

ASSESSMENT OF SATISFACTION WITH  
5 GRASSES/4 CEREALS SUBLINGUAL IMMUNOTHERAPY IN ALLERGIC RHINITIS  
PATIENTS

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**Abstract.**

**Introduction.** Satisfaction with treatment is a patient – reported outcome which can significantly influence the success in management of the disease, especially long – lasting treatment such as immunotherapy.

**The aim** of the presented study is to assess satisfaction with 5 grasses/4 cereals sublingual immunotherapy in allergic rhinitis patients on the third year of their treatment.

**Patients and methods.** A total number of 116 patients [63 males (54.78%); age range 18 – 38 years] with allergic rhinitis who successfully completed a three-year course of 5grasses/4cereals SLIT were prospectively evaluated. Patient overall satisfaction was assessed by visual- analog scale (VAS) at baseline, treating with pharmacotherapy and on the third year of SLIT.

**Results.** Analysis of overall satisfaction demonstrated higher level of patient satisfaction with SLIT when compared with previous pharmacological treatment (7.74/10 vs. 4.80/10 p<0.001).

**Conclusion.** In this real life study, evaluating, for the first time, patient satisfaction on the third year of SLIT with 5grasses/4cereals we demonstrated high level of satisfaction. Patient satisfaction could possibly improve attitude to SLIT. More studies are needed.

**Key words:** allergic rhinitis, grass pollen, sublingual immunotherapy, satisfaction, visual analog scale

**Introduction**

Allergic rhinitis is the most common allergic disease that affects almost 500 million worldwide and its prevalence in general population is increasing [1]. The management of the disease includes allergen avoidance, when possible, pharmacotherapy and allergen – specific immunotherapy [6, 8].

Allergen – specific immunotherapy (AIT) is a practice of administrating gradually increasing doses of the specific causative allergen to reduce the clinical reactivity of allergic patients. AIT is a causative treatment for allergic diseases with pivotal importance which can modify the natural course of the disease, prevents new sensitizations and development of asthma [5]. Sublingual immunotherapy (SLIT) is recommended by ARIA guideline (Allergic Rhinitis and its Impact on Asthma) in treatment of adults with allergic rhinitis, sensitized to grass pollen [2, 3]. However, as related to many treatments of chronic diseases, its effectiveness can be compromised by non-adherence, as a result of diverse factors, such as complexity of administration, perception of a lack of efficacy, adverse effects.

Satisfaction with treatment is a patient – reported outcome. It has been shown to affect patients' - related decisions and behavior [7]. So it can significantly influence the success in management of the disease, especially long – lasting treatment such as AIT. That is why patient satisfaction is included in the recommendations for the assessment clinical outcomes used in allergen immunotherapy trials for allergic rhinoconjunctivitis [9].

**The aim.**

The aim of the presented study is to assess satisfaction with 5 grasses/4 cereals sublingual

immunotherapy in allergic rhinitis patients, on the third year of treatment.

**Patients and Methods.**

**Patients**

A total number of 116 patients with allergic rhinitis who successfully completed a three-year course of SLIT were prospectively evaluated. All of them were diagnosed on the basis of patients' history and documented sensitization. All included patients were classified with moderate/severe intermittent or persistent AR on the basis of ARIA criteria. All patients were evaluated before initiation, when had pharmacotherapy and on the third year of SLIT in May or June. The pollen count concentration was reported while performing the study by National Centre of Infectious and Parasitic Diseases.

**Skin test**

Sensitization was documented by skin prick-test. The test was performed and evaluated according to the European Academy of Allergy and Clinical Immunology (EAACI) guideline.

**Patient satisfaction**

Patient overall satisfaction was self-assessed by 10 cm visual analog scale (VAS). The more patient satisfaction, the more length of scale indicated. The patients were asked to assess "Your overall satisfaction with the treatment" before SLIT initiation while taking pharmacotherapy and on the third year of SLIT.

**SLIT**

All included patients have undergone 5Grasses/4Cereals sublingual immunotherapy, according to the recommendations of the manufacturer for three years (tabl. 1).

**Statistical analysis**

Statistical analysis was conducted using IBM SPSS STATISTICS 20 SOFTWARE (Chicago, IL, USA). Data was expressed as mean with standard deviation (SD). The significance of the differences in satisfaction in the beginning and after three years course was calculated by the *t* test for paired data. Statistical significance was set at a P value of < 0.05.

An informed consent was obtained from all participants.

Solution Content		Table 1
5 grasses/4 cereals	<i>Doctylis glomerata</i> <i>Lolium perenne</i> <i>Phleum pretense</i> <i>Anthoxanthum odoratum</i> <i>Poa protensis</i> <i>Avena sativa</i> <i>Triticum vulgare</i> <i>Zea mays</i> <i>Hordeum vulgare</i>	

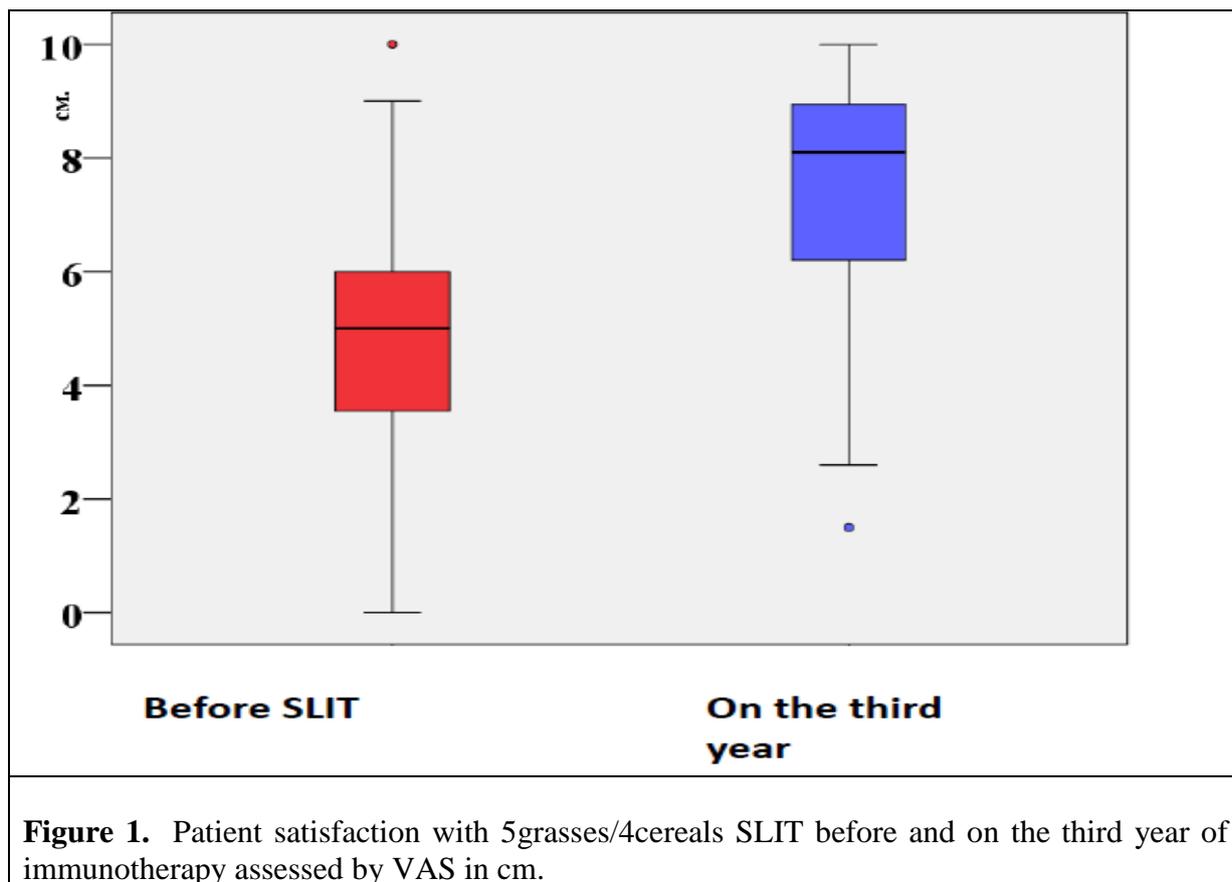
**Results.**

We evaluated 115 patients [63 males (54.78%); age range 18 – 38 years]. The patients' demographic and characteristics are presented in table 2.

Characteristics of patients		<b>Table 2.</b>
<b>Age (in years):</b>		
Mean (SD)		25.73 (6,43)
<b>Gender:</b>		
Male		63 (54.78%)
Female		52(45.22%)
<b>total</b>		115
<b>Type of allergic rhinitis:</b>		
moderate/severe intermittent		31 /26.96%/
moderate/severe persistent		84 /73.04%/

Analysis of overall satisfaction demonstrated higher level of patient satisfaction with SLIT when compared with previous pharmacological treatment (tabl. 3; fig. 1).

Overall satisfaction with 5 grasses/4cereals SLIT before and on the third year of treatment						<b>Table 3</b>
<b>Satisfaction</b>	<b>mean(cm)</b>	<b>SD</b>	<b>sem</b>	<b>t</b>	<b>P</b>	
baseline	4.80	2.16	0.23	8.83	< 0.001	
on the 3th year	7.47	2.05	0.22			



**Discussion.**

Satisfaction is a cognitive product of the comparison between ideal life and reality and can therefore be quantitatively measured. Patient satisfaction is their report and assessment of treatment outcome [1, 4]. It could predict the correct use, good compliance and adherence to treatment. Furthermore, the fundamental role of patients' perspectives is now underlined by the GRADE system, which represents the best option in defining the criteria for grading evidence. The outcome of a therapy, especially for chronic disease, which is long – lasting, such as SLIT could be seriously compromise by patients, being not satisfied.

SLIT is recommended in treatment of adults with persistent and/or moderate severe allergic rhinitis, sensitized to grass pollen. All patients, included in the study were classified with such forms if allergic rhinitis, treated previously with pharmacotherapy only.

In an attempt to measure patient satisfaction and the global efficacy of allergic rhinitis treatments, several tools have been proposed such as the ‘Satisfaction Scale for Patients Receiving Allergen Immunotherapy’ (the ESPIA questionnaire);

The ‘Patient Benefit Index’ (PBI). Other approaches have been carried out previously by simply asking the patient the following question: ‘Compared to your symptoms in previous grass pollen seasons, how have you felt overall in this grass pollen season?’. So far, there is no multilanguage version [10, 11].

We decided to use VAS as widely accepted instrument, suitable for prospective self – assessment in real life. The assessment of overall treatment satisfaction was done before initiation of SLIT and on the third year of treatment. The level of satisfaction with pharmacotherapy was

comparatively lower – 4.80cm (SD 2.16). The level of satisfaction on the third year of treatment was significantly higher – 7.47 (SD 2.05). Valero demonstrated that 52.2% of patients initiate immunotherapy, being not – satisfied with pharmacotherapy [12]. Although we did not aim at comparison, we confirmed higher satisfaction with SLIT than pharmacotherapy ( $p < 0.001$ ).

Our study demonstrated good patient satisfaction with SLIT. There are no publications in literature on that theme to compare with. Balardini published results from a 2.5 years survey on personal viewpoints on allergen-specific immunotherapy in patients treated with subcutaneous or sublingual immunotherapy with different allergens. The author concluded that patient satisfaction, measured by VAS was high. We established high level of satisfaction on the third year of treatment with 5grasses/4cereals SLIT [5].

### Conclusion.

In this real life study, evaluating, for the first time, patient satisfaction on the third year of SLIT with 5grasses/4cereals we demonstrated high level of satisfaction. Patient satisfaction could possibly improve attitude to SLIT. More real life studies are needed.

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