

Rostrum

ERASM, a pharmacoepidemiologic survey on management of intermittent allergic rhinitis in every day general medical practice in France

Background: The actual management of intermittent allergic rhinitis is still little known about, despite the disease being very prevalent. We used a cross-sectional survey to address this issue in everyday general medical practice in France.

Methods A total of 1321 general practitioners enrolled 3026 patients consulting for a spring exacerbation of allergic rhinitis. Both doctors and patients filled out a specific questionnaire on allergic rhinitis.

Results These patients consulted their doctor two-and-a-half weeks, on average, after the onset of their symptoms. They were bothered for an average of six days per week (5.9 ± 1.7 days) and for two months per year (8.7 ± 7.7 weeks) by symptoms which largely exceed the ENT (ear, nose and throat) field, with ocular symptoms (51.7%), pharyngeal irritation (39.0%), cough (30.8%), or respiratory discomfort (17.9%). Of these patients 79.2% had some impairment of their professional life and 91.8% of their daily life. Fifty percent of patients knew to what allergens they were allergic; only 11.1% had additional laboratory tests and 10.3% had subsequent specialist consultation (for most this was with an allergologist). Prescribed drugs were oral antihistamines (92.4%) and nasal glucocorticosteroids (45.2%). Prescriptions were written for a duration of six weeks on average. Seventy-nine percent of patients considered that the information they had received was adequate and easy to understand, but 58.2% of patients would have liked more advice. Furthermore, only 54.7% followed their doctor's prescription scrupulously, and 44% used frequent self-medication.

Conclusions Intermittent allergic rhinitis is a real health problem because of its increasing prevalence, the induction of impaired quality of life and loss of performance, especially at work. General practitioners play a major role in this disorder; they make the diagnosis, start the treatment, give the relevant information, and monitor most of the patients.

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The prevalence of allergic rhinitis has been increasing regularly for many years, particularly in young adults. A synthesis of epidemiological studies conducted in Europe shows incidence rates which vary from country to country: from 0.8 to 14.9% in children aged 6–7 years old, from 1.4 to 39.7% in children aged 13–14 years, and from 9.5 to 40.9% in adults aged 20–44 years (1, 2). The prevalence of this disorder has practically doubled within the last 10 years (3). In France, the cumulative prevalence of nasal allergies in adults varies from 28.1% in Grenoble, to 30.2% in Bordeaux, 30.3% in Paris, and

34.4% in Montpellier (4). These data show that allergic rhinitis is a real problem to public health, not only because of the symptoms it causes and their impact on the patients' social and occupational activities, but also because of the economic consequences associated with its management (medical consultations, laboratory tests, prescriptions for medications, and occupational sick leave). The optimum management of intermittent allergic rhinitis is still poorly known. While some studies have already contributed to describe medical management in this field, no large-scale evaluation has been conducted in general medical practice, involving the direct participation of patients. What do the patients know about their allergic rhinitis? How did they learn it? What are the consequences for their everyday lives? What information do they require? Do

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they routinely consult their doctor or do they regularly engage in self-medication? What is their level of compliance with therapy? What is their opinion about efficacy of such therapy? Until now these questions have remained practically unanswered. Presented in this paper is a cross-sectional pharmacoepidemiologic survey on management of intermittent allergic rhinitis in everyday general medical practice in France. It provides answers to many of these questions in order to allow a better response to patients' expectations.

Material and methods

Survey objectives

The first objective of this survey was to describe the clinical characteristics of intermittent allergic rhinitis, its impact on the patient's daily life, and the methods of diagnostic and therapeutic management, via a questionnaire filled out by the physician.

The second objective was to compare these data with the experience of the patients, i.e. their knowledge of this disorder, how they manage the disorder, their opinions regarding its treatment, and their expectations in terms of medical management. This information was provided directly by the patients in a strictly anonymous self-questionnaire distributed to them during the clinical consultation, including a prepaid reply envelope as necessary for returning the questionnaire to the CENBiotech evaluation center in Dijon, France.

Structure of the questionnaires

The questionnaires filled out by physicians and patients were designed by a multidisciplinary group of allergist experts, the PRAGMA group (Program of Research Applied to the Management of Allergic Diseases).

The questionnaire filled out by physicians covered the following:

- 1) the patient's sociodemographic characteristics: age, sex, region of residence and occupation
- 2) the case history and clinical description of their intermittent allergic rhinitis: nasal symptoms, ocular symptoms, duration of current symptoms, other symptoms, personal history of rhinitis
- 3) the impact of rhinitis on the patient's daily life: degree of discomfort experienced, consequences for sleep, eating, mood, daily activities, occupation and leisure activities
- 4) the diagnostic methods used were: prescription of additional laboratory tests and their type, prescription of a clinical consultation with a specialist physician
- 5) therapeutic methods prescribed: therapeutic agent families, duration of therapy, prescription of sick leave, requirement for follow-up and its frequency.

Additionally, all physicians participating in the survey filled out a questionnaire on their professional practice and had to record the numbers of patients consulting during the study period. This questionnaire, processed strictly anonymously, was essential for determining the characteristics of physicians who replied to this survey, and to assess the representative capacity of this sample of physicians.

The questionnaire filled out by patients involved description of the following:

- 1) clinical history of their intermittent allergic rhinitis: nasal symptoms, ocular symptoms, duration, frequency and duration of current symptoms, other symptoms
- 2) their knowledge of the allergic characteristic of rhinitis
- 3) their requirements for information on allergy
- 4) previous methods of management of their rhinitis and their compliance with the therapy

- 5) patient opinions about treatment of rhinitis and patient expectations.

Collection of questionnaires

All physicians who agreed to participate in this survey had to fill out a questionnaire for each of the first four patients consulting for intermittent allergic rhinitis during the period from May 2 to May 27, 2000. Each of these four patients was given an anonymous self-questionnaire to be returned directly to the evaluation center. Patients previously enrolled in a clinical trial or in another epidemiological survey were not eligible for enrolment in this survey.

Statistical analysis

The dossiers were forwarded to the Medical Biostatistics Department of CENBiotech where they were processed and analyzed with sas software, version 6.12.

The descriptive study used conventional parameters, means and standard deviations for quantitative variables, and histograms and percentages for qualitative variables. An evaluation of the influence of the rhinitis' clinical characteristics on the methods of management was performed by means of a chi-squared test and analysis of variance (ANOVA). The level of significance was set with an alpha risk = 0.05.

Results

Description of physicians

The survey was conducted by 1321 general practitioners, mean age 45.9 ± 7.3 , who had graduated from medical school 17.6 ± 8.0 years previously. Of these 55.6% ($n = 721$) were practicing in an urban environment, including 16.6% ($n = 215$) in the Paris metropolitan region, 24.0% ($n = 312$) in a semirural area, and 20.4% ($n = 264$) in a rural area. They were not chosen at random but volunteered for the survey. Their geographical distribution was homogeneous throughout France. They represented 1.5% of all general practitioners in France (source CREDES) and in this sample 53.4% ($n = 698$) were in solo medical practice and 46.6% ($n = 608$) were in group practice.

During the study period the percentage of patients presenting with rhinitis at their consultation was estimated at 6.3%. Each physician enrolled an average of 2.3 patients rather than the four patients originally planned.

Case history of allergic rhinitis

A total of 3026 patients, aged 36.5 ± 13.6 years, were seen in consultation for intermittent allergic rhinitis under conditions complying with the study protocol. Among these, 52.5% ($n = 1588$) were men.

The patients consulted their doctor on average 2.5 weeks after the onset of symptoms (19.6 ± 40.4 days). For 15.3% of patients this was the first episode of the disease. However the vast majority (84.7%) had presented with identical symptoms for about the last 10 years (10.4 ± 8.8 years) at a rate of six days per week during eight consecutive weeks per

year, on average (5.9 ± 1.7 days and 8.7 ± 7.7 weeks). More than half of the subjects (65.9%) reported that they were bothered every day of the week during their period of symptomatic disease, which was less than four consecutive weeks for 30.9% of them, less than eight weeks for 66%, and less than 12 weeks for 87.3% of them. There were 43.7% ($n = 1324$) subjects with symptoms for more than four days per week and for more than four consecutive weeks per year. Of those patients who did not consult for nasal symptoms for the first time, 36.9% ($n = 902$) came for an emergency consultation at the time of an acute episode, 23.8% ($n = 581$) came every year at the same time before the start of the season, and 22.4% ($n = 416$) came a few days after the occurrence of symptoms. Of those consulting a physician for the first time, 34.4% ($n = 161$) had experienced symptoms previously but had never been for a consultation for a number of reasons: because they were not sufficiently bothered (43.2%; $n = 60$); because they treated themselves and were satisfied (25.9%; $n = 36$); because they preferred to tolerate their symptoms rather than taking medication (18.0%; $n = 25$); or because they asked their pharmacist for advice (12.9%; $n = 18$).

Half of the patients (55.5%; $n = 1584$) claimed they knew which allergen was responsible for their disease and 42.2% ($n = 1232$) had previously undergone tests to confirm their allergy. Forty-four percent ($n = 1281$) had previously taken treatments for the same type of symptoms.

Symptoms presented by patients

Among symptoms presented by patients was the classic triad of sneezing and/or nasal itching in 85.0%

($n = 2572$), a watery rhinorrhea in 73.6% ($n = 2226$), and nasal obstruction in 59.0% ($n = 1786$) (Fig. 1). Other symptoms were also commonly present, in particular, ocular symptoms (51.7%; $n = 1564$) and respiratory tract symptoms, such as pharyngeal irritation (39.0%; $n = 1564$), cough (30.8%; $n = 931$) (Fig. 1) and respiratory discomfort (17.9%).

The impact of intermittent allergic rhinitis on the patient's daily life

Many patients (79.2%; $n = 2315$) told their doctor during consultation that they were impaired in their occupational career, and 91.8% ($n = 2763$) told of impairment in their daily lives. Analyses of the patients' self-questionnaires specified the impact of rhinitis on areas as diverse as mood (75.8%; $n = 1903$), sleep (70.4%; $n = 1726$), discomfort experienced by having to blow their nose (66.5%; $n = 1971$), a change in their physical appearance (49.4%; $n = 1386$), relationships with other people (47.3%; $n = 1403$), athletic activities (42.8%; $n = 1269$), mental concentration (45%; $n = 1334$), the quality of oral expression (33.0%; $n = 980$), reading (25.5%; $n = 757$) and eating (18.6%; $n = 406$) (Fig. 2).

Diagnostic management

At the consultation additional laboratory tests were ordered in only 11.1% ($n = 333$) of patients. Laboratory tests mainly consisted of measurement of total IgE (6.4%; $n = 193$), complete blood count (5.1%; $n = 153$), multi-allergen screening test by CAP Phadiatop (Pharmacia-Upjohn, Uppsala, Sweden) (4.7%; $n = 143$), X-rays of the sinuses or chest (4.7%; $n = 125$), and measurement of specific IgE (3.5%; $n = 106$). Among such tests ordered, it was noted that:

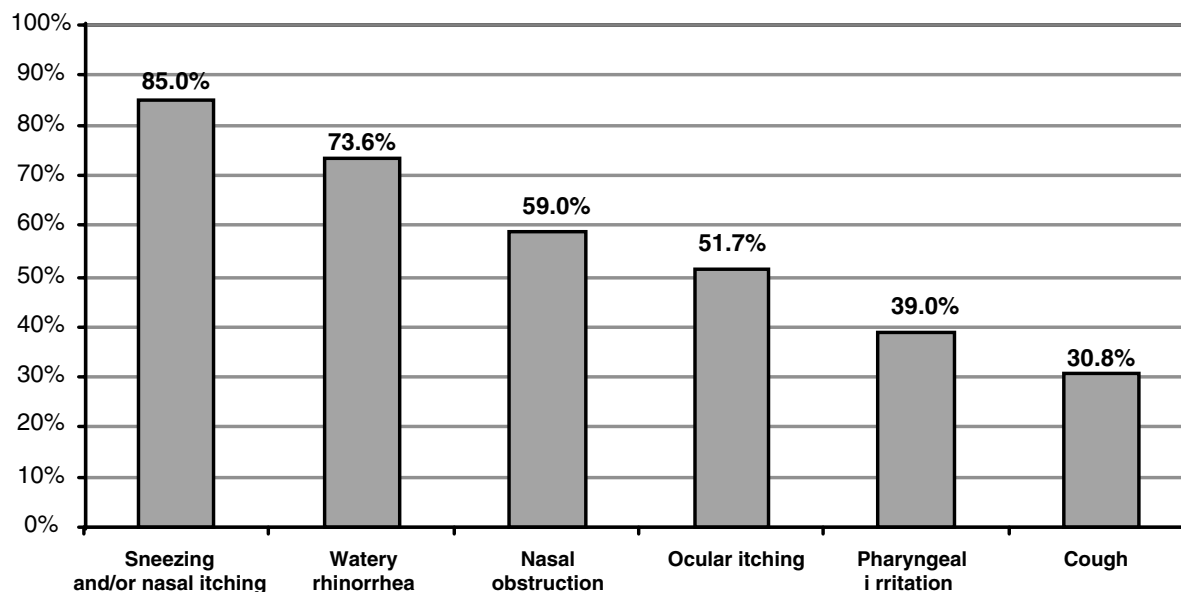


Figure 1. Distribution of symptoms which affected the 3026 patients in the present ERASM survey.

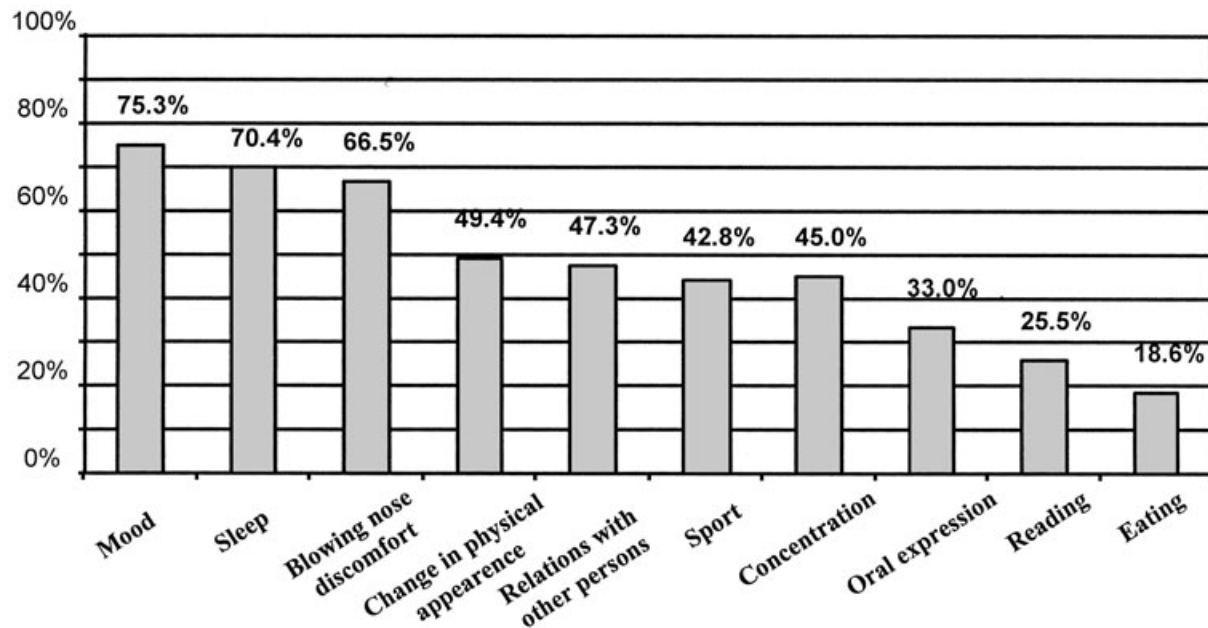


Figure 2. Impact on the personal and occupational lives of patients with symptoms of allergic rhinitis.

1) 40.4% ($n = 74$) of patients in whom measurement of total IgEs were ordered were also asked to undergo a CAP Phadiatop test;

2) 36.1% ($n = 35$) of patients in whom measurement of specific IgEs were ordered were also asked to undergo a CAP Phadiatop test;

3) 45.0% ($n = 18$) of patients for whom a chest X-ray was ordered had respiratory discomfort compared to 18.8% ($n = 52$) of patients for whom no chest X-ray was ordered ($P < 0.001$);

4) 25.8% ($n = 31$) of patients for whom a sinus X-ray was ordered had a posterior nasal discharge compared to 15.3% ($n = 30$) of patients for whom no sinus X-ray was ordered ($P < 0.05$).

The frequency of prescription of laboratory tests was significantly higher when a consultation with a specialist was planned (45.9% vs 6.0%; $P < 0.001$).

During the consultation, opinions from specialists were requested for only 10.3% of patients. Of these patients 78.7% were referred to an allergologist, 23.2% to an ENT specialist and 11.8% of patients to a pulmonologist.

Therapeutic management

Prescription of therapies consisted mainly of oral H_1 antihistamines (92.4%; $n = 2795$), followed by topical corticosteroids (45.2%; $n = 1368$), antiallergic eyedrops (32.2%; $n = 974$), topical H_1 antihistamines (16.8%; $n = 507$) and local vasoconstrictive products (8.7%; $n = 264$). In addition, oral or injectable sustained-release corticosteroids were administered to 11.7% ($n = 355$) of patients (Fig. 3) in whom intermittent allergic rhinitis had serious consequences for daily life

(and in particular causing difficulty in falling asleep) and/or an impact on occupational activity ($P < 0.001$). At least two medications were prescribed in 74.4% ($n = 2263$) of patients, only one medication in 24.2% ($n = 730$), and none in 1.1% ($n = 33$). Prescriptions were written for a duration of six weeks (41.4 ± 26.7 days) in order to cover the symptomatic period. Specific immunotherapy was performed in or offered to less than 1% of patients, even if an allergen was clearly identified, and only 22.5% considered that such a treatment would be indicated. A repeat consultation was planned in 47.5% ($n = 1415$) of patients within one month (34.6 ± 22.1 days).

Sick leave from work or school for a duration of 5.7 ± 4.8 days was ordered because of the severity of the symptoms in 4.6% ($n = 137$) of patients who were the most impaired by their symptoms. Indeed patients who received sick leave from work had the following characteristics: significantly more frequent posterior rhinorrhea (21.4% ($n = 28$) vs 14.9% ($n = 397$); $P < 0.05$); serious impairment of their personal lives (76.0% ($n = 95$) vs 46.6% ($n = 1125$); $P < 0.001$) or their occupational careers (74.4% ($n = 87$) vs 46.6% ($n = 936$); $P < 0.001$); more frequent nighttime awakening (47.4% ($n = 55$) vs 37.3% ($n = 818$); $P < 0.05$); more frequent loss of appetite (34.0% ($n = 34$) vs 15.1% ($n = 296$); $P < 0.001$); more frequent difficulty in concentrating (21.4% ($n = 28$) vs 11.8% ($n = 314$); $P < 0.01$), in speaking (14.5% ($n = 19$) vs 5.9% ($n = 156$); $P < 0.001$), in reading (11.5% ($n = 15$) vs 5.3% ($n = 142$); $P < 0.001$), in engaging in athletic activities (26.7% ($n = 35$) vs 17.0% ($n = 452$); $P < 0.05$); and more often had the feeling of having undergone a change in their physical appearance (58.7% ($n = 71$) vs 48.6%

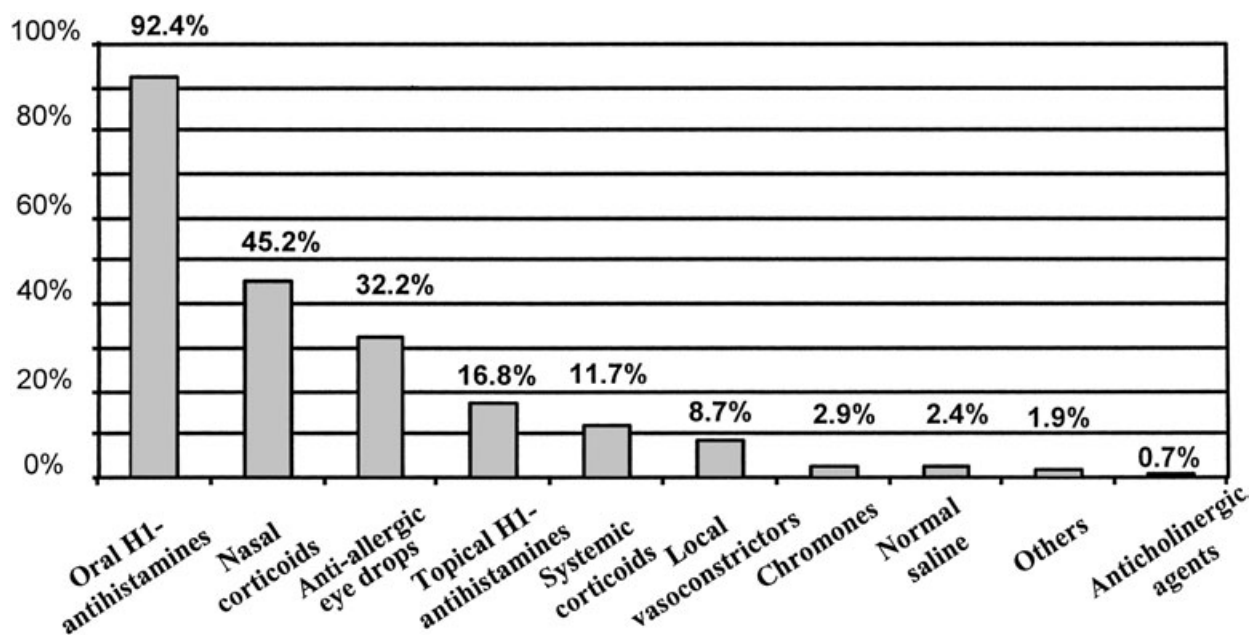


Figure 3. Prescription of medications during the present consultation for allergic rhinitis.

($n = 1225$); $P < 0.05$). In addition, such sick leave was ordered proportionally more frequently in cases of a first episode of rhinitis (23.8% ($n = 31$)) than in cases of repeated episodes (13.6% ($n = 360$)) ($P < 0.001$). These different elements (that appeared significant in univariate analysis) which explain the prescription of sick leave from work or school, have been introduced into a model of multiple logistic regression analysis. The results of this multidimensional analysis show that the more decisive factors for prescribing sick leave were: a first episode of rhinitis ($P < 0.001$); the existence of serious impairment in occupational activity ($P < 0.001$); the existence of serious impairment in the patient's personal life ($P < 0.02$); and the existence of difficulties in falling asleep ($P < 0.05$).

The patients' viewpoint

Questionnaires were returned by 2967 patients (98.1%). Of these, 91.1% ($n = 2704$) learned from their doctor that their rhinitis was of allergic origin and 79.0% ($n = 2911$) considered that the information that they had received was adequate and easy to understand. Some of these patients (58.2% ($n = 1708$)) would have liked to have received more advice and 94.6% ($n = 1616$) wanted such advice to be given by their family doctor. Furthermore, 13.3% ($n = 228$) also sought to find information in books or magazines and 11.6% ($n = 198$) from their pharmacist. While 78.4% ($n = 2205$) of patients were satisfied with the efficacy of treatments for rhinitis, their compliance left room for improvement: only 54.7% ($n = 1590$) stated that they followed scrupulously their doctor's prescription. Furthermore, a major trend for self-medication was

observed in 44.0% ($n = 1281$) of patients. Oral treatments were preferred by 75.1% ($n = 2064$) of patients and 13.2% ($n = 363$) preferred locally administered treatments. The group of patients suffering from more persistent symptoms (more than four days a week and for more than four consecutive weeks a year) did not differ from the rest of the group in terms of treatment compliance and preference. Lastly, 7% ($n = 212$) of patients reported concerns about the prescription of medication for their rhinitis. This mainly involved a fear of side-effects including drowsiness (18.9%; $n = 40$), corticosteroid phobia (18.4%; $n = 39$), or habituation (11.8%; $n = 25$).

Subgroup analysis

The subgroup of patients (56.3%) suffering from more persistent symptoms (more than four days a week and for more than four consecutive weeks a year) did not differ from the rest of the group (43.7%) in terms of age, sex ratio and single symptoms (as in Fig. 1). However, the impact of these symptoms on some quality of life parameters was more important for these patients. They experienced more frequent discomfort from having to blow their nose (71.9% vs 61.5%, $P < 0.0001$), more problems in their relations with other persons (51.9% vs 43.7%, $P < 0.0001$) and in sport (47.2% vs 38.5%, $P < 0.0001$) and no difference with the other parameters of Fig. 2. There were more people with impairment in daily life (94.6% vs 89.8%, $P < 0.001$) and at work (81.7% vs 77.4%, $P < 0.01$). This impairment was graded more severely by the patients (Table 1). On average, laboratory and radiological tests were asked for half as much as for patients with a shorter duration of

Table 1. Comparison between patients suffering from rhinitis more than four days a week and more than four consecutive weeks a year (A) with others (B)

	A	B	P*
%	43.7	56.3	
Male : female	1.0	1.2	0.05
Age (mean $\pm$ SD)	36.6 $\pm$ 13.6	36.2 $\pm$ 13.6	NS
Personal impairment (%)	94.6	89.8	<0.001
Mild	44.5	49.9	
Severe	50.1	39.9	
Occupational impairment (%)	81.7	77.4	<0.01
Mild	39.5	42.3	
Severe	42.2	35.1	
Treatment prescribed (%)			
Oral antihistamines	93.2	91.7	NS
Nasal antihistamines	16.8	16.9	NS
Nasal glucocorticoids	47.6	42.7	0.01
Systemic glucocorticoids	9.0	8.2	NS
Nasal vasoconstrictors	7.2	9.9	0.01
Nasal chromones	3.0	2.8	NS
Nasal anticholinergics	0.8	0.7	NS
Eye drops	36.3	29.6	NS
Normal saline	2.7	2.2	NS

symptoms. Patients with longer duration of symptoms were prescribed slightly more nasal glucocorticoids (47.6% vs 42.7%, $P = 0.01$, Table 1).

The two subgroups of patients who consulted a physician for the first time, without (10.1%) or with (5.2%) previous symptoms, were compared to the group of patients who had already consulted for their allergic rhinitis (84.7%). Patients consulting for the first time without previous symptoms had significantly less sneezing and nasal itching, watery rhinorrhea, less ocular itching, and less personal impairment (Table 2). Patients consulting for the first time with previous symptoms had significantly less watery rhinorrhea, less ocular itching, the same respiratory discomfort but

similar or even greater personal or occupational impairment as compared to patients with previous history of symptoms and consultations for allergic rhinitis (Table 2). The frequencies of prescription of laboratory tests and consultation with a specialist were significantly higher for cases with a first episode of intermittent allergic rhinitis than for cases with a previous history of the same type of episode (19.6% vs 9.7%; $P < 0.0001$ and 16.3% vs 9.6%; $P < 0.0001$, respectively).

Because it was surprising that nasal obstruction was not the major complaint, as found in other allergic rhinitis studies (5), the subgroups of patients with (59%) and without (41%) nasal obstruction were compared. Patients with nasal obstruction experienced more frequently sleep disturbance (76.7% vs 59.1%, $P < 0.0001$), discomfort by having to blow their nose (68.9% vs 61.8%, $P < 0.001$), impairment in sport (44.4% vs 39.2%, $P = 0.0001$), intellectual concentration (47.6% vs 40.5%, $P = 0.0004$), the quality of oral expression (37.9% vs 25.9%, $P < 0.0001$), and no difference with the other parameters of Fig. 2. There were more people with impairment in daily life (93.2% vs 90.0%, $P = 0.02$) and at work (82.6% vs 74.5%, $P < 0.0001$) as compared to patients without the nasal obstruction complaint. This impairment was graded more severely by the patients. Patients with nasal obstruction were referred to a specialist more often than others (11.5% vs 8.0%, $P = 0.003$), and were prescribed more nasal glucocorticoids (51.1% vs 35.9%, $P < 0.0001$), systemic glucocorticoids (14.5% vs 8.2%, $P < 0.0001$) and local vasoconstrictors (9.7% vs 7.4%, $P = 0.03$).

Discussion

The ERASM survey was a large study which analysed

Table 2. Comparison between patients who consulted a physician for the first time, without (A) or with (B) previous symptoms, with patients who had already consulted for their allergic rhinitis (C)

	A	B	C	P*
%	10.1	5.2	84.7	
Male : female	1.2	1.0	1.1	NS
Age (mean $\pm$ SD)	34.5 $\pm$ 13.3	32.7 $\pm$ 12.0	36.9 $\pm$ 13.7	<0.0001
Symptoms (%)	78.2	84.4	86.0	0.002
Sneezing and/or nasal itching	67.0	66.9	75.1	0.001
Watery rhinorrhea	53.7	55.2	59.7	NS
Nasal obstruction	43.9	47.4	53.2	0.006
Ocular itching	35.0	39.6	39.8	NS
Pharyngeal irritation	33.0	34.4	30.0	NS
Cough	11.2	17.5	18.7	0.007
Respiratory discomfort				
Personal impairment (%)	86.1	96.1	92.5	<0.0001
Mild	42.9	63.0	47.4	
Severe	43.2	33.1	45.1	
Occupational impairment (%)	76.0	82.9	79.3	NS
Mild	31.1	53.4	41.4	
Severe	44.9	29.5	37.9	

NS: not statistically significant.

management in general medical practice of adult patients presenting with intermittent allergic rhinitis in France. Conducted on a vast sample of general practitioners, not taken at random but homogeneously distributed throughout France, it enrolled over 3000 subjects with allergic rhinitis who consulted their physician during the spring of 2000. How this management of intermittent allergic rhinitis is carried out is largely unknown, and yet these patients mainly consult their family doctor. In fact data from the literature on allergic rhinitis consist mainly of results obtained from centres specializing in allergology and/or rhinology. Furthermore, this study was original because every general practitioner had to fill out a questionnaire for the first four patients consulting for intermittent allergic rhinitis, and had to give them a self-questionnaire enabling correlation between the replies from different patients. This study was exposed to an obvious recruitment bias, since only patients consulting during the reference study period were enrolled. However, only these patients consulted and thus allowed medical practices in this field to be evaluated in France.

Analysis of symptoms highlighted the value of the classic symptom triad, whereby over 85% of patients were affected by sneezing, nasal itchiness, rhinorrhea and/or nasal obstruction. Thus, this triad truly allows the general practitioner to suggest the diagnosis of allergic rhinitis. Very often these symptoms are not covered by the ENT system, involving ocular disorders in 52% and cough in 31% of cases. According to some authors, ocular involvement in adults is even more common than this, occurring in over 70% in a study conducted by van Cauwenberge et al. (5) and in over 80% in a study by Sibbald et al. (6), and is an aid in the clinical diagnosis of allergic rhinitis. The quality of life of patients with allergic rhinitis deteriorates (7, 8) as confirmed by our survey. Patients who consult are those who experience consequences to their daily life (92%) and/or occupational life (79%), sometimes to the point that sick leave is necessary (in nearly 5% of cases). Sick leave is clearly related to clinical symptoms and sleep disorders (70% in our study), emotional disorders (75%) and also to a performance limitation in daily activities: impairment experienced by having to blow their nose (66%), a change in physical appearance (49%), relations with other persons (47%), athletic activities (43%), mental concentration (45%), the quality of oral expression (33%), reading (25%), and eating (18%). The different consequences are taken into account in the recent specific quality of life score of patients with allergic rhinoconjunctivitis (8). In a study comparable to our own conducted by van Cauwenberge et al. (5), 89% of 431 patients considered the severity of their symptoms on a visual analog scale to be moderate to severe. These scale scores were perfectly correlated with specific quality of life scores. In our study, over 90% of patients experienced an impact on their daily life and

80% on their occupational life. Therefore, moderate to severe rhinitis was involved in the vast majority of patients. It is evident that patients consulting a doctor are those presenting with this type of rhinitis and not patients with mild rhinitis. Moreover, in a recent consensus (9) the WHO has proposed a classification of rhinitis severity based on symptom intensity and deterioration in quality of life (mild vs moderate to severe). Thus it is the intensity of consequences to quality of life, rather than a comprehensive listing of symptoms of rhinitis, which is important. This factor determines the level of treatment.

Generally, patients do not consult a physician as soon as they experience their first symptoms. They wait until symptoms reach a sufficiently disabling level (after two-and-a-half weeks in our study) or sometimes come for an emergency consultation. In a US study on a general population (10), 31.5% of 22 285 persons who were questioned complained of symptoms of rhinoconjunctivitis lasting for more than seven consecutive days during the previous 12 months, but the ones who consulted (63%) did not do so before 7.8 days of symptoms on average. In a recent similar study (11) the authors contacted many patients by telephone, of whom 230 proved to have allergic rhinitis (intermittent or persistent); similarly, the most common reason for a consultation (71%) was an acute episode. Symptoms of rhinitis can appear as having a long duration time (in our study six days per week and eight consecutive weeks per year on average), nevertheless all general practitioners considered that this episode involved intermittent allergic rhinitis. This can reflect either a long period of pollinization or multiple sensitization and association with perennial rhinitis (with seasonal exacerbations) as is frequently the case, i.e. from 25% in the study by van Cauwenberge et al. (5) to over 75% in the study by Sibbald et al. (6). The WHO has changed the chronological definition of allergic rhinitis (9) and this has been acknowledged in the EAACI nomenclature position paper (12). Previously, while rhinitis was classified as seasonal or perennial depending on the time it occurred during the year, it appears that patients sensitized to seasonal allergens can present with symptoms in the long-term due to exposure to several pollens over several months. Conversely other patients had symptoms for only a few weeks even though they were sensitized to perennial allergens. Furthermore over half of the patients had multiple sensitization. It should also be noted that seasonal allergens in one region or country can be perennial in another country.

Without having evaluated the figures exactly, the WHO committee of experts (9) has proposed that the definition of intermittent allergic rhinitis corresponds to symptoms occurring less than four days a week for less than four consecutive weeks a year, and the definition of persistent allergic rhinitis corresponds to other cases. Our data in France would tend to support the concept

that the number of days of symptoms per week should not be taken into account and, furthermore, the treatment will be prescribed for every day of the week. The total duration of the symptom period appears a more important parameter for differentiating intermittent rhinitis from persistent rhinitis, and eight consecutive weeks a year (involving 66% of subjects in our study) or even 12 consecutive weeks (involving 87.3% of subjects in our study) appears preferable. Some experts who scrupulously follow the new WHO classification (9) might consider the majority of cases of rhinitis in this study to be persistent because 79.3% had symptoms for more than four days a week, and 42.9% for more than four days a week and more than four consecutive weeks a year. However, all of these patients consulted during the high pollen season. These patients were considered by their general practitioner to have intermittent rhinitis and received intermittent therapy, the duration of which was adjusted to the duration of the period of symptoms. Nevertheless, these 'WHO persistent' patients reported greater impairment of their daily professional and personal lives.

The general practitioners questioned in this study considered that they rarely needed to confirm or support their diagnosis with laboratory tests (11%), or with the opinion of a specialist colleague (10%). The diagnosis of rhinitis, as well as that of allergy, does not pose any problem. The recent WHO consensus on allergic rhinitis (9) insists on the need to establish diagnosis of rhinitis with certainty (thus placing importance on the examination of the patient's nose for differential diagnosis), and sensitization to allergens (hence the importance of skin tests). The diagnosis of allergy is established by general practitioners for cases in which suggestive symptoms exist in suggestive circumstances: here the symptomatic classical triad during the high pollen season in France is important. Under the same study conditions as ours, Crobach et al. (13) demonstrated, with reference to advice by experts, that the predictive value of clinical history alone in diagnosis of allergic rhinitis was 82–85% for seasonal allergens (at least 77% for perennial allergens) and increased to 97–99% when skin tests or IgE specific assays were performed in combination. Thus, although allergy skin tests are recommended in all patients suspected of allergic rhinitis, when the clinical history is typical (which is very often the case for seasonal allergens) and the first treatment is rapidly and completely effective, they are not mandatory. Indeed, 42% of patients in our study had previously undergone a test to confirm their allergy. If we add these 1232 patients to the 214 in whom a Phadiatop and/or assay of specific IgE was ordered on the day of the consultation, and to the 68 for whom a consultation with an allergologist was planned, then in fact the diagnosis of allergy was declared with certainty for only 50% of patients in this study.

This survey does not, however, specify the type of allergens involved. Obtaining laboratory tests was significantly higher in cases with the first episode of intermittent allergic rhinitis than in cases with a previous history of the same symptoms (16.6 vs 10.3%). This is not surprising since intermittent allergic rhinitis can be confused with other conditions such as acute upper respiratory infections and sinusitis. In the aforementioned US study (10) 52% of patients reported that they had previously consulted an allergologist. The recent WHO consensus on allergic rhinitis (9) advocates screening for possible comorbid conditions, in particular for asthma and sinusitis: in our study, 30% of patients recruited had a cough and 2% had a posterior nasal discharge. Did this involve, in the first case, cough-equivalent asthma or, in the two cases, combination with sinusitis? Physicians ordered significantly more standard X-ray examinations but made no more consultations with specialists.

The most widely prescribed medications for intermittent allergic rhinitis are still oral antihistamines (92%) and topical corticosteroids (45%). The duration of treatment (six weeks) was consistent with duration of symptoms reported by patients. Therapeutic combinations (75%) were frequent and certainly reflect, in our study, the severity of symptoms and the general practitioner's concern for prompt effect. In the study by Didier et al. (11), 36% of the patients treated were taking a single medication, 41% were taking two, and 23% were taking more than three medications. In our study, the incidence of using vasoconstrictive agents (8.7%) with oral and/or injectable corticosteroids (11.7%) appears abnormally high, based on the paucity of data available in the literature (14) and international consensus reports (9). These medications were prescribed more often when nasal obstruction was present and when the consequences of rhinitis on the patient's private and/or occupational life was serious. This choice of treatment is based on a desire for rapid efficacy and the opinion of general practitioners that systemic therapies offer faster onset of action than topical agents. The recent WHO consensus on allergic rhinitis proposes:

- 1) that treatment be re-evaluated within 4 weeks and then at regular intervals in order to adjust treatment downwards if a major improvement in symptoms is achieved, or upwards if not
- 2) a differential diagnosis in cases of non-response. This was done in 47% of patients in this study.

One of the major objectives of the ERASM survey was to identify more clearly the patients' knowledge of the disorder and their perception of the efficacy and safety of available treatments. Over 98% of patients returned their questionnaire, which reflects a very marked interest of these patients in their disorder and their desire to participate actively in its management, as well as the privileged role which they give to their

general practitioners. Overall they trust their GPs, as previously demonstrated by Didier et al. (11). Indeed it is important to establish a trusting relationship with one's family doctor, conducive to the dispensing of information about allergic rhinitis, on its causes and its treatments, to prevent patients from unnecessarily consulting other physicians. In our study 79% of patients considered that the information they had received was satisfactory and easy to understand. Although 79% of the patients felt they received adequate information, 58.2% wanted more advice and over 94% of them wanted such information to be given by their family doctor; thus the latter appears to be unavoidable in all policies of health information. Certainly this result is satisfactory but nevertheless one patient out of five still feels poorly informed about the disease.

Seventy-eight percent of patients were satisfied with the efficacy of treatment for rhinitis, but just over half of them reported that they scrupulously followed the prescription, with a major trend being observed among

44% of patients for self-medication. In the US study (10) only 52% of patients considered that effective treatment was available to treat their symptoms. Self-medication and adjustment of therapy are usual practices in such subjects (55–90% of them) (10, 11). Concern over possible side-effects from treatment, which is very frequent (65%) in one study (10), was not so pronounced in ours (7%). Therefore, this study enabled us to obtain precise knowledge on the methods of management of intermittent allergic rhinitis in general practice in France. A comparable study concerning perennial allergic rhinitis is currently ongoing.

The results of this study show that the habits of medical practice are often, but not always, consistent with the most recent international consensus reports. The general practitioner plays the major role in this disorder; thus every effort involving training of specialist physicians and from the government health authority should be directed here.

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