

TREATMENT OF ALLERGIC RHINOSINUSITIS: KNOWLEDGE OF RESIDENTS IN FAMILY AND COMMUNITY MEDICINE

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Abstract: Introduction: rhinosinusitis is an acute or chronic, infectious, allergic or irritating inflammation of the nasal mucosa, and chronic or recurrent cases are usually determined by allergy. **Goal:** to evaluate the knowledge of residents in family and community medicine about clinical care practices aimed at patients with allergic rhinitis. **Methodology:** a survey, descriptive, cross-sectional, exploratory research with a quantitative approach was carried out with Residents in Family and Community Medicine at the Centro Universitário de Patos, based on data collection with a digital questionnaire containing 10 objective questions. After answering the document, each resident received a copy of the questions and the respective answer. **Results:** 23 residents participated in this study (09 men and 14 women), 10 belonging to the first year of residency and 13 to the second, with an average age of 28 years and an average time since graduation of 2 full years. When asked how often they treated patients with rhinosinusitis, weekly prevailed (69.6%). They were also asked to report on a scale from 0 to 10 how much they mastered the content, and most considered average knowledge, attributing 7 (43.5%). In general, there was an average of 7.04 hits (4~9). **Conclusions:** Thus, the study identified that residents presented the necessary knowledge to care for patients with allergic rhinosinusitis in Primary Care, demonstrating the provision of safe and effective care, however, constant updates are necessary, focusing on the themes with the greatest weaknesses: probiotics, lysates bacteria and specific immunotherapy. **Keywords:** Rhinitis, Sinusitis, Allergy and Immunology, Primary Health Care, Health education.

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INTRODUCTION

Rhinosinusitis is an acute or chronic, infectious, allergic or irritating inflammation of the nasal mucosa, and chronic or recurrent cases are usually determined by allergy.¹ It has a significant prevalence (5,51%)² and is responsible for promoting economic impact and worsening quality of life, ranging from direct costs such as the medical consultations and exams to indirect costs such as presenteeism and absenteeism.³

Therefore, Primary Health Care (PHC) comprises the individual's access door (first contact care), so it is necessary for the family and community doctor to have a central approach and for the principle of integrality to be fulfilled. , it is important to know the different treatment strategies so that the best one can be proposed for each client, taking into account their individual and financial characteristics, lifestyle and beliefs⁴. Knowing this, it is valid to show that the correct treatment of rhinosinusitis also helps to avoid the exacerbation of asthma, otitis and flu syndromes⁵. Therefore, promoting adherence to an effective therapy is a way to promote health and quality of life.

Nowadays, the constant scientific evolution has provided several ways of knowledge, while the labor market has become more demanding.⁶ The need for theoretical-practical knowledge of Residents in Family and Community Medicine about the correct care for patients suffering from Allergic Rhinitis is perceived. However, during the entire residency, there is not a single class (theoretical or practical) on the topic in question, so there is also no specific time for the resident to discuss their difficulties in the internship field.

The need to develop this research emerged from the main researcher's identification that when receiving patients from other areas (attended by contracted doctors or residents), the vast majority were not even aware of the

existence of cheap and effective measures such as Environmental Control. and he was convinced that his health situation could not improve. In fact, many used corticosteroids indiscriminately because they believed that this was the only medication that would temporarily solve their problem and the only treatment that would definitively solve their problem would be surgery.

The contextualized theme has important social and academic implications, since it is through the perception of the theme that the need to have theoretical-practical knowledge necessary to develop care practices in a safe, effective and skillful way for the sick is perceived. These prerogatives may encourage future family and community medical professionals to act and dedicate themselves to planning preventive actions and measures that seek to prioritize the promotion of users' health, in order to reduce the possible complications of an effective and safe non-operation.

Taking into account the aforementioned statements, the present research aims to evaluate the knowledge of residents in family and community medicine about clinical care practices aimed at patients with allergic rhinosinusitis.

METHOD

This is a survey, descriptive, cross-sectional, exploratory with a quantitative approach, carried out with Residents in Family and Community Medicine at the Centro Universitário de Patos (UNIFIP), a private institution, located in the municipality of Patos, State of Paraíba. This program is Regionalized, so that the residents are destined both for the municipality of Patos/PB and for surrounding municipalities.

A non-probabilistic sample was adopted, consisting of 23 residents who met the inclusion criteria: accepting to participate in

the research and digitally signing the Free and Informed Consent Form (ICF).

The study was carried out using a structured digital questionnaire, formulated by the main researcher, containing 10 objective questions with 4 alternatives (1 correct, 2 wrong and 1 to inform not knowing the answer). They were also asked to report, on a scale from 0 to 10, how much they thought they mastered the content. After answering the document, each resident received a copy of the questions and the respective feedback.

Data collection was carried out between September and October 2021. The data obtained were categorized and processed electronically in the *software: Statistical Packages for the Social Sciences (SPSS) version: 28*, analyzed by simple descriptive statistics, with absolute numbers and percentages, and the results presented in figures and tables and then confronted with the light of the pertinent literature.

It is emphasized that the study was only carried out after the co-participating institution signed the Term of Consent and Approval of the investigation by the Research Ethics Committee of UNIFIP - CAAE 47502221.1.0000.5181/ Opinion number 4,905,373/2021, ensuring that the ethical observances of Resolution 580/16 of the National Health Council were complied with.

RESULTS AND DISCUSSION

Twenty-three residents (09 men and 14 women) participated in this study, 10 of them in their first year and 13 in their second year of residency in Family and Community Medicine. The average age was 28 years and the average time since graduation was 2 full years. When asked how often they treated patients with rhinosinusitis, it prevailed weekly (69.6%) and most considered they had average knowledge, attributing mostly 7 (43.5%) (Chart 1).

Gender		
Men	9	39,13%
Women	14	60,87%
Total	23	100,00%
Age		
24	3	13,04%
25	5	21,74%
26	2	8,70%
27	2	8,70%
28	2	8,70%
29	1	4,35%
30	4	17,39%
34	1	4,35%
35	3	13,04%
Training time (full years)		
0	2	8,70%
1	12	52,17%
2	3	13,04%
3	1	4,35%
4	1	4,35%
5	2	8,70%
9	1	4,35%
10	1	4,35%
Period		
R1	13	56,50%
R2	10	43,50%
How often do you see patients with rhinosinusitis in PHC?		
Daily	2	8,70%
Weekly	16	69,60%
Monthly	3	13,00%
Almost never	2	8,70%
How much do you believe you master the content related to rhinosinusitis?		
5	1	4,35%
6	1	4,35%
7	10	43,48%
8	8	34,78%
9	3	13,04%

Chart 1 - Sociodemographic data of residents in family and community medicine

Source: Research data, 2021.

In contrast to data from a study that analyzed the profile of graduates of the Residency in Family and Community Medicine in the state of São Paulo⁷, carried out with 54 men (41.9%) and 75 women (58.1%), the findings were a mean age of 34.54 years (\pm 4.43). Also, the majority (96.9%) was Brazilian, born in the state of São Paulo (71.2%), worked in the area of Family and Community Medicine (74%), with 49.6% linked to the Health Strategy of the family. Another contrasting finding is that although most participants report seeing patients with rhinosinusitis weekly, a survey carried out in São Paulo with over 12 years old estimated a prevalence of 5.51%². It is worth mentioning that São Paulo is an industrial hub and has pollution, the reality there does not necessarily apply to the reality of Sertão Paraibano.

Regarding the guiding questions of the study, there was an average of 7.04 correct

answers (4~9), which showed that most residents have an average knowledge of the subject.

The questions elaborated were categorized: lifestyle change (1), nasal corticosteroids (2-3), probiotics and bacterial lysates (4-5), specific immunotherapy (6-8) and therapeutic failure (9-10). Figure 1 shows the categories of questions with the respective rates of correct answers, errors and declaration of not knowing the content.

As a question about lifestyle changes (category 1), it was chosen to address smoking because there is a popular belief combined with unscientific sites that say that smoking can have a protective effect against rhinosinusitis. In the form, it was established as correct that smoking “increases the prevalence of rhinosinusitis” and 91.3% (n=21) agreed with this statement, but 4.35% (n=1) considered that the act of smoking

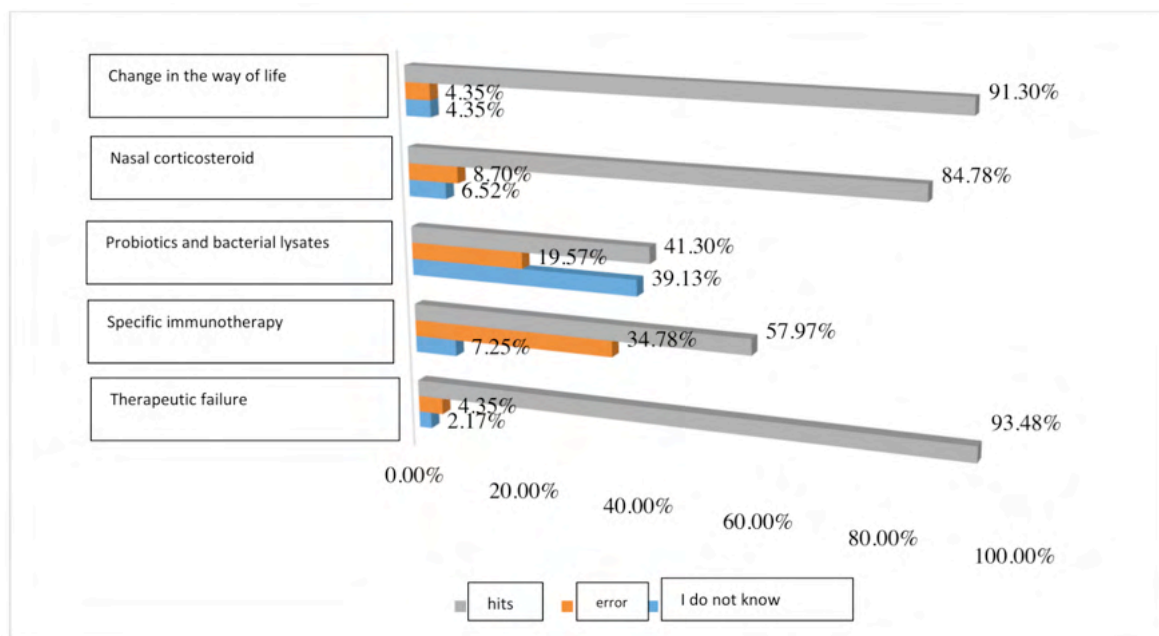


Figure 1 – Categories of questions and statistics of correct answers, errors and declaration of ignorance of the answer.

Source: Research Data, 2021.

“prevents the recurrence and complications of existing rhinosinusitis” and 4.35% (n=1) were unaware of the subject.

Tobacco (active or passive) is an irritating agent to the nasosinusal epithelium of the nasal cavities and paranasal sinuses, having a role in maintaining the inflammatory state, reducing mucociliary clearance and inhibiting innate immunity.⁸ Therefore, encouraging lifestyle changes are important, as they contribute to minimizing signs and symptoms, in addition to improving the patient’s quality of life.⁹

Therefore, although rhinosinusitis is prevalent, little is said about its clinical therapy.⁹ Despite this, when asked about the use of nasal corticosteroids (category 2), two questions were raised. In the first one, it was given as a feedback that he “has a benefit if he performs nasal lavage with saline solution immediately before the use of nasal corticosteroids” (95.7%; n=22) and only one person (4.35%) was unable to answer the question. The second question addressed the ways to solve the nasal polyp: 73.9% (n=17) said that “it can be treated with inhaled corticosteroids”, however some answers indicated “the treatment is only surgical” (17.4%; n=4) and “I don’t know” (8.7%; n=2).

The IV Brazilian Consensus on Rhinitis¹⁰ highlighted that the use of saline solution facilitates the removal of secretions and inflammatory mediators, promoting symptomatic relief to patients and recommends its use once or twice a day and before the application of other topical nasal medications.

Regarding the medical treatment of the aforementioned condition, it includes: nasal or systemic corticosteroids, antibiotics, dupilumab (anti-IL4 α and anti-IL13) and, in more selected cases, biological. Therefore, surgical treatment-functional nasosinusal endoscopic surgery must be reserved for

patients who have not responded or have contraindications to medical therapy. It is worth mentioning that this option is linked to a high rate of relapses.¹¹

In category 3 (probiotics and bacterial lysates) answers were sought as to whether these alternatives interfere positively (39.1%, n=9; 43.5%, n=10), negatively (0%, n=0; 8.7%, n=2) or do not interfere (21.7%, n=5; 8.7%, n=2) in the rhinosinusitis disease. In both questions on this subject, 39.13% (n=9) said they did not know the correct answer.

The use of *Lactobacillus* probiotics has shown changes in cytokine profiles such as elevation of Th1 and reduction of Th2 and allergy-related immunoglobulins, which leads to positive effects with less activity limitations and rhinitis episodes¹². Respiratory bacterial lysates are immunostimulants that prevent recurrent respiratory infections¹³.

Thymus-derived (T) lymphocytes protect the host from infections, being divided into Th1 (protozoa, intracellular bacteria and viruses) and Th2 (helminths and extracellular bacteria), one exerts negative feedback on the other, which allows homeostasis in the immune system¹⁴. They are also antagonistic in terms of IgE production, while the former inhibits it, the latter stimulates it.¹⁵ Thus, patients with recurrent infections may have a greater predisposition to allergic signs and symptoms, and vice versa.

Category 4 addressed the issue of specific immunotherapy. Regarding the duration of the treatment effect, the majority indicated that “it is a long-term treatment for allergic rhinosinusitis” (87%; n=20), but 4.35% (n=1) of the residents stated that “it is a treatment for allergic rhinosinusitis”. term of allergic rhinosinusitis” and 8.7% (n=2) said they could not answer. When asking about the period of use, only 30.4% (n=7) were correct in saying that “it can be used in any severity of allergic rhinosinusitis”, a majority of 60.9% (n=14) was

wrong to indicate that “it is a treatment only for severe forms of allergic rhinosinusitis” and 8.7% (n=2) acknowledged not knowing how to respond. Finally, the third question was about which therapy acted in the natural history of the disease and had the correct answer “allergen-specific immunotherapy” (56.5%; n=13), despite this, 39.1% (n=9) responded with “corticosteroids” and 4.35% (n=1) “don’t know”.

The Portuguese Society of Allergology and Clinical Immunology (SPAIC) has published the Guidelines on Specific Immunotherapy¹⁶ recommending that there be a careful selection of patients in order to optimize the cost-benefit. Even so, the IV Brazilian Consensus on Rhinitis¹⁰ indicates that allergen-specific immunotherapy can be performed in any severity of allergic rhinosinusitis. In addition, the Brazilian Association of Allergy and Immunology recently released the Manual of good clinical practices for allergen-specific immunotherapy¹⁷ and it is evidenced that after its administration, the patient can remain, at least, from 7 to 10 years, without the use of medication, and can remain for life; When relapses occur, they are generally less harmful and it is the only therapeutic procedure capable of modifying the natural history of allergic diseases.

There is no consensus on the best route of administration, but a study indicates that subcutaneous is more effective in reducing cough and sublingual in reducing wheezing and promoting adherence.¹⁸, however, it has a longer time to obtain clinical effects, a shorter duration after discontinuation of treatment and the need for higher concentrations, which leads to a higher cost.¹⁸.

The last category addressed therapeutic failure. The first question was “how often after starting clinical treatment must the rhinosis condition be reassessed?”, the alternative between “2 to 4 weeks” was

considered correct (91.3%; n=21), while 4.35 % (n=1) marked “the next day” or “I don’t know”. Another question was “in case of rhinosinusitis treatment failure, must it be done immediately?”, 95.7% (n=22) were correct when choosing “review diagnosis, adherence and investigate other causes”, but 4.35% (n=1) chose to “apply an ampoule of betamethasone dipropionate + betamethasone disodium phosphate”.

The IV Brazilian Consensus on Rhinitis¹⁰, indicates that, after starting therapy, the patient must be reviewed between 2 to 4 weeks and in case of poor response, diagnosis, adherence must be reviewed and infection and other causes must be investigated. Allergic rhinosinusitis can be comorbid with other diseases such as Chronic Obstructive Pulmonary Disease²⁰. A patient with rhinosinusitis with specific IgE for relevant aeroallergens, with clinical agreement and an unsatisfactory response to drug treatment, is indicated to start specific immunotherapy¹⁶.

It is important to emphasize that the participants of this study, as residents of Family and Community Medicine, despite not having had the topic in question addressed during their graduate studies, treat patients with this condition during in-service training, so that they presented an average knowledge. In some items, there was a difference in the response in relation to scientific knowledge, so it is recommended to include in residency programs an appropriate approach regarding the concept of probiotics, bacterial lysates and allergen-specific immunotherapy, aiming at training committed to an approach integral of the individual.

The Basic Health Unit is the gateway for users of the Unified Health System, therefore, it is of fundamental importance that the doctor has basic knowledge to conduct, refer when necessary and follow the therapy longitudinally. Therefore, this study suggests

that the topic be addressed in the resident physician's subject grid. Although the focus of this research is the doctor, since the service is provided by a multidisciplinary team, it is of fundamental importance that all employees know about the subject. A pilot study²¹ carried out with pharmacists from Brazil and Paraguay showed little knowledge about allergic rhinitis and reinforced the need for training.

Despite the findings, it is opportune to highlight some limitations of this investigation, inherent to cross-sectional studies, such as data collection in a single moment. Also, having included residents of a single Medical Residency Program, which limits the generalization of results. However, the findings, as well as other empirical observations about this problem, serve as a stimulus for the development of more robust studies.

FINAL CONSIDERATIONS

The study identified that residents have the basic knowledge necessary for the care of patients with allergic rhinosinusitis in PHC, demonstrating the provision of safe and effective care, however, the adoption of a continuing education program and in service, with a focus on in the themes with the greatest weaknesses: probiotics, bacterial lysates and specific immunotherapy. It was noted that the error rate was considerable, even though they were asked to choose the "don't know" option if they were not sure of the answer.

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This study was relevant, since there is a need to assess the knowledge of residents who are leaving graduate school and in the future entering the job market. It can also serve as a subsidy for teachers of the curricular components offered in Medical Residency Programs, especially in Primary Care settings, to observe the main difficulties of postgraduate students during the transition of disciplines, to review the Pedagogical Political Projects, a living instrument!

AUTHORS' CONTRIBUTION

ALAB. The author conceived and planned the project, as well as analyzed and interpreted the data; he was responsible for the execution and supervision of most of the procedures involved in the work and organized the text and critically revised it. AJAB, APAB, MNAS. Analyzed and interpreted the data, organized the text and critically reviewed it.

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