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The knowledge of allergies and self-assessment of the ability to use treatment methods among allergy clinic patients

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Summary

Allergies belong to major public health problems. Their incidence is growing. Epidemiological indicators of these diseases are associated with changes in the environment, climate as well as with urbanization and industrial development.

The health education can contribute to enhancement of motivation of a patient burdened with allergy. A lack of treatment effectiveness should encourage to further health education.

The purpose of the research was the assessment of patients' knowledge of allergies' risk factors including their skills to use inhalers.

Material and method

The research was carried out from September to November 2015 among 118 adult patients of allergy clinics in the city of Kielce. The applied method was of a diagnostic survey

with the use of questionnaire form. The material was analysed. The significance of differences was verified with χ^2 test.

Results

The majority of respondents notices a protective effect of pregnant woman's diet, breastfeeding and resignation from early modification of babies' feeding. There has been confirmed a weak correlation between the knowledge of allergies and age, sex, place of residence and the average depending on the level of education. Most respondents assessed skills connected with the use of inhalers as poor, the others as good.

Conclusions

There was a worrying problem connected with the use of inhalers observed among the respondents. Inhaled drugs occupy a special place in the treatment of allergies. For this reason educational activities should be implemented.

Key words: allergies, health education, inhaled drugs.

Introduction

Allergies are a current problem, both because of the epidemiological indicators as well as the social and economic costs associated with diagnostics and treatment methods. Allergies are common chronic diseases among adults and children (1).

The most common clinical form of an allergy is AR (allergic rhinitis), and the incidence is higher in developed countries, among inhabitants of cities, in younger age groups (children, youth). Chronic AR and indoor allergens are a risk factor for asthma (2). The increase in the incidence of allergies is related to environmental changes, urbanization, climate and industrial development. It happens that the disease is associated with atopy. It can also refer to not burdened people in accordance with the risk in the population (3).

Prevention rules seemed simple initially, assuming that contact with an allergen is necessary for the development of the symptoms. Unfortunately, radical elimination of common allergens is impossible. Mechanisms of an innate and acquired immune response, as well as individual sensitivity of an individual are a part of the development of the disease (4).

Therefore, a revision of primary preventive measures aimed at reduction of exposure to allergens is necessary. Secondary and tertiary prevention measures depend on the age, documented exposure to allergens (5). A Proper technique of taking inhaled drugs, an ability to use a measure of peak expiratory flow (PEF), conducting a card for observation of

symptoms of the disease cause an urgent need of education. Giving inhaled drugs without the education of the patient is doomed to a small therapeutic effect. Health education should be pragmatic and serve the strengthening of the motivation. A lack of treatment efficacy should motivate to further health education.

Important elements of health education are active participation of the patient and his family in the treatment methods, establishment of plan of proceedings in case of exacerbations e.g. an episode of dyspnea. Correction of patient's behavior increases confidence in medical personnel and supports compliance with recommendations.

The value of reliable information is high nowadays, so it is important that the source is credible. Health education improves also the quality of life of the patient burdened with the disease. "Quality of life dependent from the state of health is defined as a possible to achieve optimum level of physical and psychological abilities, performed social roles and satisfaction from the life" (6).

It has been shown that health education aimed at understanding the nature of asthma as well as a written plan of proceedings in case of an episode of dyspnea are an important step in controlling the disease. Improvement of health state can be achieved by applying a number of procedures that reduce exposure to allergens. Some factors, such as co-occurring illnesses, cold air, negative emotions, cannot be avoided. Deterioration of control of the disease enforces a modification of treatment. The most common cause of the lack of asthma control is incorrect inhaled drugs taking. GINA guidelines recommend checking the skills concerning the usage of inhalers at each visit (4).

When selecting the type of inhaler, it is important to take into account patient's age, ventilating parameters, possibilities of cooperation, intensity of the disease. Advantages of inhaled drugs are: possibility to apply directly to the place of the disease process, rapid beginning of action, use of lower doses compared to drugs applied in another way, reduction of unwanted systemic effects (2).

Corticosteroids given parenterally or orally cause stronger anti-inflammatory action than the inhaled, but on the other hand have more unwanted effects. The inhalation therapy is the method of choice for the majority of patients with bronchial asthma. Antileucotriene drugs and cromones are also used in the treatment of other allergies (7).

In contemporary allergy prevention it is important to identify both risk and protective factors, get to know methods of exposure in a population, widespread implementation of the principles of prevention through education of the society (8).

The aim of the study was the assessment of the allergy clinic patients' knowledge about the allergy risk factors and methods of elimination of these factors including the skills to use inhalers.

The following research problems were proposed:

- Do allergy clinic patients have sufficient knowledge of the risk factors of allergies?
- Do patients from the examined group have skills associated with inhalation pharmacotherapy?

Material and method

In the research the method of a diagnostic survey with the use of questionnaire form was applied. The original questionnaire consisted of two parts: demographics and a set of questions/answers needed to assess the knowledge of the respondents.

The research was carried out from September to November 2015 among 118 adult patients of allergy clinics in the city of Kielce. In the research group, the city has a population of 26 women (22.0% of respondents) and 24 men. (20.3% of respondents). Among the villagers there were 38 women (32.1% of respondents), 30 men. (25.6% of respondents).

Participation in the study was voluntary in order to ensure anonymity. The person that were applied to the research were earlier registered to visits in allergology clinics. The material was subjected to statistical and descriptive analysis, the significance of differences was verified with χ^2 test. The significance level was set at $p < 0.05$.

Results of the study discussion

Tab. 1. Socio-demographic characteristics of the respondents

Specification	Women		Men		Total	
	n	%	n	%	n	%
20 – 30 years	16	13,5	10	8,5	26	22,0
31 - 40 years	20	16,9	14	11,9	34	28,8
41 - 50 years	18	15,2	12	10,3	30	25,5
51 - 60 years	10	8,5	18	15,2	28	23,7
Total	64	54,1	54	45,9	118	100,0

Among the respondents dominated people aged 31 to 40 years, ie. 34 persons (28.8% of respondents), there group of 26 persons (22.0% of respondents) aged 20 to 30 years is the group that has the least of all respondents. Detailed results are given in Table 1

Tab.2. Education of the surveyed

Specification	Women		Men		Total	
	n	%	n	%	n	%
Higher education	20	16,8	14	11,8	34	28,6
Secondary education	32	27,1	26	22,0	58	49,1
Vocational education	12	10,1	14	11,8	26	21,9
Total	64	54,1	54	45,9	118	100,0

Among the respondents the numerous group of 34 persons (28.6% of respondents) had higher education, 58 persons (49.1% of respondents) has a secondary education, and 26 persons (21.9% of respondents) had vocational education. Among women dominated secondary education, vs a group of men. The results of this study are included in Tab.2.

Into the group covered by the study allergic charged interview was confirmed: among siblings - 40 (34%), parents - 34 (29%), grandparents - 18 (15% of respondents), by 26 patients no allergy was recorded among the family members (22%).

The subject of statistical analysis was the relationship between knowledge about risk factors of allergic diseases and: a gender, age, education, place of residence. The relation between knowledge of allergic diseases, and gender χ^2 (for $p = 0.05$; s_1) = 3,841 < χ^2 calculated. = 4.01). Strength of the relationship was defined as dim ($R = 0.09$), due to the place of residence (χ^2 (for $p = 0.05$; s_1) = 3,841 < χ^2 calc. = 4.21), the strength of association poor ($R_c = 0.12$). There was no correlation between knowledge and education (χ^2 (for $p = 0.05$; s_2) = 5,991 > χ^2 calc. = 3.89). The relationship between knowledge and age was (χ^2 (for $p = 0.05$; s_3) = 7.815 < χ^2 calc. = 8.12). Thus, the strength of the compound was determined as poor ($R = 0.15$).

According to the respondents viral infections affect the development and / or exacerbation of allergic diseases, which confirmed 37 people (31.3% of respondents). No such effects have expressed 32 persons (27.1% of respondents), 49 people (41.5% of respondents) were not able to answer.

According to the respondents the most predisposing factor for the development of allergy was the environment, This fact recorded 58 people. Family and genetic determinants - indicated 40 people. Each 10 people indicated on smoking and poor diet, ie. allergenic food products.

Allergic diseases affect the deterioration of subjective quality of life which was indicated by 80 people (67.8% of respondents). Dissenting opinion expressed 31 people (26.2% of respondents). 7 patients (5.9% of respondents) people did not see such effects.

Optimistic is the fact, that the vast majority of the respondents, 94 people (79.6% of respondents) believe that the protective effect on the offspring has a natural feeding and nutrition of the pregnant woman. Too early infant feeding modification may be a risk factor of allergies by 83 people (71.2% of respondents). 11 persons have expressed dissenting opinion (9.3% of respondents). The remaining part of the research group - 24 (20.3%) - did not reply at all. For this question respondents could choose more than one answer, hence percent indicated not add up to one hundred.

Most of the surveyed – 48,41% reported an average knowledge of allergens, high self-esteem in this matter was observed in 44.37% of patients, and a low was confirmed by 26.22% respondents.

The self-knowledge of allergens in relation to sex, age, place of residence and education was statistically analyzed. The relation between self-esteem, and gender (χ^2 (for $p = 0.05$; s_2) = 5,991 $< \chi^2$ calc. = 6.94), the strength of association was defined as poor ($R = 0.19$), the place of residence ((2dla χ^2 $p = 0.05$; s_2) = 5,991 $< \chi^2$ calc. = 7.41) is defined as poor ($R = 0.29$), just between education (χ^2 (for $p = 0.05$; s_4) = 9,488 $< \chi^2$ calc. = 10.2). strength of association was weak ($R = 0.27$). There has been an average compound associated with age (χ^2 (for $p = 0.05$; s_6) = 12.592 $< \chi^2$ calc. = 14.2), ($R = 0.33$).

Most people in the study group estimates own skills required to use dose inhalers, nebulizers and powder as: mediocre- noted by 77 people (65.2% of respondents), while 41 people (34.7% of respondents) declared that they feel good with that. There was no indication in the category of “very good”. The skills related to self-service inhalers according to gender, age, place of residence and education were the subject of statistical analysis.

It has been shown a weak relationship between these skills and gender (χ^2 (for $p = 0.05$; s_2) = 5,991 $< \chi^2$ calc. = 7.36), because ($R = 0.24$), the place of residence (χ^2 (for $p = 0.05$; s_2) =

5,991 $< \chi^2$ calc. = 6.31). ($R = 0.23$), age (χ^2 (for $p = 0.05$; s_4) = 9,488 $< \chi^2$ calc. = 11.4) strength of the relationship was defined as the average ($R = 0.35$), similar was with education (χ^2 (for $p = 0.05$; s_6) = 12.592 $< \chi^2$ calc. = 16.21) strength of the relationship was defined as the average ($R = 0.42$).

The vast majority of respondents, 87 people declared taking part in the offered educational program that is thematically combined with allergology. 31 people (26.2% of respondents) does not confirm such participation.

To sum up, 118 people benefitting from the services of allergy clinic took part in the present research. The statistical analysis examined the self-assessment of allergy according to gender, age, place of residence and confirmed the weak and average relationship with education.

In research of Jędrusek-Golińska A., Klarzyńska E., "more than half (69%) of respondents could see a hereditary predisposition to the development of allergies, 31% of respondents were unable to provide answers to this question. According to the respondents allergy symptoms can occur at any age (9).

According to the research of Kowalski, M. evaluation of teachers knowledge of allergies, including ability to assisting the child in the event of a hypersensitivity reaction in school, forms on the low level. Test results indicate the need for education on this field (10). Risk of allergic diseases by children and adolescents justifies the need for dissemination of solid knowledge at school and home (11).

An important element of treatment is health education of patients and their families associated with the provision of reliable information to understand the nature of the disease and the specificity of the therapy. Education is to be understood as a process, not a single information. In the light of the research results the alarming problem of lack of inhalers inhaled usage skills was observed And yet, "the most common cause of asthma control is incorrect usage of inhaled medication. GINA guidelines recommend checking inhalers usage skills at each visit (4).

Inhalation therapy is the "gold standard" for the treatment of asthma, regardless of age and clinical status (12). The effectiveness of treatment and patient safety will depend upon the inhalers and inhalation techniques. Nebulization is an alternative method for patients showing a lack of cooperation, and the inhalation has a special place in the treatment of many respiratory diseases and should be presented by medical staff using intelligible verbal communication, demonstration and simulation exercises (13).

Health education is recognized as a process involving the interaction focused on the patient and his environment, the aim of which is to develop the motivation, attitudes, habits

and beliefs of health and / or disease. Interactive training is the modern form of health education, but the individualization that took into account the patient's knowledge, age and cultural background it is an essential element.

Conclusions

1. The vast majority of respondents declares that chronic allergies have an impact on the deterioration of subjective quality of life.
2. There has been confirmed a weak correlation between the knowledge of allergies and age, sex, place of residence and the average depending on the level of education.
3. Most respondents assessed skills connected with the use of inhalers and nebulizers as poor, the others as good. There was no indication in the category of very good. Therefore there was a worrying problem connected with the incorrect use of inhalers observed among the respondents.

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