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## Patients' beliefs about inhaler treatment

Sir,  
We should like to report the results of a pilot study that has revealed differences between patients' beliefs relating to symptomatic and preventive inhaler treatment. The study was conducted in one practice (C H's) which has three full-time and two part-time partners and 10 000 patients.

Transcripts of unstructured interviews conducted by C H with a stratified sample of eight patients, each taking both salbutamol and beclomethasone inhalers, were analysed qualitatively.<sup>1</sup> Eight themes emerged: positive and negative attitudes to inhaler use, satisfaction with the doctor, ease in obtaining inhalers, perceived benefits of inhalers, concern about side effects, desire for more knowledge about the inhalers and involvement of others in asthma management.

The themes were used to develop a structured interview, where questions relating to the eight areas of interest were answered using five-point Likert scales. Forty patients each prescribed both salbutamol and beclomethasone inhalers were randomly selected for the interview with C H. All agreed to participate. Inhaler use

was defined as the mean number of puffs per day based on the numbers of salbutamol and beclomethasone inhalers ordered in the previous year. Rank correlations between the combined responses to the eight themes and measures of inhaler use were analysed as the variables were not normally distributed.

The results of the correlations are shown in Table 3. Satisfaction with the doctor was correlated with beclomethasone use, as one might expect from a preventive treatment where an element of trust is needed. It would also seem that the inconvenience of collecting an inhaler presents less of a barrier to action where the benefits are obvious (symptom relief) compared with when they are less tangible (symptom prevention).

Although the doctor-patient relationship was one of the three factors that emerged from a study by Sibbald and colleagues,<sup>2</sup> no distinction was made between treatments. Osman and colleagues<sup>3</sup> found that a dislike of asthma medication existed independently of whether the medication was for prophylaxis or relief, but no questions were asked about positive attitudes to using inhalers which appear in this study to have a greater influence than negative attitudes. It is possible that the more detailed exploration of beliefs about the two types of medication conducted in the present study allowed detection of a difference between treatments not found in previous work.

Further work is planned to confirm the key themes and to evaluate interventions for changing misconceptions about inhaler treatment.

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## Teenage sexual health

Sir,  
We would like to respond to Dr Gardener's interesting reply (*March Journal*, p.161) to our review article on teenage health.<sup>1</sup> He raises several valid points which are worthy of further discussion regarding primary prevention of sexually transmitted diseases and pregnancy in teenagers.

Dr Gardner takes the opposing position to that expressed in our paper regarding a longstanding debate: are teenagers who are exposed to increased sex education likely to become more sexually active? He quotes papers that support his assertion that teenagers will have increased sexual activity, but there are several studies and reviews of the literature which strongly suggest that no such increase occurs.

In their large study of sex education and contraceptive provision in industrialized countries Jones and colleagues conclude that those countries which have easier access to contraception and better sex education provision have lower rates of teenage pregnancy.<sup>2</sup> Furthermore Voydanoff and Donnelly, summarizing work in the United States of America,<sup>3</sup> and Hudson and Ineichen, summarizing work in the United Kingdom,<sup>4</sup> independently conclude that increased sex education does not lead to increases in sexual activity among teenagers.

Gardner quotes the situation in the Netherlands where the rate of teenage sexual experience is one third that of the UK among those aged 16 years. However, the rates of pregnancy reported at a conference illustrate a success in the Netherlands with a teenage pregnancy rate seven times lower than that in the UK for all teenagers, and 11 times lower for those aged under 16 years.<sup>5</sup> It can only be successful contraception provision and sex education which accounts for the difference in these rates.

The Dutch attribute their success in some part to good communication between general practitioners and teenagers, and a non-judgemental attitude regarding sexual activity as a nation. The conclusions of our review article are based on the hopes that we could apply such

Table 3. Correlation of themes with inhaler use.

Theme	Spearman's rho	
	Salbutamol use (n = 40)	Beclomethasone use (n = 40)
Positive attitude to using inhalers	0.32*	0.31
Negative attitude to using inhalers	-0.12	-0.18
Satisfaction with the doctor	0.03	0.33*
Ease in obtaining inhalers	0.02	0.22
Perceived benefits of inhalers	0.26	0.37*
Concern about side effects of inhalers	-0.30	-0.26
Desire for more knowledge about inhalers	0.18	0.02
Involvement of others in asthma management	-0.04	0.17

n = number of patients in group. \*P<0.05.