



**Department of Pulmonology and Respiratory Medicine
Faculty of Medicine University of Indonesia - Persahabatan Hospital**

The 12th Scientific Respiratory Medicine Meeting

PIPKRA 2014

(Pertemuan Ilmiah Pulmonologi & Ilmu Kedokteran Respirasi)

**Bridging Knowledge and Skills
in Respiratory Medicine**

Borobudur Hotel, February 13th - 16th 2014

Abstract Book

The 12th Scientific Respiratory
Medicine Meeting

PIPKRA 2014

PROCEEDING BOOK

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February 13th – 16th, 2014

Venue:
BOROBUDUR HOTEL

Department of Pulmonology and Respiratory Medicine
Faculty of Medicine University of Indonesia
Persahabatan Hospital Jakarta

Naskah Lengkap
Pertemuan Ilmiah Pulmonologi dan Ilmu Kedokteran Respirasi 12
(PIPKRA 2014)

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Fakultas Kedokteran Universitas Indonesia

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Tim Ilmiah PIPKRA2014

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Risk of Lung Cancer from Household Carcinogen

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Abstract

Substances or exposures from the environment may cause cancer. Environmental factors can include a wide range of exposures, such as: lifestyle factors (nutrition, tobacco use, physical activity, etc.), naturally occurring exposures (ultraviolet light, radon gas, infectious agents, etc.), medical treatments (chemotherapy, radiation, immune system-suppressing drugs, etc.), workplace exposures, household exposures and pollution.

The International Agency for Research on Cancer (IARC) is part of the World Health Organization (WHO). Its major goal is to identify causes of cancer. The most widely used system for classifying carcinogens comes from the IARC. In the past 30 years, the IARC has evaluated the cancer-causing potential of more than 900 likely candidates, placing them into one of the following groups:

- Group 1: Carcinogenic to humans
- Group 2A: Probably carcinogenic to humans
- Group 2B: Possibly carcinogenic to humans
- Group 3: Unclassifiable as to carcinogenicity in humans
- Group 4: Probably not carcinogenic to humans

Approximately 70,000 chemicals are now in commercial production, many of which are used in household products. Many of these chemicals accumulate in the human body and cause cancer and other diseases, yet they have been inadequately tested or remain completely untested for their safety. About 600 of these chemicals are known to cause cancer. Many chemicals used in household products are volatile. That means they become gaseous at room temperature or are sprayed from an aerosol can or hand pump and thus take the form of microscopic particles that are easily inhaled. They can cause damage to the lungs or other organs as they are taken into the bloodstream.

Carcinogens do not cause cancer in every case, all the time. Substances labeled as carcinogens may have different levels of cancer-causing potential. Some may cause cancer only after prolonged, high levels of exposure. And for any particular person, the risk of developing cancer depends on many factors, including how they are exposed to a carcinogen, the length and intensity of the exposure, and the person's genetic makeup.

According to a National Academy of Sciences workshop, approximately 15 percent of the American population suffers from chemical sensitivity. Researchers have traced this increased sensitivity to the proliferation of synthetic chemicals in consumer products and furnishings. According to the EPA, indoor air pollution is one of the nation's most pressing personal health concerns. Peak concentrations of 20 toxic compounds - some linked with cancer and birth defects - were 200 to 500 times higher inside some homes than outdoors, according to a 5-year EPA study that surveyed 600 homes in six cities. Residues of more than 400 toxic chemicals - some found in household products and foods - have been identified in human blood and fat tissue. Symptoms such as runny nose, itchy eyes, a scratchy throat, headaches, fatigue, dizziness, skin rash, and respiratory infections are all common reactions to indoor air pollution. Left untreated, long-term exposure to indoor pollution can result in lung cancer, or damage to the liver, kidney and central nervous system. Young children are especially vulnerable to impaired lung function and respiratory infection.

Methylene chloride, the propellant used in many aerosol products, is carcinogenic. Some products containing methylene chloride have been pulled from the market, but the carcinogen continues to be found in many consumer products such as spray paint and stripper. Certain cleansers and many brands of cat litter contain the carcinogen crystalline silica. Some car cleaning products contain formaldehyde. Tobacco smoke is probably one of the most potent household products that contain the most carcinogens that can later be transformed to cancer. Tobacco smoke is also known as Second Hand Smoke (SHS) or Environmental Tobacco Smoke (ETS). Tobacco smoke is known to take two forms which are known as: 1. Side Stream Smoke (SSS): this is known as tobacco smoke that is generated from a lighted cigarette, pipe or cigar. 2. Main Stream Smoke (MSS): this is tobacco smoke exhaled by a smoker into the atmosphere that is inhaled by a non-smoker.

Keywords: Lung cancer, household carcinogen.