**22 July: World Brain Day 2018 – Clean Air for Brain Health**

*Global air pollution is not a problem that only affects lung health. Recent data show that airborne pollutants account for 30 percent of acute stroke cases worldwide. Cleaning up the air we breathe would help to prevent various serious and common neurological disorders, as the World Federation of Neurology aims to emphasise on World Brain Day 2018, which is devoted to highlighting the negative impact of air pollution on brain health. To mark World Brain Day, held on 22 July, the ##add your organization’s name## is joining the World Federation of Neurology to increase awareness of this important topic.*

***##City/country##, July 2018*** – Every year on 22 July, the World Federation of Neurology (WFN) stages World Brain Day. Around 120 organisations around the world participate in this awareness-raising initiative. The focus in 2018 is a topic that is growing in importance as a result of a number of recent scientific studies: the negative effects of high air pollution levels on the brain. “Clean Air for Brain Health” is this year’s theme. The ##add your organization’s name## is joining numerous organizations worldwide to support this awareness campaign.

The impact on health of environmental pollution, and air pollution in particular, is increasing all the time. Recent estimates put the annual number of deaths attributable to polluted air at 9 million worldwide. ##Add local/national figures##, inf available, quoting an expert of your organization.

“The Global Burden of Disease study, carried out by an international team using data from 188 countries, found that up to 30 percent of the global stroke burden can be traced back to pollutants in the air,” explained World Brain Day Chair Prof Mohammad Wasay from Karachi. “This was the reason behind the decision to select an aspect of environmental pollution as the theme for World Brain Day 2018,” ##add national/local expert##.

**A complex global problem**

# The connection between harmful gases and particles in the air and brain health is a worldwide problem, and also a complex one. According to Prof Jacques Reis, head of the World Federation of Neurology’s Environmental Neurology Applied Research Group: “Air pollution refers to diffuse, often invisible contamination by damaging bioaerosols containing pollen, spores, particles and toxic substances. The pollutants can stem from natural sources or may be due to human activity.”

“The problem is different in major cities compared with rural areas. Some air pollutants have a local or regional impact, but the effects of others can be international,” says ##add national/local expert##.

In May this year, the World Health Organisation (WHO) found that nine-tenths of the world’s population breathe polluted air. And three billion people use harmful fuels in their homes for cooking and/or heating. . ##Add local/national figures##, inf available, quoting an expert of your organization.

**Understanding of toxic effects constantly improving**

In recent years, scientists have uncovered significant evidence of the way in which air pollution affects the brain, and how this is damaging neurological health all over the world. As Prof Reis explains: “Pollutants enter the body through the respiratory and alimentary tracts. They cause subthreshold inflammatory responses, and reach the brain either via the blood stream or the upper respiratory tract. The resulting damage to intestinal microbiota can also have an impact on the brain.”

The list of potential effects is long: atherosclerosis, oxidative stress, inflammatory responses throughout the body, blood vessel damage, increased blood pressure, impairment of the blood-brain barrier’s protective mechanisms, and heart problems could be connected to air pollution. Possible damage to brain cells such as microglia cells and astrocytes has also been identified. At the cellular level, air pollutants interfere with mitochondria – often referred to as cells’ “powerhouses” – and genetic material like DNA. Pollutants bring about epigenetic changes and shorten telomeres, the protective caps on the ends of chromosomes. The latter is seen as a sign of cell ageing.

Little wonder, then, that air pollution is suspected of playing a part in a growing number of syndromes and neurological diseases. Initial findings suggest it could play a role in autism, attention deficit disorders in children, dementia and the development of Parkinson’s disease, although reliable data are not yet available.

**Caused by humans – but modifiable**

Decisive changes in behaviour could significantly reduce the risks posed by environmental factors that cause brain health to deteriorate. “Preventing neurological disorders is not just a concern for individuals; action needs to be taken at the societal level as well. This is particularly true of man-made environmental impacts, which mankind in turn can ultimately influence. These are important risk factors for diseases affecting the blood vessels in the brain, as well as neurodegenerative conditions,” said Prof. Wolfgang Grisold, the WFN’s Secretary General.

“This worldwide public health problem requires effective environmental and health-policy strategies aimed at reducing air pollution. It is not just a matter of lung health, but the health of the very organ that makes us humans: our brains,” ##add national/local expert##.

**Wake-up call for the international community**

Speaking about this year’s World Brain Day, WFN President Prof. William Carroll believed that there is only one possible interpretation of the available scientific data on the effects of air pollution on brain health: “Each and every one of us, every country in the world and the international community must see this as a wake-up call. Policymakers need to do more to tackle neurological disorders and diseases. This means making brain health one of the highest-level healthcare priorities and providing additional funds to address the issue.”

The annual World Brain Day takes place on 22 July and is devoted to a different topic each year. The choice of date was no coincidence: the WFN was founded on 22 July 1957.

 **Media Contact**

##add national/local media contact##