Global Advanced Research Journal of Medicine and Medical Science (ISSN: 2315-5159) Vol. 4(3) pp. 150-154, March, 2015
Available online http://garj.org/garjmms/index.htm

Full Length Research Paper

Gender and age structure of children suffering from obstructive pulmonary disease in Federation of Bosnia and Herzegovina

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Accepted 29 March, 2015

This study analyses the gender and age structure of children up to 18 years suffering from obstructive pulmonary disease in Federation of Bosnia and Herzegovina. Data have been collected at the pediatric clinic KC University of Sarajevo, Kakanj and Livno from the book of protocols in which have registered people with asthma and bronchitis and who have requested medical assistance. It has encompassed a period of 15 years with a sample of 38,311 patients and this is by far the most extensive research in this field. In the case of bronchitis most vulnerable groups are children aged up to one year and figuring 13% and then the other ones up to 10 years of age while after that the number of patients decreases. At the asthma's patients the highest in children aged 10-18 years. Regarding gender structure of ill children with bronchitis in the total sample are 62% of boys and 38% of girls, and in asthma are 66% boys and 34% girls. It's concluded that in Federation of Bosnia and Herzegovina, boys almost twice more likely to suffer from asthma and bronchitis than girls.

Keywords: Obstructive pulmonary diseases, asthma, bronchitis,

INTRODUCTION

Diseases of the respiratory system in the last few decades are the subject of intensive research with different aspects. The reason for this is that these diseases are at the top of the structure of disease among the population across the globe. Data from the White book related to allergy in Europe in 1997 saying that for the past two decades, the percentage of asthmatic children and adolescents has doubled and even tripled. A similar phenomenon was registered in other industrialized countries in the world (USA, Australia and Japan). In the most countries with the high economic standard, rate of prevalence of children's asthma ranging between 5 and 15% (Compton et al., 2001; Halbert et al., 2003; Mannino et al., 2002; Prazina and Redžić, 2011).

One of the important aspects of the study in this area is gender and age structure of patients especially when children are involved. By discovering the causes that provoke a different prevalence of the disease at boys and girls as well as the age structure we've found some very important information that can greatly help in the prevention of this disease also in its more adequate treatment. Thus so far in the researches are that the main cause for what boys suffer twice more than girls are related to puberty at boys, probably related to the physiological narrower airways, increased muscle tone and possible higher IgE (Gissler et al., 2003).

Table 1. Frequency of bronchitis and asthma in children in Sarajevo, Livno and Kakanj

Year	Bronchitis	Asthma	Bronchitis			Asthma		
			Sarajevo	Kakanj	Livno	Sarajevo	Kakanj	Livno
1997	2097	941	1792	283	22	924	3	14
2000	1863	830	1282	536	45	821	0	9
2001	1791	561	1460	299	32	551	10	0
2002	2736	478	2515	196	25	408	48	22
2006	3373	1235	3118	246	9	1235	0	0
2007	3109	1270	2848	252	9	1270	0	0
2008	4244	451	3796	427	21	408	43	0
2009	4246	654	3531	669	46	625	28	1
2010	4516	426	3955	530	31	415	11	0
2011	3083	407	2653	392	38	407	0	0
SUM	**31058**	**7253**	**26950**	**3830**	**278**	**7066**	**143**	**46**
AVERAGE	**3105,8**	**725,3**	**2695**	**383**	**27,8**	**706,6**	**14,3**	**4,6**

MATERIAL AND METHODS

For the preparation of this work were used data from the Pediatric Clinic of the Clinical Center University of Sarajevo, Kakanj and Livno. Data were collected from the protocol book in which are registered all patients of school age who were applied for medical attention. From the protocol were taken all available data, which are relevant for this study pertaining to the type of illness, sex and age of the patients.

For this study were taken into account only patients born and residing in Canton Sarajevo and Kakanj and Livno. Age structure of patients is from 3 days to 18 years.

The method used in obtaining data on chronic pulmonary disease is a retrospective analysis of 15-year-old period (1997-2011). Have been observed the following forms of HB in the sample of the studied population: (i) Bronchitis chronica simplex (ii) chronic obstructive bronchitis and (iii) Chronic Bronchitis mukopurulenta, and (iv) Asthma bronhalae.

Collected data were analyzed by using statistical methods.

Aims and objectives of research

- To determine the gender structure of children suffering from asthma and bronchitis; (ii) To determine the age structure of children suffering from asthma and bronchitis (iii) Identify the highest risk of developing children OPB and evaluate adequate ecological and health measures in order to better prevention and treatment OPB;

RESULTS

Research was conducted on a sample of 38,311 patients who were applied for medical attention with one of the OPB observed over a period of 15 years on the territory inhabited by around 480,000 people, which is about 30% of the population of the Federation of Bosnia and Herzegovina. In FBiH for researched period were recorded 31,058 ill children of bronchitis and 7253 of asthma.

Table 1 presents the results of research of bronchitis and asthma by age groups. Affected patients were divided into four groups of age up to one year of age, then 1 to 5 years of age, followed by a group of 5-10 years of age and at the end of a group of 10-18 years. The goal is to determine which children's age groups most susceptible to the disease of OPB. For several years have not been found complete data on the number of patients so mentioned years weren't taken into account. This however, does not impact significantly on the overall results of research since have been taken a great time interval and the sample was large.

In the structure of the male children suffering from bronchitis up to one year age the number of patients was 14%, from 1 to 5 years 36%, from 5 to 10 33% and from 10 to 18 17% of patients are boys (Figure 1). At female children suffering from bronchitis to one year of age the number of patients was 11%, from 1 to 5 33%, from 5 to 10 36% and from 10 to 18 20% patients are girls (Figure 2).

In the structure of male children with asthma up to one year of age the number of patients was 2%, 1-5 years 13%, from 5 to 10 42% and 10 to 18% of patients 43 boys (Figure 3). At the female children with asthma to

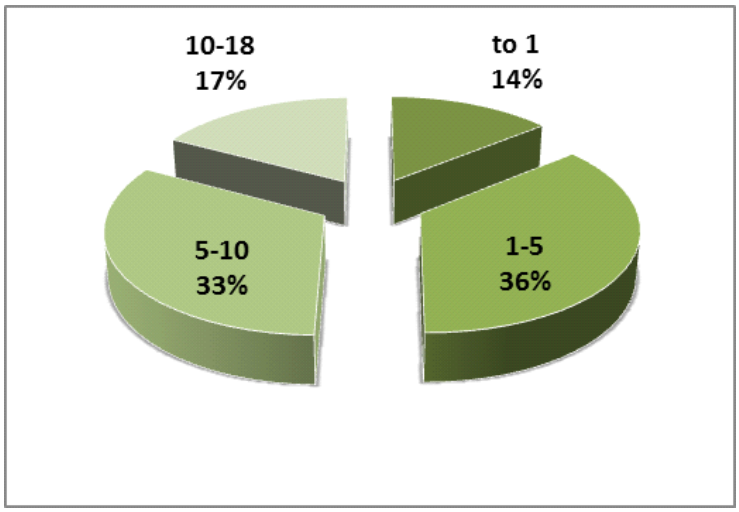

Figure 1. Age structure of the male children suffering from bronchitis

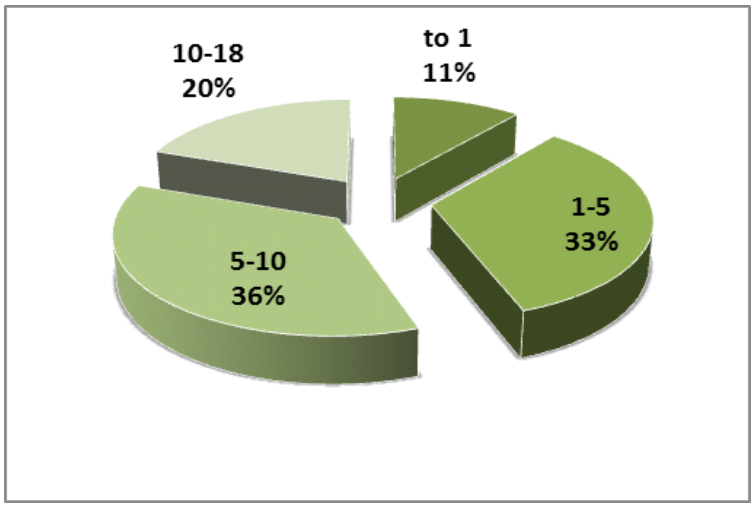

Figure 2. Age structure of female children suffering from bronchitis

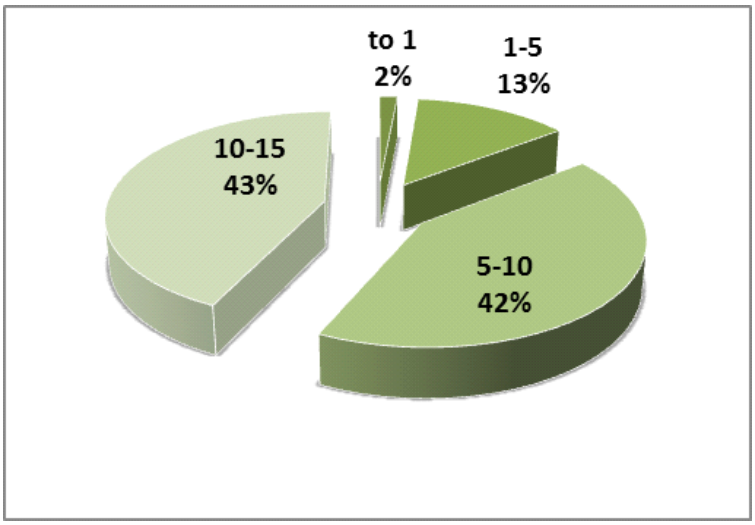

Figure 3. Age structure of male children with asthma

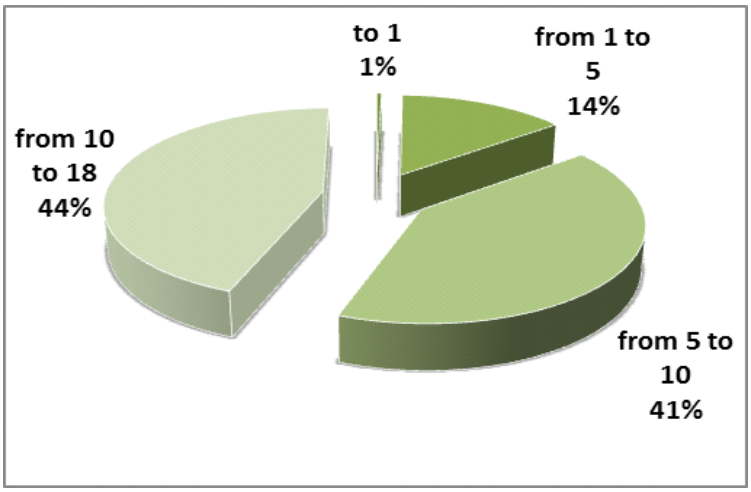

Figure 4. Age structure of female children with asthma

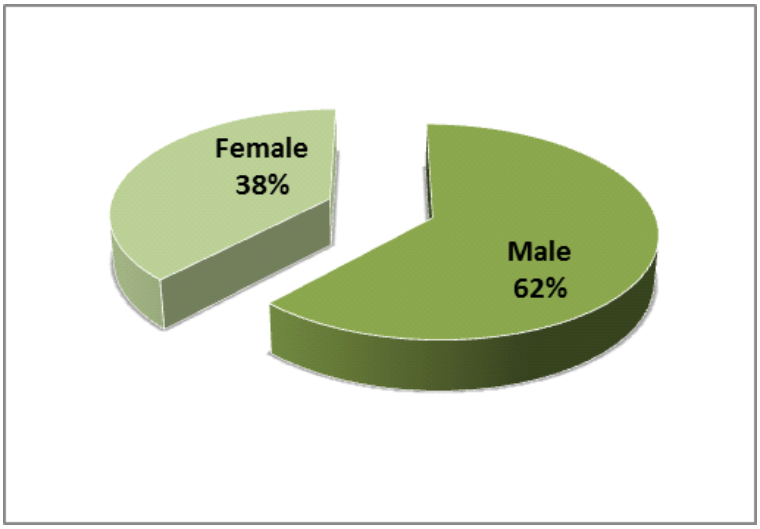

Figure 5. Gender structure of children suffering from bronchitis

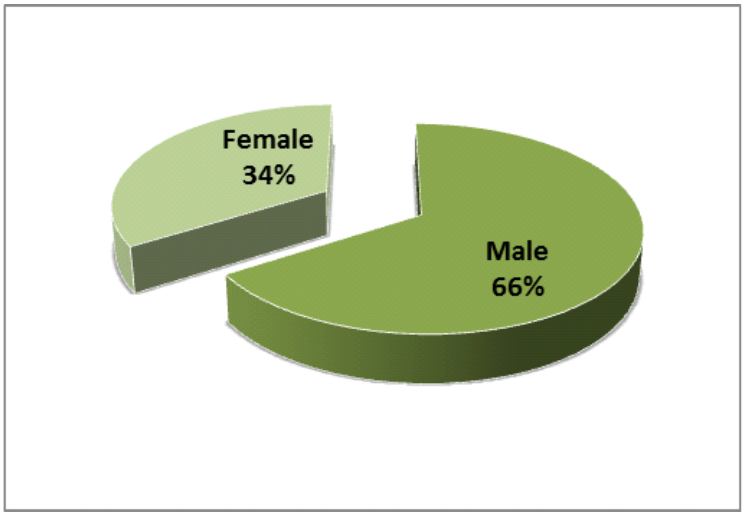

Figure 6. Gender structure of children with asthma

one year of age the number of patients is 1%, from 1 to 5 year 14%, from 5 to 10 and 41% and from 10 to 18 44% patients are girls (Figure 4).

Regarding the gender structure of the affected children it was found that in the total sample in the case of bronchitis 62% male and 38% female patients (Figure 5). So, from bronchitis more often get ill boys than girls that are characteristic for other countries across the globe. At the asthma this difference is even more convincing in the total sample of patients boys was 66% while 34% of girls almost half that (Figure 6). This research has not directly addressed to the very causes that lead to so large differences in gender and age structure of patients but the results can be a good starting point for research in that direction.

DISCUSSION

In this study, has discovered some interesting data about the gender and age of children suffering from asthma and bronchitis. Regarding bronchitis the most vulnerable population of children are up to 1 year of age and in both sexes, ranging from 11% at girls and 14% at boys. This age group is most vulnerable and should be given special attention especially during the winter when the most ones have affected

In a broader sense are compromised all children under 10 years of age because the overall structure of diseased they account for 83% while the rest of the older children (Figure 1 and 2). So after ten year bronchitis morbidity was significantly less frequent.

At asthma is somewhat different situation: the most vulnerable population of children of 10-18 years of age (see Figures 1 and 2). Our praxis has showed that asthma is rarely diagnosed in young children although it would help in her timely medical treatment. This is especially important in children whose parents suffer from this disease. Based on the results it has been determined the correlation between sex and age structure. Similar data were obtained in other studies (Clifton and Murphy, 2004).

Related to the gender structure of ill children in the case of bronchitis in the total sample 62% were boys and the girls 38%. As already mentioned this is otherwise a world trend due to such a big difference is attributed to different physiological characteristics between the sexes. At asthma are bigger difference, so 66% are male and 34% female patients. This difference is gradually lost during puberty so that in adults approximately uniform number of patients in both sexes.

On the basis of this study it was obtained a clear picture of gender and age affected children from OPB in FBiH and leisure can be applied to the whole country. The obtained results can be used for the purposes of preventive action plans to reduce the morbidity of children paying special attention to the most vulnerable populations, especially those who have a genetic predisposition.

CONCLUSION

By this research was revealed that in the Sarajevo Canton boys almost twice more likely to suffer from OPB than girls. This is particularly true in the age of puberty.

The most vulnerable population for developing bronchitis is children up to one year in a broader sense to the tenth. After ten years reduces the incidence.

The highest prevalence of asthma at children is at the age of 10 and more years.

What needs to be taken to morbidity of children with asthma and bronchitis to be reduced is the need to pay special attention to risk groups and take all possible preventive measures.

REFERENCES

Clifton VL, Murphy VE (2004). Maternal asthma as a model for examining fetal sex-specific affects on maternal physiology and placental mechanisms that regulate human fetal growth. Placenta. 25 Sup-pl A:45-52.

Compton CH, Gubb J, Nieman R, et al (2001). Cilomilast, a selective phosphodiesterase-4 inhibitor for treatment of patients with chronic obstructive pulmonary disease: a randomised, dose-ranging study. Lancet. 358:265.

Gissler M, Järvelin MR, Louhiala P, Hemminki E (2003). Boys have more health problems in childhood than girls: follow-up of the 1987 Finnish birth cohort Acta Paediatrica, 2007 88:3, 310-314,

Halbert RJ, Isonaka S, George D, Iqbal A (2003). Interpreting COPD prevalence estimates: what is the true burden of disease?. 123:1684.

Mannino DM, Homa DM, Akinbami LJ, et al (2002). Chronic obstructive pulmonary disease surveillance-United States, 1971-2000. MMWR Surveill Summ. 51:1.

Prazina N, Redžić A (2011). The frequency of respiratory diseases in children of Sarajevo Canton in relation to environmental quality. ANUBIH Special editions. CXLIX 135-142.