

Comments on the article titled: “The burden of avoidable disease from air pollution: implications for prevention” by Jonathan Samet and Meghan Buran

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This important article presents air pollution as a global public health problem [1]. Air pollution has an undeniable negative impact on health. Fumes from cars, household heating, and coal stoves are the main sources of pollution in Poland, alongside impure coal combustion and waste releases into the atmosphere, such as particulate matter PM10 and PM2.5, nitrogen oxides, sulfur oxides, polycyclic aromatic hydrocarbons (PAHs) and carbon monoxide. It has been shown, that air pollution is one of the most common causes for visiting GP's and ER services because of respiratory and circulatory diseases [2, 3]. Air pollution also increases the intake of medicines, absence in school or work, and overall mortality in a population. Polluted air has a proven negative effect on respiratory disease [4]. Prolonged exposure may cause an augmentation of the risk of COPD, asthma, allergic rhinitis, tumors of the head and neck region, and lung cancer. Its cardiovascular and respiratory effects, which have been extensively investigated can lead to the deaths of millions of people worldwide. According to the EEA (European Environment Agency), air pollution leads to 556,000 premature deaths in Europe each year. In Poland, this number reaches almost 50,000 people annually. In addition, a significant number of people, even after short exposure to air pollution, suffer from various somatic and mental symptoms. A recent study published in “Cardiovascular Research” and conducted by a research group from Mainz, has shown that as much as 15% of deaths due to COVID-19 are related to long-term exposure to polluted air.

In order to evaluate whether people who live in an area of poor quality of air experience somatic and psy-

chiatric symptoms caused by exposure to air pollution, in 2017 we conducted an online survey of 674 people. The most common symptoms that our respondents linked to air pollution were cough, hoarseness, upper respiratory tract infections, eye irritation, dyspnea, depressed mood, and impaired concentration. People living in smaller towns (below 100,000 inhabitants) reported depressed mood significantly less frequently than those from larger cities. Nearly 80% of our respondents claimed, that exposure to air pollution has a high or moderate impact on their quality of life. In particular, it affected negatively women, people with higher education, and those aged above 24 years old. Despite its negative impact, almost 40% of respondents did not change their daily activity during the periods of highest air pollution. Just fewer than 9% of people used protective masks or air filters to reduce their exposure to air pollution. Most people indicated that the best way to improve air quality is to introduce high fines for inappropriate heating of residential buildings.

The awareness of the pathogenic influence of air pollution and the possibility to readily obtain information about its level can be significant for planning daily activities to prevent inhalation of highly polluted air. In another study conducted in 2017, we sent a questionnaire to groups and forums uniting people engaging in outdoors physical activity. Among 265 respondents, 54% were residents in the city of Wrocław. Among the respondents, 42.6% indicated that they do not change their training plan even when air pollution levels exceed acceptable values. This was despite the fact that 76.6% of them indicated that they believe that during outdoor training

they are more vulnerable to the negative impact of air pollution than people not engaging in physical activity outdoors. 36.2% of respondents indicated that they do not check the air pollution levels, but the majority of the respondents check them less than once a week or when the topic of air pollution topic is being raised by media. Only 55.5% of respondents know what do abbreviations $PM_{2.5}$ and PM_{10} stand for and 66.4% of respondents believe that Poland is amongst the countries with the highest levels of air pollution in Europe.

It is of great importance for strengthening public health to reach out to the public with clear, evidence-based information on the health effects of air pollution.

DISCLOSURE

The author reports no conflict of interest.

References

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