PULOMNARY HEALTH STATUS AMONGST BIO-FUELS DEPENDENT SUBURBAN INDIAN POPULATION

Authors

1. Agarwal Rachna
(Author for correspondence)
Asst. Research Officer
National Institute of Health & Family Welfare (NIHFW)
Munirka, New-Delhi – 110 067, India.
Email: rachna_india@yahoo.com

2. Jayaraman Girija
Professor
Center for Atmospheric Science
Indian Institute of Technology (IIT)
Haus Khaz, New Delhi – 110 016, India.
Email: jgirija@hotmail.com

Abstract

Globalization is a broad term encompassing Industrialization, Urbanization, rapidly expanding transport system, technological advancements and fast migrating population. The effects of these entire global phenomenons are being felt in terms of climate change, global warming and increasing and newly emerging diseases. In this study an effort has been made to quantitatively estimate the adverse pulmonary effects amongst sub-urban Indian population. Since a large number of pre-mature deaths have been reported in India due to air pollution, this study targets a group of population exposed to bio-fuels emissions. Bio-fuels (i.e., agricultural reside, cow dung cakes and wood) is largely used by >2billion people from the developing world to meet their energy needs. Very high amounts of pollutants are released from these fuels primarily due to partial combustion. Therefore, in this study, 74 subjects from village 'Kidoli' located on the outskirts of Delhi were tested for their lung function. Three main PFT indices: FVC, FEV_1 and FEF_{25-75} were measured with the help of spirometer. Age related comparisons were also made. The study revealed that of all the subjects tested, 35% showed reduced lung capacities. All these subjects showing reduced function belonged to the middle age (36-55 years) category. Thus, revealing that 100% of the middle aged subjects were having obstructive flow rate as reflected by reduced small airways functioning and about 75% of them had reduced lung volume.