WORLD SPIROMETRY DAY 2012 IN POLAND: HOW TO ENHANCE SOCIAL KNOWLEDGE ON RESPIRATORY DISEASES?

Artur J. Badyda[1], Piotr Dabrowiecki[2], Emilia Swietlik[3], Anna Doboszynska[4]

[1]Warsaw University of Technology, Faculty of Environmental Engineering, Warsaw, Poland; [2]Military Institute of Medicine, Central Clinical Hospital of the Ministry of National Defence, Warsaw, Poland; [3]Internal and Cardiology Department, Medical University of Warsaw, Warsaw, Poland; [4]Clinical Nursing Department, Medical University of Warsaw, Warsaw, Poland

There is rather a weak knowledge of the general population in Poland about the respiratory diseases, their causes, symptoms and effects. Dissemination of knowledge on these issues is one of the objective of Polish and World Spirometry Day. On October 14th, 2011 Polish Spirometry Day was held. The respiratory function tests were performed in over 250 health centres and other institutions where about 8,000 people has been investigated. In total, the organizers of the event received 4088 test results of people from 490 places from all over the Poland (both from large cities, smaller urban centres and rural areas). Results which were incomplete (e.g. missing data), uncertain or incorrect (e.g. with unusual values of spirometric parameters) were excluded from further evaluation. Final analyses encompassed the results of 2881 people. Bronchial obstruction was diagnosed (according to GOLD guidelines) when the FEV_1/FVC factor was lower than 70%. Of the sample to be analysed 1901 people were non-smokers, and 980 burdened with tobacco addiction. Generally 357 cases of bronchial obstruction (12.4% of the group) were identified, however among smokers there were 148 cases of obstruction (15.1% of this group), while among non-smokers 209 cases (11.0% of group). Of those people who have not previously been diagnosed with either asthma or chronic obstructive pulmonary disease (N=2452), spirometry tests showed obstruction among 266 individuals, representing 10.9% of this group. Although these results cannot be directly generalized to the whole population, as the study was not representative, they show that a significant proportion of people who decided to participate in research at the Spirometry Day and who declared as "healthy person" (i.e. without a diagnosis of obstruction), shows the features of obstruction. Results of the study also indicate that a potentially significant part of the community may not be conscious of their respiratory disease. An interesting observation was the result of people who have declared that they have been diagnosed with asthma or COPD, but have not yet performed spirometry test. Generally, for 1860 people it was the first pulmonary function test in their life. Of this group, 65 people declared themselves as asthmatics and 20 as suffering from COPD. This observation indicates that those who declared their pulmonary disease may have had spirometry test performed in the past, under which the disease was diagnosed, or may not actually been examined (with spirometry), but then either the statement about the prevalence of COPD or asthma was untrue, or the diagnosis was wrong. Comparison of spirometric parameters distributions of smokers and non-smokers, using for this purpose commonly used statistical tests (e.g. Wald-Wolfowitz, Kolmogorov-Smirnov, U Mann-Whitney or Kruskal-Wallis test), showed that there were observed statistically significant ($p<0.05$) differences between these groups in the pseudo-Tiffeneau factor. Percentages of predicted values for this indicator were statistically significantly lower among smokers in comparison to non-smoking persons. For the FEV_1 and FEV_1/FVC predicted values spirometric values also seems to be lower in the group of people burdened with tobacco addiction, but the differences were statistically insignificant. Statistical tests mentioned above, that were used to compare distributions of spirometric parameters predicted values depending on the place of residence have shown statistically significant differences ($p<0.05$) between groups divided according to the place of living, in particular for FEV_1 and pseudo-Tiffeneau factors. Analysis of the distributions of these parameters confirms the observation made in the percentages of people with obstruction in the different types of dwellings, indicating that the lowest percentages of predicted values of FEV_1 and FEV_1/FVC ratios are characterized by residents of small towns, and the highest by people living in non-urban areas. In conclusion it should be emphasized that the aim of Polish Spirometry Day was achieved only partially. Polish society still has very little

or no knowledge about chronic respiratory diseases and their relationship with smoking. The percentage of people addicted to smoking in the analysed group was 34%, which is similar to the percentage of smokers in the general population. Smokers had a higher proportion of persons with obstruction in comparison to non-smokers. Practically people do not associate respiratory diseases with environmental pollution. It should be however emphasized that people living in the least polluted areas of the country (rural areas), are statistically less likely to show symptoms of respiratory disease in comparison to inhabitants of other areas. Although this study was not a representative one, it may be presumed that the level of lack of knowledge about the state of health is substantial and that a significant proportion of the population may be unknowingly living with respiratory disease (including an incurable and progressive disease such as COPD). It shows clearly the importance of screening tests and the need to promote appropriate knowledge in the entire society.