children it also in-

creased awareness and knowledge of asthma in the primary health care team. It did this by including individual doctors in the planning of the campaign, by making them responsible for diagnosis and management, and by reporting back to them the results.

This campaign was about childhood asthma but we suggest that similar campaigns focused on other common child health problems could provide concrete opportunities for collaboration between school health services and general practice and for improving children's health.

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Correspondence to Dr A F Colver, Paediatric Registrar, Royal Victoria Infirmary, Queen Victoria Road, Newcastle upon Tyne NE1 4LP.

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