Hay fever symptoms and over-the-counter remedies: a community pharmacy study

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There is poor understanding of patients' perceptions of hay fever symptoms, the factors which motivate them to purchase particular products and what properties they deem desirable in a remedy. This study aimed to increase understanding of patients' perceptions of hay fever symptoms and to investigate their perceptions of five non-sedating oral antihistamine products and a corticosteroid nasal spray. A sample of 249 patients was recruited from community pharmacies from June to August, 1995. Of these, 139 (56 per cent) returned questionnaires, of which 124 were valid for analysis. The most common symptoms experienced were nasal and ocular. The most common early warning sign of hay fever was sneezing (75; 21 per cent). Forty-three subjects (35 per cent) indicated there was less than half an hour between the first sign of an attack and developing all symptoms, and 87 (70 per cent) reported developing all symptoms in under two hours. For 45 subjects (36 per cent) the worst period for the attack was the morning. The most common way of treating a hay fever attack was by taking a remedy at the first sign of hay fever (70; 56 per cent). Seventy-six (61 per cent) used the remedy once daily and 120 (96 per cent) once or twice daily. Eighty-five (69 per cent) used the remedy every day of the week during an attack. A reduction in sneezing was the most common indicator that the remedy was working (50; 21 per cent). The most common reason for purchasing a remedy was the pharmacist's recommendation (45; 33 per cent). The most common reason for acquiring the remedy by over-the-counter (OTC) purchase was that it was more convenient than consulting a general medical practitioner (GP) (77; 42 per cent). The most common reason for liking a particular remedy was that it gave fast relief (35; 21 per cent). The most common reason for disliking a remedy was that it was expensive (21; 28 per cent). Most patients (108; 87 per cent) were either "very" or "fairly" satisfied with their remedy. The top three most important desired properties of an "ideal" hay fever remedy were that it was fast acting, gave long lasting relief and did not cause drowsiness.

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HAY fever is the most common cause of allergy in the United Kingdom, affecting approximately 15 per cent of the population. In 1990, an estimated 570,000 people reported hay fever symptoms in the UK, of whom 402,000 (71 per cent) were aged between 16 and 44 years.[1]

Hay fever is caused by allergy to pollen, with most problems occurring in the summer being caused by grass pollen. The main symptoms include nose irritation and itching, sneezing, running and blockage. Eyes may become itchy and watery. The palate, throat and ears may also become itchy. There may be headaches and a general feeling of lethargy and loss of concentration. Pollens may also trigger asthma symptoms (cough, chest tightness and wheezing).

In recent years, more patients have consulted their general medical practitioner (GP) or pharmacist because of hay fever symptoms, although it is not clear whether this reflects a true increase in incidence of the disease or an increase in awareness of it. Although past research has compared the control of hay fever symptoms by different hay fever products,[2-5] relatively few products have been evaluated in the setting in which they will be used.[6] Despite our poor understanding of hay fever symptoms and remedies from a consumer's perspective, demand for over the counter (OTC) medicines continues to grow. Partly influenced by deregulation of some medicines from prescription-only medicine to pharmacy medicine status, sales of OTC hay

fever treatments increased in 1994 by 9.2 per cent in volume terms (18.7 per cent by value), compared with 0.8 per cent (6.5 per cent by value) for OTC medicines in general.[7]

Sales of all OTC medicines are now equivalent to a third of the National Health Service (NHS) drugs bill.[6] This trend towards increased self care has many potential benefits and pitfalls, and requires more research. Such research should result in pharmacists being better equipped to make value judgments on the choice of such medicines when responding to patients' symptoms.[2]

The present study was designed to increase our understanding of hay fever symptoms from the patient's perspective. It also examined how six hay fever remedies were used and the patients' rationale for treatment. Choice of a particular remedy and reasons for purchasing it from a pharmacy rather than acquiring it by consulting a GP were also investigated. Finally, patients' level of satisfaction with several OTC hay fever remedies was assessed and the desired properties of an "ideal" hay fever remedy investigated.

Method

The study was conducted in six community pharmacies in the Tayside area of Scotland and one in the Lanarkshire area of Scotland which had been approached and had agreed to take part. Five were independent pharmacies and one was a supermarket pharmacy. The study took place in June to August, 1995, and involved patients responding to a questionnaire.

Ethics approval The study was submitted to Tayside committee on medical research ethics and Lanarkshire health board ethics of research committee. Both committees approved the study without the requirement for written informed consent as this was deemed to be implied by the questionnaire being returned.

Training Before starting the study, an information pack was prepared, to act as a reference source in each pharmacy and provide the basis for training of pharmacy assistants. Training of pharmacy assistants (by JG) was conducted in the pharmacies, on a one-to-one basis, and covered study background, aims and objectives, recruitment procedure, paperwork and use of the information pack.

Recruitment The sample population comprised volunteers purchasing any hay fever treatment from the following study product list: Beconase Hayfever nasal spray, Clarityn tablets, Seldane tablets, Triludan tablets, Triludan Forte tablets and Zirtek tablets. An equal number of patients was required to be recruited into each treatment group, with Seldane, Triludan and Triludan Forte being considered one group. We aimed to recruit 300 patients during the hay fever season. Pharmacists and pharmacy assistants were involved in the recruitment procedure.

Patients were only approached and invited to participate in the study after they had freely purchased their hay fever remedy. Those expressing interest were given verbal information on the study, then after agreeing verbally to take part in the study, the patient was assessed for suitability according to the following inclusion criteria: the patient was over the age of 18 years and must (a) have had hay fever symptoms and intended to use their hay fever remedy at the time of purchase, or (b) anticipate developing symptoms and using their hay fever remedy during the current hay fever season. Only one study hay fever remedy was to have been purchased at the point of study entry for the patient's own use.

Patients were excluded according to the following exclusion criteria: those who (a) purchased a study product for a third party, or (b) were currently taking other hay fever remedies or any medicine which could affect allergy symptoms.

It was made clear that participation was entirely voluntary and subjects could withdraw at any time. No incentive was offered to patients to return their questionnaire. No reminder letters were sent but one pharmacy made one telephone call to remind non-returnees to return their questionnaire. This was not a protocol requirement and the pharmacist in question instigated this of his own volition.

Each pharmacy was issued with a set of study packs each containing a patient information letter, a questionnaire and a stamped addressed envelope. Subjects were required to complete the questionnaire after the remedy pack had been finished or when symptoms were relieved, whichever was the sooner, and to return it in the stamped addressed envelope (addressed to the research pharmacist, Medicines Monitoring Unit). If the remedy was not taken as intended during the hay fever season, the patient was required to indicate this on the questionnaire and to return it at the end of the hay fever season.

An abridged version of the questionnaire is shown in Appendix 1. Weekly telephone contact was made with all pharmacies to obtain recruitment figures and to discuss recruitment problems or matters relating to the study.

Data collection The data were collected and analysed using Epi-info (version 5).[8] Each pharmacy was sent a set of their results when all data had been collated and analysed.

Results

Two hundred and forty-nine subjects were recruited between June 12 and August 11, 1995, inclusive. One hundred and thirty-nine questionnaires (56 per cent) were returned by August 25, 1995. The proportion of questionnaires returned

by each pharmacy ranged from 0 per cent to 87.5 per cent. No questionnaires were illegible or spoiled. The pharmacy which used telephone reminders to non-responders achieved a 74 per cent return rate.

Of the seven participating community pharmacies, two used only the pharmacist to recruit, one used only the pharmacy assistants, three used both the pharmacist and pharmacy assistants and one did not record the recruiter.

An attempt was made to recruit an equal number of patients using each remedy, with the terfenadine-containing products Seldane, Triludan and Triludan Forte being regarded as one remedy. This proved difficult, due to the considerably higher demand for Triludan compared with the other products, and the limited duration of the hay fever season.

Table 1 shows recruitment and returned questionnaires by remedy. Fifteen questionnaires were invalid because they had been completed by a patient taking more than one study product, or taking a study product and a medicine which could affect allergy symptoms, or taking a non-study product. Therefore, 124 returned questionnaires were included in the analysis.

Table 2 shows participants' symptoms classified according to degree of severity. The most common symptoms (experienced to a mild, moderate or severe degree) affected the nose (reported in 438 responses), followed by eyes (197 responses).

Sneezing was the most common early warning sign, occurring in 75 responses (21 per cent), followed by runny nose (62 responses; 17 per cent) and itchy eyes (58 responses; 16 per cent).

Forty-three patients (35 per cent) indicated that less than half an hour elapsed between the first sign of a hay fever attack and having all symptoms. Eighty-seven patients (70 per cent) reported having all symptoms in under two hours.

The worst period for hay fever attacks was in the morning, as indicated on 45 questionnaires (36 per cent). The "best" period was during the night, as indicated on three questionnaires (two per cent).

Table 3 shows that the most common way of treating a hay fever attack was taking the remedy at the first sign of a hay fever attack, as reported on 70 questionnaires (56 per cent).

Seventy-six patients (61 per cent) reported that the remedy was used once daily and 120 (96 per cent) reported that it was used once or twice daily. One patient indicated that Triludan Forte was taken "five times or more" daily. Eighty-nine per cent of patients using a remedy with a once daily dosage took it accordingly, compared with 56 per cent of patients using a remedy with a twice daily dosage.

Eighty-five patients (69 per cent) indicated that the hay fever remedy was used on every day of the week during an attack. All 24 patients (100 per cent) using Beconase Hayfever reported that they used it on every day of the week. The hay fever remedy was used on one or two days of the week in 12 responses (nine per cent).

Table 4 summarises the symptomatic relief experienced by patients. With oral antihistamines, the most common relief was a reduction in sneezing (38 responses; 21 per cent), followed by a reduction in itchy eyes (34 responses; 18 per cent) and a reduction in runny nose (31 responses; 17 per cent).

With Beconase Hayfever, the most common type of symptomatic relief was a reduction in sneezing (12 responses; 24 per cent), followed by improvement in blocked nose (eight responses; 16 per cent). The latter was the only difference in symptomatic relief between Beconase Hayfever and oral antihistamines which was statistically significant ($P<0.05$).

Almost half of the patients (11; 42 per cent) indicated that the choice of a nasal spray was made in preference to tablets because tablets

Table 1: Recruitment and returned questionnaires by remedy

Remedy	Recruited	Returned questionnaire	
	Number	Number	Percentage
Beconase Hayfever	48	24	50.0
Clarityn	39	21	54.0
Seldane	9	5	56.0
Triludan	98	46	47.0
Triludan Forte	16	14	87.5
Zirtek	30	14	47.0
Others	9*	15†	
Total	249	139	56.0

* includes five non-study remedies and four unknown study products (not recorded)
† invalid

Table 2: Responses to question: To what extent did you have the following symptoms during this hay fever attack? (n=124)

Symptom	Mild		Moderate		Severe		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Affecting nose	116	26.0	194	44.0	128	29.0	438	99.0
Affecting eyes	59	30.0	70	35.5	68	34.5	197	100.0
Affecting mouth/throat	36	40.0	35	39.0	19	21.0	90	100.0
Wheezing	17	46.0	13	35.0	7	19.0	37	100.0
Headache	20	41.0	22	45.0	7	14.0	49	100.0
Cough	19	49.0	13	33.0	7	18.0	39	100.0
Catarrh	20	40.0	20	40.0	10	20.0	50	100.0
Affecting ears	2	28.5	2	28.5	3	43.0	7	100.0
Others	0	0.0	1	33.0	2	67.0	3	100.0

Table 3: Responses to question: How did you treat this hay fever attack (n=124)

Method	Frequency	
	Number	Percentage
Take before season begins	7	6.0
Take at first sign of attack	70	56.0
Take when pollen count is high	0	0.0
Remedy stops sneezing	9	7.0
Remedy stops nose becoming bothersome	15	12.0
Remedy stops eyes becoming affected	7	6.0
To avoid a bad attack	10	8.0
To be able to go out socially	0	0.0
Others	2	2.0
No/invalid answer	4	3.0
Total	124	100.0

were not working well on their symptoms.

Table 5 shows that "pharmacist's recommendation" was the most important reason for patients purchasing a particular remedy (45 responses; 33 per cent).

Table 6 shows the reasons for buying a remedy over the counter rather than by prescription, and indicates that 77 respondents (42 per cent) purchased OTC remedies because is was more convenient to buy direct.

Table 7 shows the variety of reasons expressed for "liking" a particular hay fever remedy. The most common was that the remedy gave fast relief (35 responses; 21 per cent).

Table 8 shows the greater variety of reasons expressed for disliking a hay fever remedy. The most common was that the remedy was expensive (21 responses; 28 per cent). Almost half of the questionnaires did not contain an answer to this question.

Table 9 shows respondents' levels of satisfaction with their remedy. One hundred and eight questionnaires (87 per cent) indicated patients were either "very" or "fairly" satisfied. Two patients — one using Beconase Hayfever and the other using Clarityn — reported a response of "not at all satisfied" with their remedy.

Table 10 shows respondents' three most important desired properties of an "ideal" hay fever remedy. The top three properties were that it should be fast acting, give long lasting relief and not cause drowsiness.

Discussions with pharmacists and pharmacy assistants after the study indicated a positive attitude towards such research studies, while at the same time acknowledging the difficulties in reconciling the time input involved in such activities with the other professional and commercial pressures of a community pharmacy environment.

Discussion

The number of clients recruited (249) was 51 fewer than the target of 300. This was due to a relatively short hay fever season in 1995 and because we attempted to recruit an equal number of patients using each remedy. The Seldane, Triludan and Triludan Forte group target had been reached by week three of the study, and

Table 4: Responses to question: What feeling(s) did you get that told you the remedy was starting to work? (n=109)

Symptomatic relief	Beconase Hayfever		Oral antihistamines		Overall frequency	
	Number	Per cent	Number	Per cent	Number	Per cent
Symptoms improved in general	2	4	15	8	17	7
Itchy eyes decreased	5	10	34	18	39	17
Watery eyes decreased	3	6	9	5	12	5
Sneezing decreased	12	24	38	21	50	21
Blocked nose improved	8	16*	11	6*	19	8
Runny nose decreased	5	10	31	17	36	15
Itchy nose decreased	3	6	15	8	18	8
Others	12	24	31	17	43	18
Total responses	50	100	184	100	234	99

*P<0.05

Table 5: Responses to question: Why did you buy this particular hay fever remedy? (n=120)

Reason	Frequency	
	Number	Percentage
In the habit of using it	22	16.0
Formerly prescribed	25	18.0
GP's recommendation	10	7.0
Pharmacist's recommendation	45	33.0
Friend's recommendation	25	18.0
Advertised	6	4.0
Non-drowsy remedy	1	1.0
Others	4	3.0
Total responses	138	100.0

Table 6: Responses to question: Why did you buy this remedy direct from the pharmacy instead of getting a prescription from the doctor? (n=124)

Reason	Frequency	
	Number	Percentage
Inconvenient for GP	20	11.0
More convenient	77	42.0
Immediate need	53	29.0
Cheaper	21	11.0
Empowerment	6	3.0
Others	7	4.0
Total responses	184	100.0

Table 7: Responses to question: What, if anything, did you like about this remedy? (n=110)

Response	Frequency	
	Number	Percentage
Easily used	8	5.0
Effective relief	31	19.0
No drowsiness	23	14.0
Easily swallowed	17	10.0
Once daily dose	14	8.0
No side effects	9	5.0
Fast relief	35	21.0
24-hour relief	7	4.0
Easy to carry	2	1.0
Reliable	3	2.0
Stops sneezing	3	2.0
Others	13	8.0
Total responses	165	99.0

subsequent recruitment of patients on these products was halted for three weeks in the hope of the other remedies "catching up." However, this resulted in overall recruitment being retarded.

The proportion of questionnaires returned (56 per cent), although quite respectable, was much lower than the 78 per cent achieved in our previous OTC medicines research methodology study.[9] This may have been due to several differences between the studies. The hay fever questionnaire was longer (containing 19 questions compared with 11) and the questions were more complex. Furthermore, the hay fever questions were less scientific and more of a market research nature. This may have affected patients' perception of the relevance, and indeed the importance, of the data and may have exerted a negative influence on their decision to return the questionnaire.

The fact that signed informed consent from patients was not required by both ethics committees was beneficial in simplifying the recruitment procedure but may have had a detrimental effect on patients' willingness to return the questionnaire by undermining the importance of the data. Furthermore, unlike in the OTC medicines research methodology study,[9] apart from one pharmacy where patient names and telephone numbers were taken, there were no demographic details recorded at the point of recruitment that would facilitate follow-up; hence patients were aware that follow-up was impossible, and this may also have discouraged questionnaire return.

The pharmacy using a telephone call reminder for non-responders achieved the second highest return rate. This pharmacy and the one with no returned questionnaires served the least affluent community of those involved. In this instance, the telephone reminder appeared to improve the return rate, as might have been predicted.[10] In general, the pharmacies involved in this study served less affluent communities than those in the OTC medicines research methodology study[9] and this may have exerted a negative influence on questionnaire returns.[10] The differences in return rate between pharmacies may be due to pharmacy location but our results suggest that a "pharmacy effect" may also be a contributory factor.

The products in this study were chosen as a sample of popular "newer" hay fever remedies. Perhaps a sedating antihistamine such as chlorpheniramine (Piriton) should have been included as a study product. Five pharmacists remarked that this was the second most popular hay fever remedy in their pharmacy, and indeed its inclusion would have provided a more "balanced" group of remedies. Although first generation antihistamines are regarded as having been superseded by the newer second generation group, the inclusion of chlorpheniramine might have shown the desirability of its sedative effect, particularly when taken at night. It might also have shown that some patients choose to "trade" its sedative potential for its efficacy and its perceived price advantage over non-sedating antihistamines.

The results in Table 2 might indicate the level of symptom severity at which most patients seek symptomatic relief from a hay fever remedy. It appears that the majority of patients buying a remedy perceived their nose and eye symptoms as moderate or severe, but their headache, cough and catarrh symptoms as mainly mild or moderate.

We found that the worst period of the hay

Table 8: Responses to question: What, if anything, did you dislike about this remedy? (n=69)

Reponse	Frequency	
	Number	Percentage
Expensive	21	28.0
Difficult to inhale	4	5.0
Relief lasts less than 24 hours	3	4.0
Can't take alcohol	3	4.0
Caused blocked nose	2	2.5
Made mouth dry	2	2.5
Caused drowsiness	2	2.5
Not strong enough	2	2.5
Prefer natural remedy	2	2.5
Some symptoms remain	5	6.5
Small amount tablets in pack	4	5.0
Became less effective	2	2.5
Unpleasant taste	2	2.5
Others	22	29.0
Total responses	76	99.0

Table 9: Responses to question: Overall, how satisfied were you with this remedy? (n=124)

Level of satisfaction	Frequency	
	Number	Percentage
Very satisfied	53	43.0
Fairly satisfied	55	44.0
Neither satisfied nor dissatisfied	9	7.0
Not very satisfied	3	2.0
Not at all satisfied	2	2.0
No answer	2	2.0
Total	124	100.0

Table 10: Responses to question: Which are the three most important properties of an "ideal" hay fever remedy, in rank order? (n=124)

Property	Most important		Second most important		Third most important	
	Number	Per cent	Number	Per cent	Number	Per cent
Fast relief	45	36.0	19	15.0	6	5.0
Long lasting relief	34	27.0	29	23.0	20	16.0
Non-drowsy	20	16.0	27	22.0	25	20.0
Effective in eyes	6	5.0	11	9.0	10	8.0
Effective against runny dose	5	4.0	4	3.0	8	7.0
Effective against blocked nose	2	2.0	5	4.0	6	5.0
Effective against sneezing	3	2.0	9	7.0	16	13.0
Once daily dose	1	1.0	12	10.0	20	16.0
No answer	8	7.0	8	7.0	9	7.0
Others	0	0.0	0	0.0	4	3.0
Total	124	100.0	124	100.0	124	100.0

fever attack most commonly occurred in the morning, and not in the evening when pollen counts tend to be higher. The traditional view is that pollen rises on warm air in the middle of the day and falls in late afternoon and evening when sufferers tend to complain of symptoms. Our study agrees with a British Allergy Foundation study,[11] which found that 36 per cent of respondents felt worst before 1pm in the afternoon. This supports the belief that hay fever is not just related to pollen levels which vary throughout the day, but is complicated by a number of other factors which may include exercise, emotional factors and environmental pollution.

Table 3 showed that the most common way of treating a hay fever attack was by taking the remedy at the first sign of hay fever so that the symptoms would not be so bad. This result is predictable if one considers the detrimental effect that hay fever can have on peoples' lifestyle. The British Allergy Foundation study[11] found that 53 per cent of respondents were stopped from going outside, 25 per cent from playing sport and nine per cent from going to work as a result of hay fever. It is interesting that relatively few patients started taking the remedy before the season to prevent symptoms from developing. It is understood that Beconase Hayfever should work better when started before the season begins,[12] but pre-season use was not a main feature of Beconase Hayfever use in our sample.

Our study showed that a high pollen forecast had no effect on how respondents treated their hay fever attack. Hay fever sufferers are often well aware that pollen levels can exert a considerable influence on their symptoms, but since our sample appeared to use their remedies as relievers, pollen forecasts would be unimportant, as our results show.

Our results on once and twice daily dosage remedies highlight poorer compliance in the case of remedies with a twice daily dosage. A similar trend was found in a Swedish study on oral antihistamines, reported as a poster at the 1996 International Social Pharmacy Workshop in Madison, Wisconsin. This study found 71 per cent (n=194) and 40 per cent (n=65) compliance with once and twice daily dosage remedies, respectively. Perhaps some clients are getting adequate symptom relief by taking a twice daily dosage remedy on a once a day basis. Further research is required to answer this point. One respondent in our study took Triludan Forte "five times or more daily." This may have been an error in taking the medication or possibly a recording error by the patient.

Our results showed that use every day of the week during a hay fever attack is common with Beconase Hayfever, as one would expect for maximum effect with a topical steroid. A relatively high proportion of patients (69 per cent) indicated that antihistamines were also used every day during an attack. This chronic use of "relievers" may be because patients have found that continuous treatment is necessary to relieve symptoms, or because patients are using the remedy for longer than is necessary for fear of symptoms reappearing when they discontinue treatment. The patients (nine per cent) who used their remedy on one or two days of the week during an attack may be people taking oral antihistamines only when they get symptoms. Further research on the duration of treatment episodes may be worthwhile.

The three most frequently cited symptomatic improvements which indicated that the remedy was working were a decrease in sneezing, a decrease in itchy eyes and a decrease in runny nose (Table 4). These match some of the most commonly reported symptoms suffered during a hay fever attack. This would indicate that the remedies are, in fact, targeting the appropriate symptoms.

A greater proportion of participants using Beconase Hayfever than of those using oral antihistamines indicated relief of blocked nose, as one would expect, but there was no significant difference in other symptomatic relief.

Eleven patients (42 per cent) reported that a topical corticosteroid was chosen in preference to antihistamine tablets because of lack of efficacy of the latter on their symptoms. Guidelines for OTC treatment of hay fever[12] indicate that topical corticosteroid treatment is more effective than antihistamines against nasal symptoms (runny, itchy or blocked nose and sneezing) and runny, itchy eyes. Other studies comparing hay fever remedies [4,5] do not support this. Debate in this area appears to continue, and further research is required.

The pharmacist's recommendation was the most important reason for patients to purchase a particular hay fever remedy. This supports the belief that, in the hay fever market, patient loyalty is relatively low, with the strongest influence on purchase being recommendation, particularly by the pharmacist or the pharmacy assistant. Our results may also reflect the fact that more people are seeking their pharmacist's advice on OTC medicines and, indeed, that more advice is being offered by pharmacists and pharmacy assistants.

Other reasons reported for buying a particular hay fever remedy are noteworthy. Twenty-five responses (18 per cent) indicated that patients had previously obtained their remedy on prescription. One patient bought a remedy because it did not cause drowsiness.

The two most common reasons for purchasing the hay fever remedy rather than obtaining a prescription for it were convenience and immediate need. The former reason is supported by the Swedish research mentioned earlier, and both are fairly predictable in the light of current findings.[13] In the UK, the likelihood of purchasing OTC medicines is linked with the patient's ex-

emption status from prescription costs. Over 80 per cent of NHS prescriptions are exempt from prescription charges, and this is likely to influence consumers' decisions about self-medication.[13] A recent study showed that a key factor in determining patient choice between OTC or prescribed acquisition of a hay fever remedy was whether they were exempt from prescription charges.[14] In our study, the 21 subjects (11 per cent) who indicated that it was cheaper to buy were probably patients who were liable for prescription charges. Many packs contain a limited supply of remedy, so for sufferers requiring chronic treatment the supply of greater quantities of medicines on prescription encourages consultation with their GP.[13] Alternatively, patients may have perceived OTC acquisition to be cheaper because of the travel and time costs involved in consulting their GP.

The three most commonly liked properties of hay fever remedies, namely, that the remedy was fast-acting, effective and non-sedating, are fairly predictable, but surprisingly only one person (Table 5) mentioned non-sedating as a reason for choosing the product they actually bought.

The most commonly disliked property of a remedy was that it was expensive. We have no indication of the parameters used by participants for measuring cost. It might have been considered solely on the basis of retail price or daily treatment cost, with factors such as convenience, accessibility and time saved on consultation with the GP overlooked.

Other research supports our findings on the influence of cost on product choice.[14] Neither likes nor dislikes were placed in rank order or quantified, so we have no means of assessing their relative importance.

Despite the dislikes reported, 108 respondents (87 per cent) indicated that they were fairly or very satisfied with their remedy, which is fairly reassuring from a pharmacist's viewpoint.

Conclusions

This study has provided information about how patients perceive their hay fever symptoms and how they used six leading OTC hay fever remedies. The pharmacists' recommendation had the greatest influence on patient choice of a particular product. Overall, most patients were satisfied with their remedy. A desired "ideal" hay fever remedy would be fast-acting, give long lasting relief and not cause drowsiness.

The study also clearly demonstrated that the community pharmacy provides a suitable environment for this type of research and that successful recruitment of patients and collection of data is possible.

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Appendix 1: Questionnaire (abridged)

Please answer the following questions by placing a tick in the appropriate box(es) or by writing in the spaces provided.

1. Which of the following age groups applies to you? 18-34 / 35-55 / Over 55
2. Are you...? Male / Female

3. Which remedy did you buy at the pharmacy at the time you were given this questionnaire? (Please tick one box only):
Beconase Hayfever Nasal Spray / Clarityn Tablets / Seldane Tablets / Triludan Tablets / Triludan Forte / Zirtek Tablets / Other (Please specify)

4. To what extent (Not at all / Mild / Moderate / Severe) did you have the following symptoms during this hay fever attack? (Please tick one box for each symptom):
Runny nose / Blocked nose / Itchy nose / Sneezing / Watery eyes / Itchy eyes / Itchy mouth or throat / Wheezing / Sinus congestion / Headache / Sore throat / Cough / Catarrh / Other(s) (Please specify)

5. What was the first early warning sign(s) you got that told you that you were having a hay fever attack? (You may tick more than one box):
General itchiness / Itchy eyes / Watery eyes / Itchy nose / Runny nose / Blocked nose / Sneezing / Headache / Itchy throat / Tight chest / Wheezing / General unwell feeling / No early warning sign (Go to Q8) / Other(s)(Please specify)

6. How much time was there between the first sign(s) of your hay fever attack and having all your symptoms? (Please tick one box only):
Less than 0.5 hour / 0.5 hour to 1 hour / More than 1 but less than 2 hours / 2 to 3 hours / More than 3 hours / Don't know

7. When you had your hay fever attack, at what time did you feel worst? (Please tick one box only):
Morning / Afternoon / Evening / During the night / All day / Don't know

8. How did you treat this hay fever attack?(Please tick one box only):
I started taking a remedy before the hay fever season began / I took a remedy at the first sign of hay fever so that the symptoms wouldn't be so bad / I only took a remedy because the pollen count forecast was high / I only took a remedy because my sneezing was bothersome / I only took a remedy because my nose was bothersome / I only took a remedy because my eyes were bothersome / I only took a remedy because I had a particularly bad hay fever attack / I only took a remedy because I was going out socially / Other(s) (Please specify)

The following questions refer to the remedy you purchased at the time you were given this questionnaire.

9. How many times a day did you use this remedy during your attack? (Please tick one box only):
Once / Twice / 3 times / 4 times / 5 times or more / Don't know

10. How many days a week did you use this remedy during your attack? (Please tick one box only):
1 day / 2 days / 3 days / 4 days / 5 days / 6 days / Every day

11. What feeling(s) did you get that told you the remedy was starting to work?

12. Which type of remedy did you buy for your hay fever when you were given this questionnaire? (Please tick one box only):
Nasal spray (Go to Q13) / Tablet (Go to Q14)

13. Why did you not buy tablets for your hay fever? (You may tick more than one box):
I sometimes do, but I didn't at the time I got this questionnaire / I find it difficult to swallow tablets / Hay fever tablets make me drowsy / Tablets don't work well on my symptoms / Other(s) (Please specify)

14. Why did you buy this particular hay fever remedy? (You may tick more than one box):
It's what I've always bought for my hay fever / I used to get it on prescription / The doctor recommended it / The pharmacist recommended it / A friend recommended it / I saw it advertised / Other(s) (Please specify)

15. Why did you buy this remedy direct from the pharmacy instead of getting a prescription from the doctor? (You may tick more than one box):
I didn't want to bother the doctor / It was more convenient to buy my remedy direct from the pharmacy / I was suffering and needed a treatment immediately / Over-the-counter pharmacy remedies are cheaper / I want to make the decision about what remedy to take / Other(s) (Please specify)

16. What, if anything, did you like about this remedy?

17. What, if anything, did you dislike about this remedy?

18. Overall, how satisfied were you with this remedy? (Please tick one box only):
Very satisfied / Fairly satisfied / Neither satisfied nor dissatisfied / Not very satisfied / Not at all satisfied

19. Please look at the following properties a hay fever remedy may have. Which are the top three most important to you? Please put a 1 in the box by the property that is most important, put a 2 in the box by the second most important and a 3 in the box for the third most important:
Long lasting relief from symptoms / Fast relief from symptoms / Non-drowsy / Only one dose of the medicine needed per day / Effective against eyes / Effective against blocked nose / Effective against sneezing / Effective against runny nose / Other(s) (Please specify)