Psychological effects of the haze and pollution

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What is air pollution?

- Air pollution collectively describes the presence of a diverse and complex mixture of chemicals, particulate matter (PM), or of biological material in the ambient air which can cause harm or discomfort to humans or other living organisms.

- Sources of air pollution can be natural (e.g. volcanic eruptions) or manmade (e.g. industrial activities).
What is air pollution?

- Millions of people worldwide are chronically exposed to airborne pollutants in concentrations that are well above legal safety.

- Air pollution is a serious health problem especially in rapidly growing countries.
Exposure to ambient air pollution is a common public health concern & is associated with a growing morbidity and mortality worldwide.

During the last decades, the adverse effects of air pollution on the pulmonary and cardiovascular systems have been well established in a series of major epidemiological and observational studies.
Widespread forest fires have been a regular event in Sumatra and Kalimantan in recent years with the first serious episode occurring in 1997.

Farmers adopting the ‘slash- and-burn’ technique of clearing land for agricultural usage [6].
The Haze

- Seasonal haze that afflicts several parts of South East Asia has drawn much attention.
- Health, socioeconomic & political impacts on the and political impacts on the Association of Southeast Asian Nations (ASEAN) countries (ASEAN secretariat [5].

- Countries usually affected include Singapore, Malaysia, Brunei, Southern Thailand and Indonesia.
The Haze

- Specifically the widespread forest fires in Indonesia in June 2013 led to widespread haze to neighbouring countries.

- An early study in the medical literature reported acute physical and psychological symptoms of the general population during a haze crisis.[8]
Hazards

The burning of carbon-rich peat land sends off acrid smoke, dust and dry particles (2.5 micrometers or smaller) into the atmosphere thereby forming haze.[7]
Sensitivity to haze & air pollution

- Children, the elderly, and people with chronic lung and heart disease are more sensitive to the health effects of haze & air pollution.
- Adoption of the preventive measures from the MOH is advisable when air quality is poor.
- Individuals who develop breathing difficulties are advised to consult their doctor if they develop breathing difficulties.
- Expectant mothers may also be at risk
The haze & psychological health

- Air pollution can drain an individual’s psychological health

- It may affect self-control & has the potential to cause a range of conditions such as insomnia, feelings of anxiety & in some cases depression.

- Less is known about the psychological effects that the haze has on behaviour and performance in the workplace.
Recently air pollution has been associated with diseases of the central nervous system (CNS), including stroke, Alzheimer’s disease, Parkinson’s disease, and neurodevelopmental disorders. [1].
Besides physical symptoms, we assessed the psychological stress of a haze crisis, a temporary perturbation on the ecosystem and a period of uncertainty with hour-to-hour fluctuations of the PSI values [2].
Overview of the literature

- Findings show that the perceived dangerous PSI value, not the actual PSI value and number of physical symptoms have been associated with a negative psychological impact during the haze crisis.
- In addition the higher number of physical symptoms was associated with greater psychological stress.[3][4]
Overview of the literature

- Research shows that the perceived dangerous PSI value, not the actual PSI value & number of physical symptoms have been associated with negative psychological impact during the haze.

- A higher number of physical symptoms have been found to be associated with greater psychological stress.[3][4]
According to KC Yam (2015), the impact of air pollution can make individuals less engaged at work.

In ego depletion theory it is apparent that both the direct physiological impact of air pollution and the individual’s own perception of its severity act to deplete resources affecting self-control.
Overview of the literature

- Workers may experience little or no health effects from pollution while another in the same office may suffer badly.
- Ones individual perception & understanding of the meaning of severe pollution may vary from person to person.[9]
- Implications for coping & quality of life
Lundberg, A. (1996) stated Psychological and toxic effects of air pollution can lead to psychiatric symptoms, including anxiety and changes in mood, cognition, and behaviour.

Increased levels of some air pollutants are accompanied by an increase in psychiatric admissions and emergency calls and, in some studies, by changes in behaviour and a reduction in psychological well-being.
Overview of the literature

- Manifestations are often insidious or delayed, but they can provide a more sensitive indicator of toxic effects than cancer rates or mortality data.

- The sick building syndrome and multiple chemical sensitivity are conditions with toxicology and psychiatric aspects.
Conclusion

- Psychosocial stress can cause symptoms similar to those of organic mental disorders.

- Reactions to stress depend on cultural, individual, and situational variables.

- Imperative to understand the factors in order to be able help prevent trauma.
References


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