Respiratory symptoms and atopy in children in Aberdeen: questionnaire studies of a defined school population repeated over 35 years

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In westernised countries, up to a third of children currently have asthma. Part of this "epidemic" has resulted from a change in diagnostic criteria. In Aberdeen in 1964, asthma was diagnosed in 73 of 261 (28%) participating children with wheeze, in 1989 in 331 of 675 (49%),[1] and in 1994 in 654 of 1025 (64%).[2] Thus, even if the prevalence of wheeze had remained constant, the prevalence of diagnosed asthma would have increased, supporting the view that the recent increases in childhood asthma are explained by changing diagnostic fashion[3] as well as changes in underlying symptoms. Although a weakness of these studies is their lack of objective measurements, such as bronchial hyper-reactivity, they do include items on suggestive symptoms and thus do not rely entirely on varying fashions in medical diagnosis.

Current trends in the prevalence of childhood asthma and asthma-like symptoms vary from clear increases in some countries to stabilisation or even a fall in others.[4] We examined the situation in the United Kingdom by doing a further study in Aberdeen, using the same protocol as in 1989[1] and 1994.[2]

Participants, methods, and results

In May 1999, we distributed our questionnaire to the parents of all children attending primary school classes 5 to 7 (mainly aged 9 to 12 years with outliers aged 7, 8, and 13 years) in the schools that had participated in the 1964, 1989, and 1994 studies. The responses were entered into an SPSS database along with the earlier studies.

We distributed questionnaires to the parents of 4209 children; 3537 (84%) were returned. Prevalence of asthma or wheeze and the proportion of children with respiratory symptoms reporting a diagnosis of asthma changed little, although we found small but significant increases in the diagnosis of both eczema and hay fever between 1994 and 1999 (table).

The male to female ratio for the diagnosis of asthma has narrowed considerably in the past 35 years, with almost complete disappearance of the previous male preponderance.

Comment

In Aberdeen, the prevalence of symptoms suggestive of asthma now seems to be stable. The proportion of children with symptoms in whom asthma has been diagnosed is high, suggesting that the widespread publicity given to asthma has paid off. Indeed, a higher rate of diagnosis might well be undesirable, leading to asthma drugs being given inappropriately—for instance, to children with chronic cough.[5] Nevertheless, the continuing increases between 1994 and 1999 in diagnosed eczema and hay fever suggest that the tendency for children to develop allergies is still increasing, although these increases may also in part reflect changes in diagnostic fashion.

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Prevalence of respiratory symptoms and diagnoses of asthma, eczema, and hayfever in children in Aberdeen in 1964, 1989, 1994, and 1999. Values are No (%) unless otherwise stated

Question	1964 (n=2510)	1989 (n=3390)	1994 (n=4047)	1999 (n=3537)	Relative risk (95% CI) 1989 *v* 1964	1994 *v* 1989	1999 *v* 1994
Ever had asthma?	104 (4)	350 (10)	789 (20)	858 (24)	2.5 (2.01 to 3.08)	1.9 (1.68 to 2.12)	1.2 (1.14 to 1.35)
Male to female ratio	2.2:1	1.9:1	1.4:1	1.1:1	0.9 (0.82 to 1.11)	0.9 (0.82 to 0.99)	0.9 (0.83 to 0.99)
Wheeze in past 3 years?	261 (10)	675 (20)	1025 (25)	986 (28)	1.9 (1.68 to 2.19)	1.3 (1.17 to 1.39)	1.1 (1.01 to 1.18)
Male to female ratio	1.7:1	1.4:1	1.2:1	1.1:1	0.9 (0.84 to 1.05)	0.9 (0.86 to 1.02)	0.9 (0.88 to 1.03)
Asthma diagnosis in children with wheeze in past 3 years	73 (28)	331 (49)	654 (64)	677 (67)	1.8 (1.42 to 2.16)	1.3 (1.19 to 1.42)	1.1 (0.99 to 1.12)
Shortness of breath in past year?	136 (5)	341 (10)	753 (19)	703 (20)	1.9 (1.53 to 2.25)	1.9 (1.65 to 2.09)	1.1 (0.97 to 1.17)
Asthma diagnosis in children with shortness of breath	57 (42)	262 (77)	526 (70)	528 (75)	1.8 (1.49 to 2.53)	1.1 (1.02 to 1.18)	1.1 (1.01 to 1.215)
Persistent nocturnal cough in past 3 years?	*	475 (14)	1288 (32)	1067 (31)	*	2.3 (2.07 to 2.50)	0.95 (0.98 to 1.01)
Asthma diagnosis in children with persistent nocturnal cough	*	179 (38)	527 (41)	530 (49)	*	1.1 (0.95 to 1.24)	1.2 (1.09 to 1.31)
Ever had eczema?	132 (5)	408 (12)	714 (18)	755 (21)	2.3 (1.89 to 2.77)	1.5 (1.31 to 1.65)	1.2 (1.10 to 1.33)
Male to female ratio	0.9:1	1.5:1	1.0:1	1.0:1	1.3 (1.03 to 1.53)	0.8 (0.75 to 0.93)	1.0 (0.88 to 1.08)
Ever had hay fever?	81 (3.2)	405 (12)	511 (13)	543 (15)	3.7 (2.93 to 4.67)	1.1 (0.94 to 1.20)	1.2 (1.09 to 1.44)
Male to female ratio	1.0:1	1.6:1	1.3:1	1.1:1	1.2 (0.97 to 1.55)	0.9 (0.83 to 1.03)	1.0 (0.86 to 1.07)

*The question in 1964 related to recurrent rather than persistent cough.

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What is already known on this topic

During the past 15 years, the prevalence of childhood asthma and symptoms suggestive of asthma have risen

What this study adds

The rate of rise in the prevalence of childhood asthma has slowed, although a quarter of primary school children have been diagnosed as having asthma at some time in their lives

Most of the recent increase can be attributed to increased diagnosis in children with symptoms; increase in wheeze is barely significant

Physician, heal thyself

When I discovered my husband had been having an affair for the past two years, I physically felt as if I was falling through the ground with all the feelings of disbelief, horror, and despair. I then realised that all the symptoms that patients had described to me were true—the tightening of the chest when the telephone rang, the palpitations when my husband was late home, and the nausea that made me retch in the morning and lose half a stone in weight.

I felt like some kind of automaton, as I used to arrive at the surgery with no memory of the journey apart from a vague recollection of hearing *Melodrama* sung by Andrea Bocelli from the car CD player while tears were streaming down my face.

Suddenly, work took on a new meaning. Although my partners offered me time off, I could not bear the loneliness of the house, and, after all, "work is therapeutic." At least, that is what I used to tell my patients in similar circumstances. As time went on, I found this was true, and I seemed to be enjoying work much more than before.

Of course, I realised it was giving me something else to focus on, but there was more than that. My patients were actually helping me. I genuinely liked most of them, and they seemed to like me too. Maybe I had simply not noticed it before, but now I seemed to draw strength from the consultations.

One young amputee confided, "You can't turn the clock back, doctor. You just have to move forward," when I asked him how he was coping.

My terminally ill patients also had something to teach me. "How are you managing?" I would ask routinely but now with renewed interest.

"Well, you know, doctor, I'm doing what you told me to do. Remember, you said to take a day at a time, treasure the little things—like listening to the rain pattering on the window pane, like spending time looking at the sunset. Well I'm doing that, and it helps." I had a vague recollection of saying something of that sort, but to think that a patient was being helped by some throwaway remark of mine was quite humbling.

I even had one patient show me a carefully folded note with a drug name on it and some notes I had written down for him: "Plan a nice thing each day, write things down." I recognised my scrawl and wondered if I had written this in desperation for something to do for another heartsink patient. Now I read it with comfort.

How had I known all this wisdom? I could not think where I had learnt it—maybe it was a combination of homespun advice and *Bella* magazine hot tips. Nevertheless, it seemed to work. All those little quotations that I had previously thought were trite platitudes were immensely comforting to me now: "Another day dawns tomorrow. Count your blessings." Keeping a diary, "downloading," trying out counselling—you name it, whatever I had personally recommended to my patients, I now was trying out myself.

Even cleaning took on a new meaning—maybe I was cleaning out my old life? During one such cleaning session, I came across a book by Dale Carnegie—*How to Stop Worrying and Start Living*. I had previously treated this book with contempt, but now it was a great source of solace.

My patients benefited as a result—I was an expert when it came to anxiety and stress related illnesses. I was recommending books, advising swimming on the way home from work—and, for the first time, I knew what real empathy was. I knew that medicine was a wonderful job to be in and that it was a privilege to care for patients, as they in turn cared for me.

The elderly man with endless chronic complaints who said, "I love you, doctor," as he hobbled out of the door was probably more genuine than my husband, who had used to say the same phrase as he headed off to yet another "gravy train" conference he simply had to go to.

And so, gradually, I have decided not to descend into the depths of self pity and nor to slip into the role of Elaine of Astolat in *Le Morte d'Arthur* (dying from a broken heart). As a result, I am enjoying medicine much more. My heartache will heal in time, like any other wound, though my trust in men has been well and truly broken.

My only regret is that it took a personal crisis for me to realise how fortunate I am to be in this profession and how privileged to be an important part of so many patients' lives.

Name and address withheld

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