Another ADR that is potentially life-threatening in primary care is bronchoconstriction caused by aspirin and other NSAIDs.[8] These drugs are contraindicated in patients known to have previous sensitivity and they should be prescribed with caution in patients with asthma. The latter group should be advised to stop the drugs if there is any worsening of asthma symptoms. It is important for patients to report these ADRs so that they can be advised about avoiding NSAIDs in the future, including those that they might purchase without a prescription. Also, it is essential that information on NSAID sensitivity is displayed prominently in the medical records and incorporated into computerised alerts where these are available.

ADRs involving the respiratory system present a particular challenge because of the non-specific way in which many of them present. Nevertheless, with adequate training and effective systems in place it should be possible for us to avoid ADRs, or to pick them up

as soon as possible. A high index of suspicion is needed for those drugs that we do not use commonly in primary care.

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Choice of add-on therapy in asthma - another inhaler or a tablet / syrup? A survey of 1415 UK asthmatics

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ABSTRACT

Keywords
Asthma; patient compliance; anti-asthmatic agents and anti-inflammatory agents

Objectives To determine preferences for asthma treatment given as inhaled therapy or as a tablet / syrup, to identify factors that influence this choice, and to assess how many patients would sacrifice greater efficacy of therapy in order to use the delivery route of their choice.

Design Postal Questionnaire to patients with an active diagnosis of asthma aged less than 60 years under the care of general practitioners, paediatricians or adult respiratory physicians.

Main Outcome Measure Patient preference for inhaled therapy or tablet/syrup.

Results 715 replies were analysed (93% Caucasian). 58% (417) preferred tablets (p<0.01) based on an equal chance of symptom improvement. There was no sex difference, but more children aged 6-10 and parents of under 6 year olds preferred tablets or syrup than adults (65% vs. 54%, p=0.03). Preference for tablets increased with number of current inhalers (p<0.05) but there was no correlation with total number of puffs per day or numbers of existing tablets taken. 238 (36%) opted for their preferred route of delivery in preference to greater efficacy.

Conclusion More asthmatics would choose a tablet or syrup than another inhaler as add-on therapy for their asthma. This preference was more marked in children and in patients already taking several inhalers. 36% of patients are prepared to sacrifice greater efficacy in favour of their choice of route of delivery.

INTRODUCTION

Compliance with regular therapy is an important issue in asthma. Many factors influence patient compliance and these need to be addressed as part of choosing the appropriate therapy for individual patients. The importance of addressing compliance is emphasised in all major guidelines, including the British Asthma guidelines.[1]

Inhaled therapy has been the mainstay of treatment for asthma over the past two decades, as a means of achieving good local efficacy with the least systemic side effects. The recent introduction of a new class of oral therapy for asthma, the leukotriene antagonists, has raised new issues concerning patient's choice of

delivery route for regular treatment.[2] There have been few objective studies assessing preference with oral medications.[3,4] Tettersell suggests that poor compliance with inhaled therapy is associated with a preference for tablets.[5] It would seem logical that one path to improving compliance would be to offer treatment that patients prefer.

The principal aims of our study were to explore the preferences of patients with asthma regarding delivery route for their medication, and to identify factors that influenced their choice. A further aim was to assess whether patients would sacrifice greater efficacy of therapy in order to use the delivery route of their choice.

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METHODS

We conducted a postal questionnaire (Table 1) of 1415 asthmatics aged less than 60 years using databases from 4 general practices, 2 teaching centre paediatric departments and one district general hospital respiratory unit. In addition to basic demographic details, the questionnaire included questions regarding number and colour of inhalers used, number of puffs used per day and numbers of tablets used. Patients were asked whether they would prefer another inhaler or a tablet/syrup as add-on therapy for their asthma if symptoms were not currently well controlled. Further questions addressed their choice when either the inhaler or the tablet/syrup was more effective than the alternative. Parents were asked to complete the questionnaire for children aged less than 5 years.
Data were analysed using chi-squared trend analysis.

RESULTS
Demographics
715 (50%) of 1415 questionnaires were returned. Sex distribution was approximately equal (46% male, 54% female). The majority of respondents were Caucasian (665, 93%) with small numbers from Asian (21, 2.9%) and Afro-Caribbean (4, 0.6%) communities.

Figure 1. Overall preference for additional treatment (p<0.01)

Figure 2. Preference for inhaler with age (p=0.03)

Table 1 Postal questionnaire

Please read the information below, and then answer all the questions by ticking the appropriate boxes.

We would like you to imagine that your asthma had been badly controlled over the past few months on your usual treatment (for example waking more at night, using your reliever a lot during the day).

Now imagine that a new type of treatment was available, either as a tablet, syrup or as an inhaler. Which form of treatment would you choose (in addition to your usual treatment)?

Q1.
i. Another inhaler ☐ OR
ii. Tablet (chewable or soluble if required) or syrup ☐

Q2. Would you choose an inhaler (I) or tablet/syrup (T) in each of the five situations listed below? Please answer each part (a,b,c,d and e).

	I	T
a. The inhaler was much more likely than the tablet / syrup to improve your symptoms	☐	☐
b. The inhaler was slightly more likely than the tablet/syrup to improve your symptoms	☐	☐
c. The inhaler and the tablet / syrup were equally good at improving your symptoms	☐	☐
d. The tablet / syrup was slightly more likely than the inhaler to improve your symptoms	☐	☐
e. The tablet / syrup was much more likely than the inhaler to improve your symptoms	☐	☐

Q3. What is your age in years?

0 - 5   6 - 10   11 - 15   16 - 30   31 - 60

Q4. Are you   Male   OR   Female

Q5. To which racial group do you belong?
White   Asian   Afro-Caribbean   Other

Q6. Please tick which colour inhalers you take on most days (you can tick more than one box)

Blue   Brown /   Green   Orange
White   Other   Dark red

Q7. What is the total number of puffs of inhaler treatment that you take each day, on average?

0 - 5   6 - 10   11 - 15   16 - 20   > 20 puffs

Q8. How many prescribed tablets, capsules etc (for any condition) do you take each day, on average?

None   1 - 4   5 - 10   > 10 tablets

Thank you very much for your co-operation. Please post the completed form in the enclosed stamped addressed envelope.
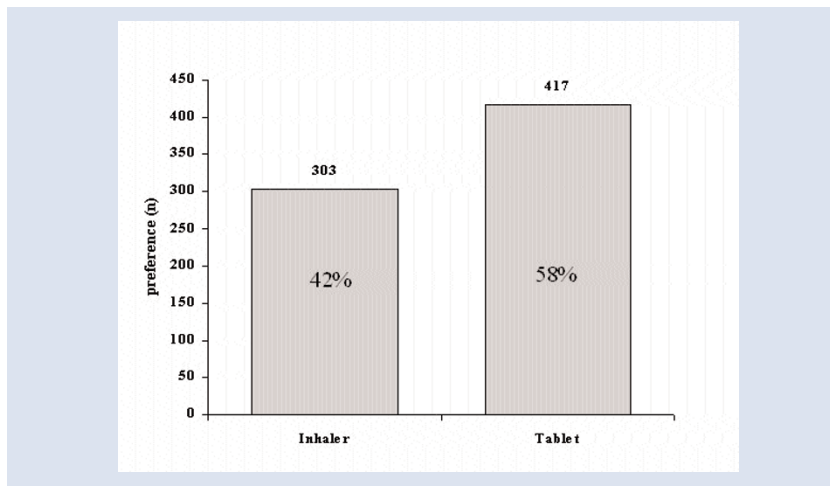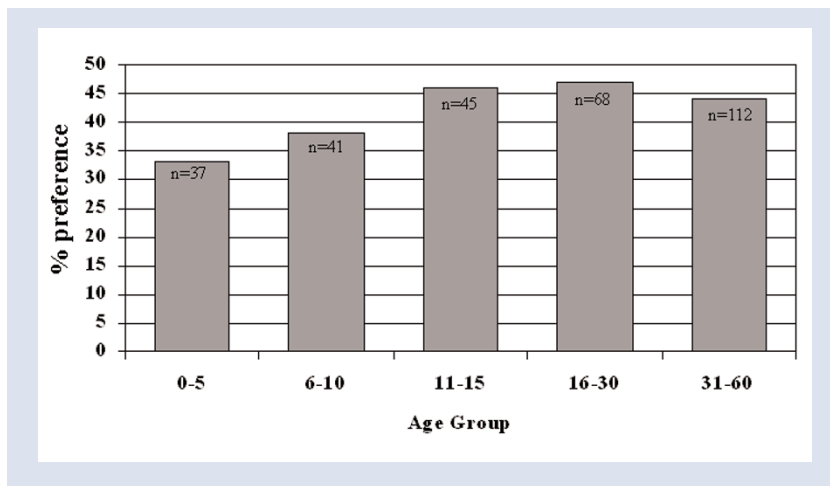
Figure 3. Preference for additional treatment with number of existing inhalers (p<0.01)

Figure 4. Choice between inhaler and tablet with varying efficacy of inhaler
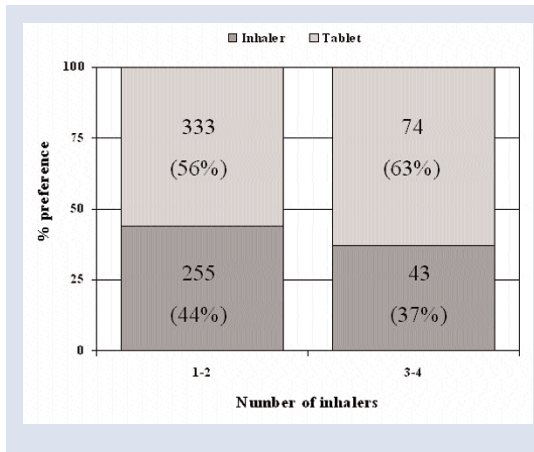
Preferences

Overall 58% (417) of patients (or their parents) preferred tablet/syrup as additional therapy compared to another inhaler (p<0.01) (figure. 1). There was no sex difference. There was a significant trend favouring inhaler with increasing age (p=0.03) (figure 2).

As a surrogate for severity of asthma, we looked at those already using 1-2 inhalers and compared them with those using 3-4 inhalers. There was a significantly greater preference for tablet in those already taking 3-4 inhalers (63% vs. 56%, p<0.01) (figure 3). There was no significant trend in preference for tablet or inhaler with increasing severity as scored by either estimated guideline step (using the British Asthma guidelines), number of tablets taken daily or with number of puffs of inhaler.

Patient preference was also assessed in the light of varying efficacy of inhaler against tablet or syrup (Figure 4). 66 patients (9%) failed to answer this question. Overall, patient preference was determined by the most effective means of therapy (311, 64%) rather than preferred delivery route. 238 (36%) of patients were willing to sacrifice some efficacy in choosing their preferred route of delivery (16% tablets, 20% inhaler). 22% still chose their preferred route even if it were much less efficacious.

DISCUSSION

Whilst inhaled therapy remains the mainstay of treatment for asthma, the introduction of leukotriene receptor antagonists offers some choice in route of delivery of additional drug therapy.

This study included a large number of asthmatics of varying severity, drawn from both primary and secondary care and representing all age groups up to 60 years. A response rate of 50% was satisfactory for a postal survey.

In this study, more asthmatics would prefer oral therapy than another inhaler as additional therapy for their asthma. This is in concordance with other studies.[6] This preference was more marked in parents of young children and older children compared to adults.
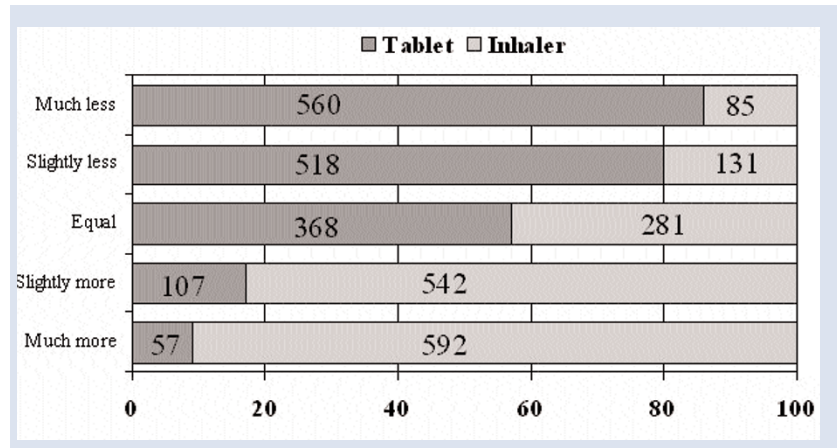
Compliance in children and adolescents is notoriously problematic and is often in part accounted for by the stigma of using inhalers. Others have suggested that it is in these groups where oral therapy is seen as being less obvious to take and therefore reduces any stigma. Whilst stated preference in a questionnaire such as this may not necessarily translate into greater compliance, there is some evidence to support such an argument.[5,7] There is conflicting evidence that suggests that compliance is greater with oral therapy than inhaled therapy.[3,8,9] Certainly preference is influenced by knowledge, and these factors are implicated in the psychological stages involved in improving compliance.[10]

Patients already using 3 or more inhalers had a greater preference for tablets than those requiring 2 inhalers or less, although there was no relation between total number of puffs used and preference for oral therapy. This difference may reflect different groups of patients; for example those requiring several inhalers might have severe disease, whilst those using many puffs per day may include poor compliers with regular treatment who use their bronchodilator excessively every day. The increasing number of daily doses of any drug treatment is strongly associated with poorer compliance[3,11] and this may explain the preference for oral therapy in patients taking at least 3 inhalers. An alternative may be that those on multiple inhalers represent a more severe group who feel less benefit from numerous inhalers and would therefore prefer alternative therapy.

This study also revealed that whilst the majority of patients would choose treatment efficacy over preference for choice of route, a third of patients are prepared to sacrifice greater treatment efficacy in order to have their chosen route of drug delivery. This also has important implications for potential compliance – it may be more appropriate to accept some loss of efficacy in return for overall better compliance with a preferred delivery system.[5] Further research is needed to identify such patients and to determine the factors and reasons behind their decision. Nine per cent of patients failed to answer this question; this may represent a poor understanding of the question or may reflect a

design flaw in the omission of any 'no preference' check box in the questionnaire.

Unfortunately ethnic minorities were under-represented in this survey and such groups may have important differences in preference for treatment device.
It is difficult to correlate patient preference with greater levels of compliance within the confines of a self-administered questionnaire. These issues could be explored further by way of a prospective double blind placebo controlled randomised study comparing compliance with either inhaler or tablet.

CONCLUSION

These findings emphasise the varying preferences exhibited by patients. In a disease such as asthma where compliance is a major issue, it is important to take into account patients' own preference for device and route of delivery.[3] The majority of patients, particularly the young and those on more than three inhalers would prefer additional therapy via the oral route. Such preferences should be identified when prescribing in asthma. ■

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Home or surgery based screening for chronic obstructive pulmonary disease (COPD)?

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ABSTRACT

Aims

To compare the effectiveness of opportunistic spirometric screening of patients attending a general practice surgery with screening on randomly selected home visits.

Method

100 patients aged 45+ attending the Honiton Surgery (surgery group) and 100 randomly selected patients visited at their homes (home group) were invited to perform spirometry and complete a symptom and medication questionnaire. Main outcome measures were successful completion of spirometry and questionnaire and an estimate of COPD prevalence.

Results

Surgery assessments were successful in 94/100 (95% C.I. 89% to 99%) cases. Eighteen percent of those visited at home refused the invitation to attend for spirometry; 33% (95% C.I. 24% to 42%) resulted in a successful assessment; there was no. reply when visiting 46% of cases and 3% of he visits were refused or terminated on the day.
The mean age of the surgery group and home group was 63.7 years and 64.5 years respectively. The mean time per patient was 17 minutes in the surgery group and 1 hour 26 minutes in the home group.
Twenty five (27%, 95% C.I. 18% to 36%) of those assessed in the surgery group and 10 (30%, 95% C.I. 14% to 46%) of the home group had an $FEV_1 < 80\%$ predicted. Of these, 14/25 (56%) and 4/10 (40%) were current or ex-smokers. Of these, eight and three respectively had cough, wheeze or breathlessness, giving an overall COPD prevalence of 11/127 (9%, 95% C.I. 0% to 19%). Three of these eleven (27%) had mild disease, 7/11 (64%) moderate and 1/11 (9%) severe. The mean age of the patients with COPD was 70.8 years. Four of the eleven (36%) patients with COPD already had a diagnosis recorded in their records (3 COPD, 1 asthma). Analysis of surgery attendance (any health care professional) of all patients aged 45 and above, indicated that over a one year period 79.1% (95% C.I. 78.2% to 80.0%) and over a two year period 89% (95% c.i. 88.3% to 89.7%) of the total practice population attended on at least one occasion.

Conclusion

Opportunistic spirometric assessment of patients routinely attending surgery results in a high uptake; over a period of two years around 84% of the target population could be assessed. Home visiting may be used for reaching those not routinely attending the surgery.