

A Survey of the Burden of Allergic Rhinitis in Spain

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■ Abstract

Objective: Patient and physician perceptions of the effectiveness of treatment, symptoms, and the impact of allergic rhinitis (AR) were assessed in an international prospective, cross-sectional survey. We present the results from Spain.

Methods: Out of 88 patients recruited by primary care physicians and specialists, 77 (87.5%) had AR confirmed by symptoms and skin prick testing, measurement of specific immunoglobulin E, or nasal allergen challenge. Physicians and patients recorded the presence, severity, and impact of symptoms at the time of consultation, as well as symptoms that were frequently, but not currently, present. The Mini Rhinoconjunctivitis Quality of Life Questionnaire (miniRQLQ) was used to assess health-related quality of life (HRQOL).

Results: Most patients had moderate or severe disease (67.0%), which was assessed in terms of severity and persistence of symptoms, and comorbid conditions such as asthma and anxiety. Nasal and ocular symptoms were reported by 83% of patients, either currently or frequently, and 36.4% of patients reported that these symptoms were moderate or severe. More than half of the patients (59.1%) were using 2 or more medicines to manage their AR, and 73.7% of patients taking a nonsedating antihistamine plus an intranasal corticosteroid had moderate or severe disease. Most patients (83.1%) reported some impact from the symptoms of AR on daily activities. The mean (SD) miniRQLQ score was 2.4 (1.4) in patients with mild disease, 2.6 (1.2) in patients with moderate disease, and 3.3 (2.3) in patients with severe disease.

Conclusions: AR is a significant health problem in Spain because of its high symptom burden and impact on HRQOL.

Key words: Allergic rhinitis. Burden. Health-related quality of life. Spain. Survey.

■ Resumen

Objetivo: Mediante una encuesta prospectiva, transversal e internacional se valoró la percepción de los pacientes y de los médicos en cuanto a la eficacia del tratamiento, los síntomas y el impacto de la rinitis alérgica (RA). Este artículo presenta los resultados para España.

Métodos: De los 88 pacientes reclutados por médicos de atención primaria y especialistas, 77 (87,5%) tenían RA confirmada por síntomas y pruebas alérgicas cutáneas, IgE específica en suero, o provocación nasal con alérgeno. Los médicos y los pacientes registraron la presencia, gravedad e impacto de los síntomas en el momento de la consulta además de los síntomas más frecuentes, aunque actualmente no presentes. Para determinar la calidad de vida relacionada con la salud (HRQoL) se empleó el cuestionario miniRQLQ (Mini Rhinoconjunctivitis Quality of Life Questionnaire).

Resultados: La mayoría de los pacientes presentaron una patología moderada o grave (67%), evaluada mediante la gravedad de síntomas, persistente y con comorbilidades tales como asma y ansiedad. El 83% de los pacientes presentaban síntomas nasales y oculares, tanto actualmente como con frecuencia, y el 36,4% referían esos síntomas como moderados o graves. Más de la mitad de los pacientes (59,1%) tomaban dos o más medicamentos para tratar su RA, y el 73,7% de los que actualmente tomaban un antihistamínico no sedativo más un corticoide nasal tenían una patología moderada o grave. La mayoría de los pacientes (83,1%) referían un impacto de los síntomas de la RA sobre las actividades diarias. La puntuación media del miniRQLQ era de $2,4 \pm 1,4$ en pacientes con patología leve; $2,6 \pm 1,2$ en pacientes con patología moderada; y $3,3 \pm 2,3$ en pacientes con patología grave.

Conclusiones: La rinitis alérgica representa un problema importante de salud en España debido a la carga de sus síntomas y a su impacto sobre la calidad de vida.

Palabras clave: Rinitis alérgica. Carga. Calidad de vida. España. Encuesta.

Introduction

Allergic rhinitis (AR) is a worldwide health problem and the prevalence of the disease is increasing, with related social and economic consequences [1]. In 1999, the World Health Organization convened a panel of experts to investigate and report on the association between AR and asthma. The resulting Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines provided primary care clinicians and specialists with evidence-based management recommendations for AR using a stepwise approach to treatment [1]. The ARIA guidelines proposed the reclassification of AR as intermittent or persistent, based on the frequency and duration of AR, and mild or moderate-severe, based on the presence of troublesome symptoms and their impact on health-related quality of life (HRQOL).

In Spain, the prevalence of clinically confirmed AR is 21.5% among adults [2] and 9.3% among adolescents (aged 14–15 years) [3]. Evidence from the International Study of Asthma and Allergies in Childhood (ISAAC) shows that the prevalence of AR continues to rise, especially among the young, and that there are marked regional variations in the prevalence and risk factors for the disease throughout Spain [4,5].

Effective treatment improves patients' quality of life and lowers the risk of new asthma cases developing in adults [6]. Despite this, AR often goes unrecognized by physicians, resulting in inadequate control of symptoms. A recent survey of unselected patients from a Spanish population with clinically confirmed symptoms of AR found that one-third were not aware that they had the condition, and almost half (48%) had not been diagnosed by their physician [2]. A lack of effective communication between health care providers and patients leads to poor adherence to treatment and increased reliance on multiple agents and over-the-counter products [7]. There is evidence of an inadequate, or even absent, doctor-patient relationship in approximately half of the population with AR [8]; only 42% of patients from Spain considered that their physician "acted as a partner" in the management of their allergies, and only 1 in 5 patients visited their doctor for a prescription [8].

This paper presents the results from Spain of an international prospective, cross-sectional survey conducted among patients and physicians to identify perceptions of symptoms and the impact of AR on HRQOL [9].

Methods

Study Design

The Disease Specific Programme (DSP) for allergy, run by Adelphi Group Products, was conducted between February and April 2006, and recruited allergy specialists and primary care physicians and their patients. The full methodology for the survey has been outlined previously [10].^a Physicians completed a patient record form (PRF) for each patient, and

patients were invited to complete a patient self-completed (PSC) form. All patients over the age of 12 years who had been treated for AR by their physician were eligible for inclusion in the survey, irrespective of whether or not they were consulting their doctor for AR symptoms on the day of the survey. Physicians recorded patient characteristics, diagnostic history (current or past diagnostic investigations for AR), current symptoms and their severity, any other frequent symptoms (not present at the time of the consultation), common triggers, comorbid conditions (based on a current or past clinical history of diagnosed respiratory and/or allergic conditions), current and past drug treatments, and use of health care resources. Patients recorded information on the following: disease history; symptoms and their severity; the impact of AR on sleep, normal activities, sport, leisure, work, and school; and satisfaction with treatment.

Symptom and Health-Related Quality of Life (HRQOL) Assessments

Physicians and patients recorded both the presence and severity of symptoms at the time of consultation, as well as symptoms that were frequently, but not currently, present. Physicians were asked to classify the frequency of the patients' allergic symptoms as intermittent (≤ 4 days per week or ≤ 4 consecutive weeks) or persistent (> 4 days per week and > 4 consecutive weeks). Physicians made a clinical judgment of patients' current disease severity, categorizing the symptoms as mild, moderate, or severe. HRQOL was assessed using the Mini Rhinoconjunctivitis Quality of Life Questionnaire (miniRQLQ), a validated, disease-specific questionnaire developed to measure functional problems in adults with rhinoconjunctivitis [11]. Using a 7-point scale, where 6 equals the greatest impairment and 0 the least, patients assessed the impact of rhinoconjunctivitis across 5 domains: activity limitations (daily activities, work/school performance, sleep), practical problems (the need to rub one's eyes and blow one's nose repeatedly), nose symptoms, eye symptoms, and other symptoms.

Statistical Methods

All statistical analyses were conducted using the Statistical Package for the Social Sciences Version 14 (SPSS Inc., Chicago, Illinois, USA) and STATA Version 9.2 (StataCorp LP, College Station, Texas, USA). Analysis of variance (ANOVA) and Pearson χ^2 tests were applied to mean and proportion data, respectively, across the 2 patient subgroups (perennial AR [PAR] and seasonal AR [SAR], as characterized by the physician). If these tests were significant ($P < .05$), further statistical tests were conducted on pair-wise subgroup comparisons. In these comparisons, the t test was used to compare means, and the Fisher exact test or Pearson χ^2 test was used to compare proportions. Bonferroni adjustments were applied to these tests to account for multiple testing.

Only data from matched pairs of PRFs and PSC forms were included in this analysis. The κ statistic was used to assess the level of agreement between patients and physicians [12], and either the Wilcoxon test or McNemar test was used to assess whether there was a tendency for one group to have a more

^a Further information on patient self-completed (PSC) forms and physician-completed patient record forms (PRF) is available from Mark Small, mark.small@adelphigroup.com, on request.

severe outlook than the other, according to whether the underlying outcome measure was ordinal or binary in nature.

Results

Patient Characteristics

Data were recorded for a total of 88 patients recruited by 56 primary care physicians and specialists from urban and rural centers across Spain (59 from the Northeast regions [including 49 practices in the city of Barcelona], 9 from Madrid, 10 from Andalusia, and 10 from Levante). Primary care physicians recruited 53 patients prospectively and specialists recruited 35 patients. Of the 88 patients, most were consulting for AR, including 45.5% for routine follow-up, 31.8% for repeat prescriptions, and 21.6% for worsening symptoms.

Diagnostic tests to confirm AR had been performed on 87.5% of patients at a prior visit. Of these patients, 72.7% had undergone skin-prick testing, 36.4% had undergone measurement of specific immunoglobulin (Ig) E (radioallergosorbent test [RAST]), and 15.9% had undergone a nasal allergen challenge. In addition, a nasal endoscopy or rhinoscopy had been performed in 21.6% of patients.

Most patients were young adults (mean age 33.7 [13.4] years), including 6 adolescents under 18 years of age. Just over half of the population surveyed (54.4%) were female. Most patients (69.3%) included in the study were diagnosed with SAR, with 30.7% diagnosed with PAR, including 2 patients with mixed AR (SAR + PAR).

Overall, 38.6% of the patients surveyed had persistent disease. The frequency of symptoms was similar in SAR and PAR, with no significant differences between the groups. Persistent disease was recorded in 37.0% of patients with PAR and in 39.3% of patients with SAR (Table).

Overall, 36.4% of patients were prescribed a nonsedating antihistamine, 13.6% were prescribed an intranasal corticosteroid, and 43.2% were using a combination of these 2 treatments. More than half of patients (59.1%) were using 2 or more medicines for their AR. Of the patients prescribed an antihistamine combined with an intranasal corticosteroid, 73.7% had moderate or severe disease.

According to the physicians' assessment, 67.0% of patients had moderate or severe disease. There was generally good agreement between physicians and patients in the assessment of disease severity, with 69.8% of patients reporting moderate or severe disease (Figure 1). The patient-reported incidence of severe disease was higher than the physicians' assessments for SAR (4.9% vs 1.6%) and lower for PAR (8.0% vs 11.0%); however, these differences were not statistically significant.

Table. Spanish Patient Characteristics According to Type of Allergic Rhinitis (Physician's Assessment)

	PAR (n=27)	SAR (n=61)	Total (n=88)
Type of allergic rhinitis (% of total)	30.7	69.3	100
Age, y			
Mean (SD)	33.8 (14.6)	33.7 (13.0)	33.7 (13.4)
Age groups, n (%)			
12 ≤ 18 years	4 (15.0)	2 (3.3)	6 (6.8)
18-24 years	6 (22.0)	15 (24.6)	21 (23.9)
25-44 years	10 (37.0)	37 (60.6) ^a	47 (53.4)
45-64 years	7 (26.0)	4 (6.6) ^a	11 (12.5)
≥ 65 years	0 (0)	3 (4.9)	3 (3.4)
Sex, n (%)			
Female	13 (48.0)	35 (57.4)	48 (54.5)
Male	14 (52.0)	26 (42.6)	40 (45.5)
Duration since diagnosis, y			
Mean	5.9 (6.9)	5.8 (5.1)	5.8 (5.6)
Frequency of symptoms, n (%)			
Intermittent ^b	17 (63.0)	37 (60.7)	54 (61.4)
Persistent ^c	10 (37.0)	24 (39.3)	34 (38.6)
Disease severity, n (%)			
Mild	8 (29.6)	21 (34.4)	29 (33.0)
Moderate	16 (59.3)	39 (63.9)	55 (62.5)
Severe	3 (11.1)	1 (1.6)	4 (4.5)
Common comorbidities (≥ 5%), n (%)			
Asthma	8 (29.6)	22 (36.1)	30 (34.1)
Anxiety	7 (25.9)	12 (19.7)	19 (21.6)
Pharyngitis	3 (11.1)	2 (3.3)	5 (5.7)
Sinusitis	2 (7.4)	1 (1.6)	3 (3.4)
Smoking status, n (%)			
Never smoked	21 (77.8)	38 (63.3)	59 (67.8)
Ex-smoker	2 (7.4)	14 (23.3)	16 (18.4)
Current smoker	4 (14.6)	8 (13.3)	12 (13.8)
Recruiting physician, n (%)			
Primary care	17 (63.0)	36 (59.0)	53 (60.2)
Allergy specialist	10 (37.0)	25 (41.0)	35 (39.8)

Abbreviations: PAR, perennial allergic rhinitis; SAR, seasonal allergic rhinitis

^a $P < .05$ PAR vs SAR

^b Intermittent, symptoms on < 4 days per week or < 4 consecutive weeks

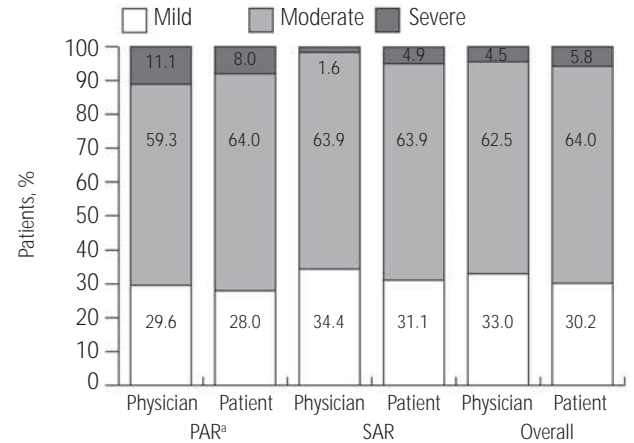
^c Persistent, symptoms on > 4 days per week and > 4 consecutive weeks

Common comorbidities in patients with AR were asthma, pharyngitis, sinusitis, and anxiety (Table). Although anxiety was more common in patients with PAR (25.9%) than in patients with SAR (19.7%), there were no statistically significant differences between the types of AR for any comorbidity. Similarly, the reported incidence 11.8% and asthma (28.0% vs 44.0%) was not significantly different between patients identified with intermittent and persistent disease.

Symptoms

The most frequent patient-reported symptoms, currently or frequently present in more than 50.0% of patients with AR, were nasal congestion, sneezing, itchy nose, itchy/red eyes, watery eyes, and postnasal drip. Patients with SAR reported more symptoms than patients with PAR, either currently or frequently present, although the differences were not statistically significant (Figure 2). Patients with SAR were more likely than patients with PAR to report irritating and ocular symptoms, including itching nose (93.4% vs 66.7%; $P < .05$), itchy-red eyes (73.8% vs 63.0%; not significant [ns]), watery eyes (70.5% vs 55.0%; ns), and post-nasal drip (57.4% vs 37.0%; ns). Bronchial symptoms, such as wheeze, were more common among patients with PAR than SAR (22.0% vs 13.1%); however, the difference was not statistically significant (Figure 2). Evaluation of patients with intermittent and persistent disease found that, overall, patients with persistent disease reported more symptoms, and a significantly greater percentage of patients with persistent rather than intermittent disease reported sneezing, itchy palate, and nocturnal waking (Figure 3).

Most patients (96.6%) reported suffering from 2 or more symptoms. Eighty-three percent of patients reported suffering from nasal and ocular symptoms, either currently or frequently,



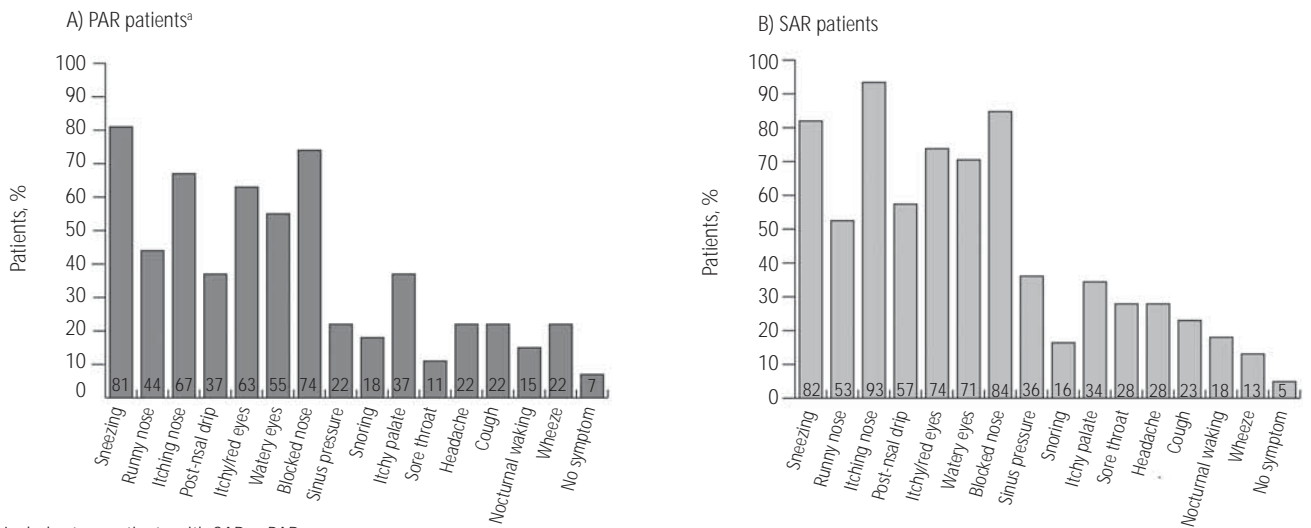
^a Includes two patients with SAR + PAR

Figure 1. Disease severity reported by physicians and patients in Spain.

and 36.4% of all patients reported that their current nasal and ocular symptoms were moderate or severe in nature.

Across all groups, the mean number of days over 4 weeks during which patients reported no symptoms was 15.0 (16.1 for patients with PAR and 14.5 for patients with SAR). Symptom-free days were more common in patients with mild disease (mean 16.8 [7.6]) than in patients with moderate or severe disease (mean 14.1 [8.3]), although the difference was not statistically significant. Three patients (3.7%) had been symptom-free over the previous 4 weeks, with no significant differences between physician’s according to the type of AR.

According to the physicians’ assessment, nasal symptoms were “well” or “completely” controlled over a 4-week period in 45.9% of patients. Physicians considered that only 13.8%



^a Includes two patients with SAR + PAR

Figure 2. Patient-reported symptoms in Spain (currently or frequently present) for patients with (A) PAR and (B) SAR. Patients recorded symptoms as frequently present only when not currently present.

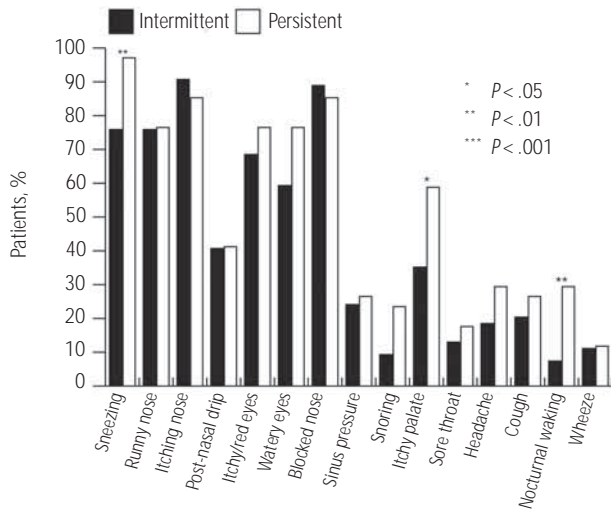


Figure 3. Patient-reported symptoms in Spain (currently or frequently present) for patients with intermittent and persistent AR.

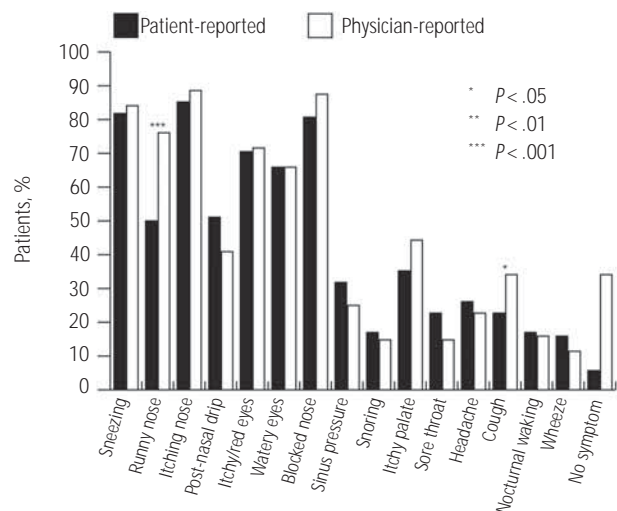


Figure 4. Total incidence of patient-reported and physician-reported symptoms in Spain.

of patients had “poorly” controlled nasal symptoms related to their rhinitis. Similarly, symptoms of rhinitis and ocular symptoms were “well” or “completely” controlled in 53.0% and 54.0% of patients, but “poorly” controlled in 9.6% and 8.0% of patients, respectively. Nasal symptoms were “well” or “completely” controlled in 49.2% of patients with SAR, and 41.7% of patients with PAR had “well” or “completely” controlled nasal symptoms. The differences were not statistically significant.

Overall, 48.9% of patients across all groups and 57.4% of patients with SAR, declared that their AR symptoms were troublesome immediately after waking. At least one-third of patients reported troublesome symptoms at other times of day, and 17.0% of patients were troubled by symptoms at night.

The patients’ assessment found that nasal and ocular symptoms were frequently the most troublesome: 55.7% of patients reported a nasal symptom to be the most troublesome, whereas 15.9% of patients reported either itchy-red eyes or watery eyes as the most troublesome symptom. Of the 70.5% of patients who had itchy/red eyes, 14.5% considered this symptom to be the most troublesome.

Patients and physicians reported a similar incidence of currently or frequently present symptoms, although physicians tended to overestimate the incidence of nasal symptoms (blocked nose, itchy or runny nose, and sneezing) and cough, but to underestimate the incidence of sore throat, sinus pressure, and postnasal drip (Figure 4).

Comorbidity of Asthma

In this survey, 28% of patients with intermittent disease and 44% of those with persistent disease had comorbid asthma. Analysis of the same population of patients found that 36.1% of patients with SAR and 29.6% of patients with PAR had asthma, although the difference was not statistically significant. According to the physicians’ assessment, a similar percentage of patients with and without asthma had moderate

or severe disease (66.7% vs 67.2%; ns). Physicians observed that some symptoms were more commonly present in patients with asthma than in those without asthma: these were nocturnal waking (26.7% vs 10.3%; ns), cough (56.7% vs 22.4%; $P < .01$) and itchy-red eyes (80.0% vs 67.2%; ns). Physicians considered overall symptom control to be similar in patients with and without asthma: 53.6% of patients with asthma, compared with 52.7% of patients without asthma, had “well” or “completely” controlled symptoms (ns).

Quality of Life

Impact on sleep and daily activities. Most patients reported that the symptoms of AR had some impact on their sleep patterns over the previous month: 64.3% and 49.4% of patients, respectively, reported that they had trouble falling asleep or awoke during the night.

Most patients with intermittent or persistent disease reported that during the previous month they had occasionally experienced difficulty falling asleep (66.7% and 60.6%, respectively), awoke during the night (53.8% and 42.4%), or had not had sufficient sleep (72.5% and 81.3%).

Most patients considered that the symptoms of AR had a significant impact on their daily activities (83.1%) and on their work/school performance (72.7%). Nearly 1 in 10 patients (11.7%) reported that their symptoms had a moderate or severe impact on daily activities, and a further 11.4% reported a moderate or severe impact on work and school performance.

Analyses of patients with intermittent and persistent disease found that AR had had an impact on daily activities (86.0% and 77.8%) and on work and school performance (77.8% and 64.7%) in the previous 7 days.

The symptoms of AR affected patients’ mood, with patients complaining of tiredness (52.3%), irritability (35.2%), and general malaise (4.5%) (Figure 5); only 22.7% of patients reported that their AR had no impact on how they

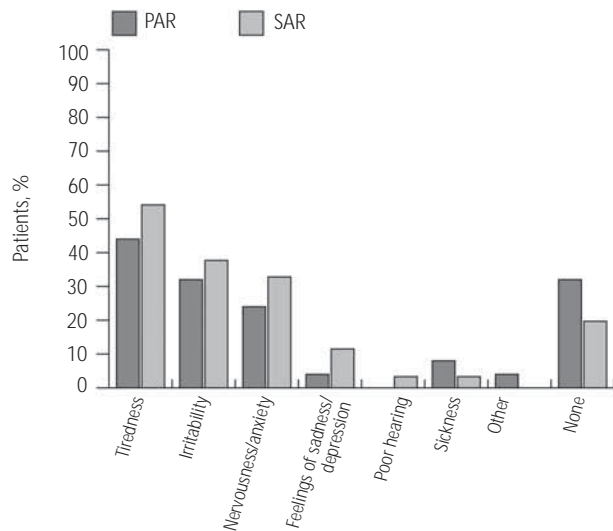


Figure 5. The impact of allergic rhinitis on how Spanish patients felt.

felt. A significant proportion of patients with persistent and intermittent disease reported tiredness (64.7% vs 44.4%; ns) and irritability (32.4% vs 37.0%; ns).

Health-related quality of life (miniRQLQ). The HRQOL scores indicated that patients were “somewhat troubled” or “moderately troubled” by their AR (mean 2.6 [1.3]). The overall mean was similar for patients with PAR (2.5 [1.5]) and SAR (2.6 [1.3]). In this small cohort, AR had a similar impact on HRQOL in both adolescents (< 18 years of age) (mean 2.6; n = 8) and adults (mean 2.5; n = 67). AR had a more detrimental impact on HRQOL in patients with comorbid asthma than in patients without asthma (3.1 [1.0] vs 2.3 [1.4]; $P < .05$). The mean HRQOL score was 2.4 [1.4] for patients with mild disease, compared with 2.6 [1.2] for patients with moderate disease, and 3.3 [2.3] for patients with severe disease, although these differences were not statistically significant. HRQOL was negatively correlated with the number of symptom-free days over the previous 4 weeks (Pearson correlation coefficient -0.5 , $P < .001$). Analysis of patients with intermittent and persistent symptoms found that AR had a similar impact on HRQOL, although this was not significantly different (2.4 [1.4] vs 2.8 [1.3]; ns)

Discussion

This survey found a high symptom burden and a significant impairment of HRQOL among Spanish patients with AR presenting to their specialist or primary care physician for routine clinical care. Two-thirds of patients were considered by their physician to have moderate or severe disease and one-third presented with persistent disease. The incidence of persistent disease in this survey is similar to the incidence of 29.3% reported by Bauchau and Durham [13] in a pan-European survey. As typically reported in many studies, most patients who consult their physician for AR have a high symptom burden and moderate or severe disease [13-16].

Our and other surveys show that AR imposes a major, and often underestimated, burden on individuals in terms of impact on daily activities and work productivity, as well as on healthcare resources [17,18]. Most patients in this survey, including a significant proportion of patients with intermittent disease, considered that their AR symptoms had an impact on daily activities, work/school performance, and on their sleep patterns in the past month. Patient mood was also affected, with 50% of patients reporting that they felt tired, and more than one-third of patients reporting that they felt irritable, as a result of their AR symptoms.

The ARIA guidelines [1] have introduced a classification system for severity, based on the impact of AR on four HRQOL parameters (sleep, daily activities/sport, work/school, and troublesome symptoms). Consistent with the results of this survey, recent evidence from the ESPRINT Study group in Spain has suggested that up to 60% of patients are affected by 3 or 4 of these parameters [19].

When patients were asked to use the miniRQLQ to assess the troublesome nature and impact of nasal and ocular symptoms on their daily activities and sleep during the week prior to the survey, they reported, on average, that AR had a moderate impact (mean 2.6 [1.34]) on HRQOL. The results of the miniRQLQ are similar to previous studies conducted with AR patients (mean 2.8; range 2.1-3.5) [20] and show that all patients with AR consulting in primary care have a significantly greater score than healthy individuals of a similar age [21]. Consistent with the findings from a previous survey [22], the impact of AR on HRQOL tends to increase with worsening disease severity, varying from 2.4 [1.4] for patients with mild disease to 3.3 [2.3] for patients with severe disease. Bousquet and colleagues [22] reported similar results in a 2006 publication, in which miniRQLQ scores varied from 1.7 (range 1.1-2.4) for patients with mild intermittent disease to 3.0 (range 2.3-3.6) for patients with moderate-severe persistent disease.

The impact of AR on HRQOL is likely to be determined by both the control of symptoms and the level of environmental triggers at the time of the survey: the results show that the burden of symptoms at this time was high. Only 3 of the 88 patients had been fully symptom-free during the previous 4 weeks, and patients reported that they had experienced symptoms for an average of 13 days during the previous 28 days. This probably reflects exacerbations caused by allergens, such as some tree pollens (oak, plane, and cypress), which mainly occur in the early spring in Spain and are common in the south (Jaén, Sevilla, Granada, Córdoba), and *Parietaria* on the Mediterranean coast (Barcelona, Murcia, Valencia; <http://www.polleninfo.org>) [23], from where approximately 70% of those surveyed were recruited, although sensitization to these pollens was not recorded by physicians in this survey.

The most commonly reported symptoms (either currently or frequently present) included nasal congestion, sneezing, itchy nose, itchy-red eyes, watery eyes and postnasal drip. Overall, 83.0% of patients reported nasal and ocular symptoms, either currently or frequently. According to the physicians' assessments, only half of all patients had achieved “well” or “completely” controlled symptoms during the previous 4 weeks, and approximately 1 in 10 patients continued to have “poorly” controlled symptoms. By contrast, more than one-

third of patients reported that their nasal and ocular symptoms were moderate or severe the time of the consultation. Patients reported that nasal and ocular symptoms were frequently the most troublesome, with 55.7% of patients complaining of nasal symptoms, and 15.9% of patients reporting either itchy-red eyes or watery eyes as the most troublesome symptom. Underuse of certain medications, such as intranasal corticosteroids, which were prescribed in just over half of all patients, could contribute to the high rate of breakthrough symptoms and low levels of treatment satisfaction. If patients are advised how to take their treatment and have reasonable expectations as to the time necessary for them to take effect, then we will prevent the use of several different agents and over-the-counter products [7].

Compared with patients with intermittent disease, patients with persistent disease presented with a higher symptom burden (including nocturnal waking) but a lower incidence of comorbid conditions, such as asthma and anxiety; however, the number of patients in these comparisons was small. Overall, AR had a similar impact on HRQOL in patients with intermittent and persistent disease, with most patients in both groups reporting that their AR had some effect on their sleep, daily living, and work productivity.

In conclusion, AR remains a significant health problem because of the high burden of symptoms and impact on HRQOL among patients presenting for routine care. Whereas physicians estimated that only a minority of patients had symptoms that were poorly controlled, more than one-third of patients reported that their nasal and ocular symptoms were moderate or severe in nature, and most patients considered that their symptoms had an impact on their daily activities, work/school performance, and sleep patterns. These differences highlight the need for more objective discussion between patients and physicians on the nature, severity, and impact of symptoms, as well as treatment approaches, and how to obtain maximum benefit from currently available prescription medications. The new ARIA classification [1], which characterizes disease severity according to the impact of AR on 4 HRQOL parameters (sleep, daily activities/sport, work/school, and troublesome symptoms), could encourage better communication between patients and physicians on these issues.

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