

## LETTERS

Lifestyle limitation in asthma <i>H E Smith, et al.</i>	258	Health advice for travellers: the GP's role <i>Jonathan H Cassar and Daniel Reid</i>	260	Treatment of non-melanoma skin cancers <i>R I F Henry</i>	261
GPs' recognition of need in the community <i>D A Reid</i>	258	GPs and work in the third world <i>C Andrew Pearson</i>	260	Simple statistics <i>Jonathan Leach</i>	261
Apparent hyperglycaemia in paracetamol overdose <i>A M Copland, et al.</i>	259	Cholesterol screening <i>S J Cooper and S H Cocksedge</i>	260	<b>Note to authors of letters:</b> Please note that all letters submitted for publication should be typed with <i>double spacing</i> . Failure to comply with this may lead to delay in publication.	
		Trends in smoking <i>W J D McKinlay</i>	261		

### Lifestyle limitation in asthma

Sir,  
High symptom prevalences are reported among asthmatic patients in both hospital<sup>1-3</sup> and community surveys.<sup>4,7</sup> Less is known about the extent to which asthma interferes with lifestyle.

To address this issue, in spring 1990 the diagnostic registers of four general practices in north Staffordshire were used to identify a random sample of 120 asthmatic patients aged between 16 and 60 years. Using a semistructured postal questionnaire, the frequency of respiratory symptoms during the previous six months was ascertained using ordinal scales while restriction in daily, work and leisure activities was measured using 100 mm visual analogue scales. Age- and sex-matched controls were obtained by patient nomination — each asthmatic patient was sent a copy of the questionnaire for controls and asked to forward it to a friend of the same age group and sex who did not have asthma. Failing this, the next non-asthmatic patient on the practice age-sex register was selected as a control. The questionnaire sent to control subjects enquired about the restrictive impact of ill health rather than asthma on daily, work and leisure activities.

Responses were received from 87 of the 120 asthmatic subjects (response rate 73%). The frequency of respiratory symptoms was high, with 58% of asthmatic patients reporting daytime wheeze, cough or dyspnoea at least once each week and 29% reporting symptoms every day. Early morning asthma and nocturnal asthma were experienced at least once a week by 51% and 33%, respectively.

Few asthmatic patients felt restricted in daily activities such as eating, dressing or bathing (median score seven on the visual analogue scale); only 8% reported severe restriction (score greater than 75).

A minority of asthmatic patients reported restriction in work activities (25%) but asthmatic patients were three times more likely than the 87 control patients to have changed jobs owing to ill health (18% versus 6%; chi square test,  $P < 0.05$ ). Moreover, five asthmatic patients commented that although asthma did not restrict them at work, it had ex-

cluded them from their career of first choice.

The greatest degree of restriction reported by asthmatic patients was in their leisure activities: 56% felt restricted to some extent by their asthma (median score 35; 16% reporting severe restriction). A total of 68% reported that exercise was a trigger factor for their asthma. The 45 subjects experiencing symptoms more than three times a week (52%) had significantly greater restriction in leisure activities than those with less frequent symptoms ( $P < 0.01$ , Kolmogorov-Smirnov two sample test).

Non-asthmatic patients reported less restriction than asthmatic patients in each of the three life domains considered. The difference was most marked for leisure (median score for non-asthmatic patients four; 9% of non-asthmatic patients severely restricted).

In keeping with other studies<sup>4,7</sup> the frequency of respiratory symptoms among asthmatic patients in the community is high. There are several possible explanations for the mismatch between the reported lack of restriction at work and the increased frequency of job changes attributed to asthma. Asthmatic patients may choose to reduce restrictions at work by moving to a more suitable job, but equally they may rationalize job changes made for social or economic reasons by attributing the change to their chronic illness. The impact of asthma on patterns of employment warrants further investigation.

This study demonstrates that asthmatic patients suffer restrictions in lifestyle, but that this is largely confined to leisure activities. The routine and systematic medical review of adult asthmatic patients<sup>8</sup> should also include assessment of the impact of asthma upon leisure activities.

H E SMITH

P DOVE

L M HUSSAIN

J T LEE

O K NAYAR

A J FREW

Department of Postgraduate Medicine  
Keele University  
Stoke-on-Trent

### References

- Conolly CK. Diurnal rhythms in airway obstruction. *Br J Dis Chest* 1979; 73: 357-366.
- Turner-Warwick MT. The definition and recognition of nocturnal asthma. In: Barnes PJ, Levy J (eds). *Nocturnal asthma*. London: Royal Society of Medicine, 1984.
- Hetzel MR. Airway function and reactivity at night. In: Barnes PJ, Levy J (eds). *Nocturnal asthma*. London: Royal Society of Medicine, 1984.
- Horn CR, Cochrane GM. An audit of morbidity associated with chronic asthma in general practice. *Respir Med* 1989; 83: 71-75.
- Turner-Warwick MT. Nocturnal asthma: a study in general practice. *J R Coll Gen Pract* 1989; 39: 239-243.
- White PT, Pharaoh CA, Anderson HR, Freeling P. Randomized controlled trial of small group education on the outcome of chronic asthma in general practice. *J R Coll Gen Pract* 1989; 39: 182-186.
- Jones KP, Bain DJG, Middleton M, Mullee MA. Correlates of asthma morbidity in primary care. *BMJ* 1992; 304: 361-364.
- British Thoracic Society. Guidelines for management of asthma in adults: I—chronic persistent asthma. *BMJ* 1990; 301: 651-653.

### GPs' recognition of need in the community

Sir,

In 1988, Griffiths recommended changes to the contract for general practitioners giving the general practitioner responsibility for notifying all the 'possible community care needs' of his or her patients to the social services authority.<sup>1</sup> The government's 1989 response to Griffiths assumes that the general practitioner is able to do this.<sup>2</sup> I would like to report the findings of a small study designed to test the accuracy of a general practitioner's ability to identify such needs.

The study, carried out in the first three months of 1990, was based in two training practices. Practice A is situated in a market town in west Fife and has six full time partners and 10 800 patients. Practice B is in an inner city council estate in Edinburgh. It has six full time partners and a list size of 11 250 patients. The study population was sampled by selecting every 50th patient aged over 18 years on the age-sex register for each practice. With disability defined as difficulty with self care, social or occupational functioning owing to a long term medical condition, three questions were asked for each individual: was the person disabled, was

care required because of a disability and was the person involved in providing informal care for a disabled person. The questions were answered initially by the patient's general practitioner and then a simple questionnaire was sent to the patients themselves. A note was also made of the consultation frequency between 1 October 1987 and 31 December 1989.

The sampling process yielded 328 names. Twelve patients were no longer on the general practitioners' lists and a further 29 could not be contacted owing to the address being out of date. Of the 287 questionnaires distributed 220 were returned (response rate 84.4% for practice A and 69.2% for practice B, overall response rate 76.7%). In practices A and B, the prevalence of disability identified by patients was 20.2% and 19.8% respectively, care need 13.4% and 16.8% and care provision 9.2% and 12.9%. These differences were not significant. General practitioners seemed less able to identify need (Table 1). The specificity of all the general practitioner predictions was greater than 90%.

Within each practice patients who identified themselves as disabled consulted on average at more than twice the rate of the non-disabled patients (7.3 consultations per patient per year versus 3.4). Likewise, disabled patients who reported requiring care consulted more than twice as frequently as the disabled patients who did not (7.5 consultations per patient per year versus 3.5).

If general practitioners take on the case-finder role for community care, the accuracy of the age-sex registers would influence the required systematic review of their patients.<sup>1</sup> The finding of a 20% prevalence of disability is higher than some recent large postal surveys<sup>3,4</sup> and near to the general household survey<sup>5</sup> which used a similar definition. General practitioners failed to identify many patients with disabilities. The 1989 white paper stresses the importance of support for informal carers<sup>2</sup> but the general practitioners' ability to identify them was poor.

Whether practice needs to change to improve information gathering or whether this is in fact an appropriate task for

general practice needs to be debated during the delay in the implementation of community care legislation.

D A REID

3 Camperdown Road  
Downfield  
Dundee DD3 8QJ

#### References

1. Griffiths R. *Community care: agenda for action. A report to the Secretary of State for Social Services*. London: HMSO, 1988.
2. Secretaries of State for Health, Wales, Northern Ireland and Scotland. *Caring for people (Cm 849)*. London: HMSO, 1989.
3. McAndrew L, Hanley J. *Survey of the younger disabled in the community in Lothian*. Edinburgh: University of Edinburgh Press, 1988.
4. Martin J, Meltzer H, Elliot D. *The prevalence of disability among adults. OPCS survey of disability in Great Britain, report one*. London: HMSO, 1988.
5. Foster K, Wilmot A, Dobbs J. *General household survey no. 19*. London: HMSO, 1988.

### Apparent hyperglycaemia in paracetamol overdose

Sir,

Hypoglycaemia is a well documented complication of excessive alcohol ingestion,<sup>1</sup> and only a late manifestation of paracetamol overdose when hepatic damage has occurred.<sup>2</sup> Conversely, hyperglycaemia is not a well recognized complication of paracetamol toxicity. This case report discusses the presentation and management of a patient with apparent hyperglycaemia associated with self poisoning with paracetamol.

A previously well, 19 year old man with no significant past medical history, presented to the casualty department having two hours previously ingested an undisclosed amount of alcohol in combination with approximately 30 g of paracetamol. Induced emesis was unsuccessful and gastric lavage returned only a few tablet particles. Initial blood test strip testing revealed a capillary glucose level of 7–11 mmol l<sup>-1</sup> by visual reading. The patient was admitted and venous blood taken for biochemical analysis at four hours post ingestion which revealed

a paracetamol concentration of 2.42 mmol l<sup>-1</sup>, potassium 3.2 mmol l<sup>-1</sup>, carbon dioxide 23 mmol l<sup>-1</sup> and blood glucose concentration 22.0 mmol l<sup>-1</sup> (using the Yellow Springs Instrument glucose analyser). Arterial blood gas analysis revealed a pH of 7.40. Simultaneous blood test strip testing indicated a capillary glucose level of 7–11 mmol l<sup>-1</sup>. Ward urinalysis indicated a trace of glucose and a large amount of ketones.

Treatment with acetylcysteine was commenced. Analysis of a second venous blood sample (at approximately four hours 15 minutes post ingestion of paracetamol) revealed a glucose level of 19.8 mmol l<sup>-1</sup> when assayed by the above method. Information on paracetamol induced hyperglycaemia was not available from either the Poisons Information Service (Edinburgh) or the *Oxford textbook of medicine*.<sup>3</sup> Consideration was given to the initiation of insulin therapy to reduce blood glucose concentration. However, the other clinical and biochemical findings were not in keeping with diagnoses of diabetic ketoacidosis, non-ketotic hyperosmolar state or euglycaemic ketosis. Furthermore, results from blood test strip testing were inconsistent with results obtained using the laboratory glucose analyser instrument. Both previous venous blood samples were then re-analysed using a hexokinase/glucose-6-phosphate dehydrogenase method for glucose analysis, giving values of 10.0 mmol l<sup>-1</sup> and 8.8 mmol l<sup>-1</sup> respectively for the two samples. The hyperglycaemia was recognized to be artefactual and insulin therapy was not initiated. The patient made an uncomplicated recovery with no evidence of either hepatic damage or diabetes mellitus.

For the patient described here, the level of paracetamol in the blood was sufficient to interfere with blood glucose estimation. Paracetamol interference with blood glucose analysis has previously been reported.<sup>2,4</sup> The interaction is well recognized by chemical pathology personnel but does not appear to be widely published in the medical literature or recognized by medical staff. Most biochemistry departments run a 24 hour interpretation and advisory service, and all discrepant results should be referred to this service.

Many patients present to casualty departments with non-accidental self poisoning involving analgesics of the paracetamol group. The number of such patients requiring admission to hospital has increased, for Scotland alone, from 2145 in 1987 to 3456 in 1990 (Information Statistics Division of the Common Ser-

**Table 1.** Sensitivity of general practitioners' identification of patient disability in 220 cases.

Patient characteristic	Overall prevalence identified by patient	Sensitivity of GPs' identification		
		Practice A	Practice B	Overall
Disabled	20.0	29.2	85.0	56.4
Requiring care	15.1	37.5	64.7	51.6
Providing care	11.0	18.2	23.1	21.1