



SHORT COMMUNICATION

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Risk Factors for Worsening Bronchial Asthma and Chronic Obstructive Pulmonary Disease

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Introduction

Chronic obstructive pulmonary disease is characterized by limited airflow that is progressive and not completely reversible and is accompanied by pathological changes in the small airways and destruction of the parenchyma (emphysema).

Bronchial asthma is a chronic disease of the lower respiratory tract, which is manifested by attacks of suffocation, wheezing in the chest with coughing and coughing up a small amount of sputum.

Acute bronchitis is an acute inflammation of the mucous membrane of the bronchial tree that ends in complete anatomical and functional remission.

These various diseases are a common cause of visits to the General Medicine Service. With advances in science, especially with the use of aerosol therapy, we achieve better control of these diseases. However, in addition to good diagnosis and therapy, exacerbations are common in bronchial asthma and chronic obstructive pulmonary disease.

Goal

The aim was to determine the prevalence of risk factors that lead to exacerbation of these diseases and to identify statistically significant differences in order to make prevention work more successful.

Method

The study was prospective, in the period autumn 2006 - winter 2007. A survey questionnaire was prepared (attached) which was used in daily work with patients who came for an examination with respiratory problems at three selected doctors in the General Medicine Service in Kraljevo.

Patients were divided into three groups:

- [1] Bronchial asthma
- [2] COPD
- [3] Previously healthy with acute bronchitis.

The obtained data were analyzed by chi-square test in most cases.

Results**Table 1: Age structure of all respondents**

Year	%
19-29	9,4
30-39	15,3
40-49	31,1
50-59	5,9
60-69	12,9
>70	22,4

Table 2: Structure of respondents by gender

Pol	in total	%
Men	39	45.9
female	46	54.1

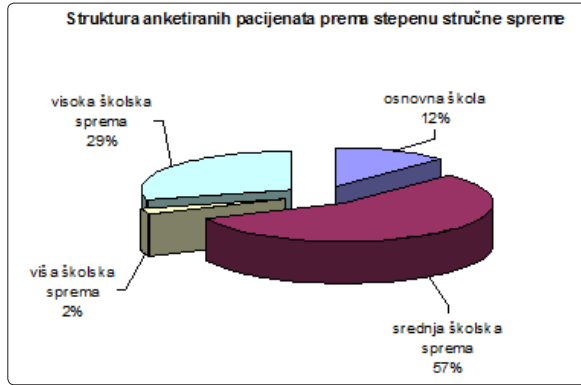
Table 3: Structure of respondents by marital status

Marital status	in total	%
Unmarried	19	22.4
Married	66	77.6

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Table 4: Structure of respondents by education

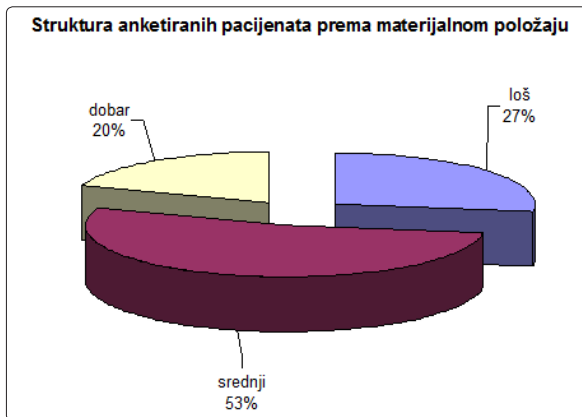
School readiness	in total	%
Elementary School	10	11.8
high school	46	54.1
College	2	2.4
High school	24	28.2
No data	3	3.5



Graph 1: Structure of surveyed patients according to the level of education

Table 5: Structure of respondents by social status

Social status	in total	%
Bad	21	24.7
Medium	41	48.2
good	15	17.6
No reply	8	9.4



Graph 2: Structure of surveyed patients according to material status

Risk factors influencing disease exacerbation (statistically significant differences)

Table 6: Distribution of respondents according to the presence of mite allergy

The presence of disease	Presence of mite allergy				In total	
	Number	%	Number	%	Number	%
Asthma	10	52.6	11	16.7	21	24.7
Obstructive bronchitis	5	26.3	25	37.9	30	35.3
Healthy respondents	4	21.1	30	45.4	34	40.0
Everything	19	100.0	66	100.0	85	100.0

$\chi^2=10.479$ $df=2$ $p<0.05$

Table 7: Distribution of respondents according to the influence of physical effort on the occurrence of the disease

The presence of disease	Elbow Grease				In total	
	Number	%	Number	%	Number	%
Asthma	12	34.3	9	18.0	21	24.7
Obstructive bronchitis	18	51.4	12	24.0	30	35.3
Healthy respondents	5	14.3	29	58.0	34	40.0
Everything	35	100.0	50	100.0	85	100.0

$\chi^2=16.434$ $df=2$ $p<0.05$

Table 8: Distribution of respondents according to the influence of acute psychological effort on the occurrence of the disease

The presence of disease	Acute mental strain				In total	
	Number	%	Number	%	Number	%
Asthma	13	36.1	8		21	24.7
Obstructive bronchitis	14	38.9	16	32.7	30	35.3
Healthy respondents	9	25.0	25	51.0	34	40.0
Everything	36	100.0	49	100.0	85	100.0

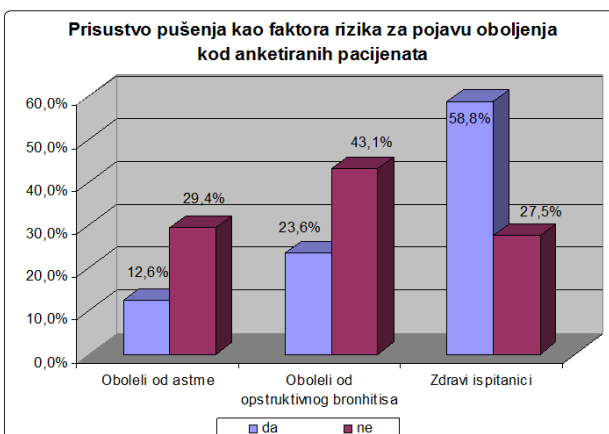
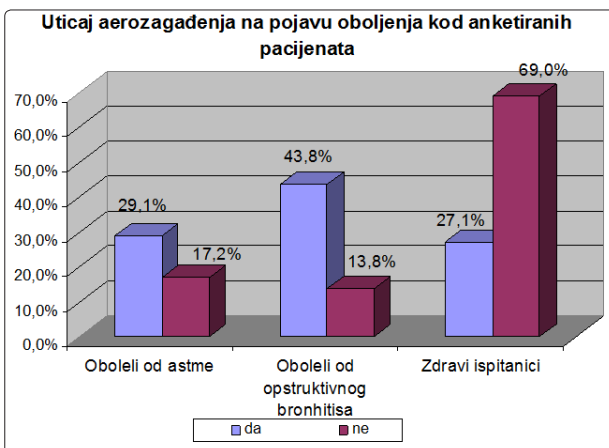
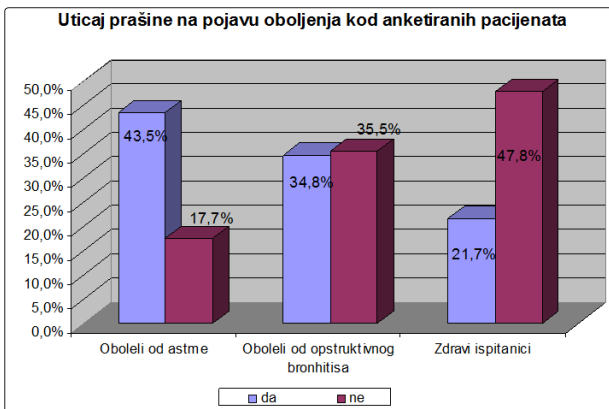
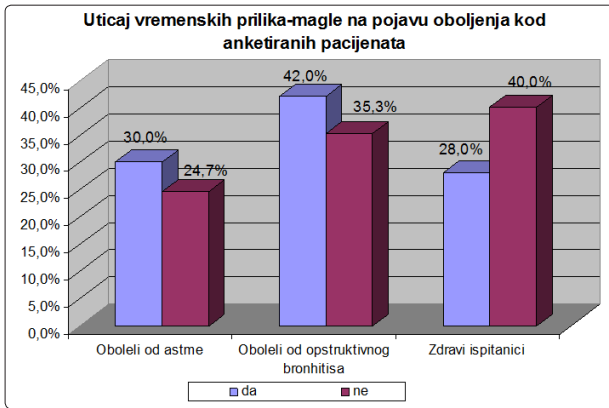
$\chi^2=7.029$ $df=2$ $p<0.05$

Table 9: Distribution of respondents according to the present positive allergological tests in relation to the occurrence of the disease

The presence of disease	Positive allergological tests				In total	
	Number	%	Number	%	Number	%
Asthma	16	35.5	5	20.8	21	35.6
Obstructive bronchitis	16	35.5	13	54.2	19	32.2
Healthy respondents	13	29.0	25	51.0	34	32.2
Everything	45	100.0	24	100.0	59	100.0

$\chi^2=26.785$ $df=4$ $p<0.05$

One patient with obstructive bronchitis and 15 healthy subjects did not undergo allergy tests.



Discussion

The most common deterioration is in patients of both sexes aged 40-49, secondary education, medium socio-economic status. Statistically significant risk factors for worsening of COPD and bronchial asthma in our sample, in the autumn-winter period are:

- Air pollution
- Fog
- Allergy to mites and dust
- Physical exertion
- Acute stress
- Smoking
- Any mental effort

The obtained results fit into the examined time period (autumn-winter), which explains why allergens related to spring-summer are not statistically significant in this case.

Conclusion

Measures of primary, secondary and tertiary prevention of these diseases are:

1. Elimination and / or reduction of risk factors
2. Education on avoidance and control of risk factors
3. Education on regular and proper use of medicines

Prevention should encompass society as a whole.