

## Healthy Air – The Right of Every Child

**REMESH KUMAR R**

*President, Indian Academy of Pediatrics 2022*

*drremesh2006@yahoo.com*

**E**nvironmental pollution is one of the banes of modern civilization. Today our living spaces are bombarded with various types of pollutants, which directly impact our health, happiness and general well being. Of these, air pollution is definitely the worst as it pervades every aspect of our life and is almost unavoidable. Even here, children are the ones most affected by air pollution. WHO estimates that 93% of the world's children under the age of 15 years (1.8 billion children) breathe polluted air, placing their health and development at serious risk [1]. According to a report published in *The Indian Express* last year [2], India is one of the most polluted countries in the world with an estimated 16 lakh deaths attributed to air pollution in 2019. The report further states that nearly 1.5 lakh children below the age of five died of lower respiratory infections in the same year, with more than 90% of these being infants, less than a year old [2]. As Julianne Moore, the famous actress and Artist Ambassador for Save the Children Fund, emphatically put it, "*Air pollution is terrible for our children. Every single scientist, every single doctor will tell you the same thing: air pollution damages our children's brains, their hearts, and their lungs.*"

### **WHY IS AIR POLLUTION MORE HARMFUL?**

Air and water are the two major types of pollution which directly impact human health. Of these, water pollution may be considered to be less threatening to health as we have a greater degree of control over its use and consumption. The same is not true with air pollution as the very air that we breathe cannot be controlled on a continuous basis. While many of the air pollutants such as smoke are visible and avoidable, there are many more types of pollutants such as toxic gases, organic and inorganic particulates and biological molecules carried by air which are not visible. Air pollution can occur from various sources like industrial smoke, vehicular emission, dust from construction activity and household activity. We inhale these pollutants unconsciously, thereby endangering our health. The significant risks associated with long term exposure to air pollution include frequent respiratory

infections, aggravated asthma, heart disease and stroke. There is also growing evidence that exposure to air pollution may be associated with reduced IQ scores, impaired cognition, increased risk for psychiatric disorders such as depression and detrimental perinatal health.

### **WHY ARE CHILDREN MORE AT RISK?**

It is a commonly accepted wisdom that children are the most affected by air pollution. Their exposure risk begins even before birth as the ill effects can be transmitted from the mother transplacentally and through breastfeeding. They inhale more pollutants per kilogram of body weight than do adults. Because their airways are narrower, irritation can result in proportionately greater airway obstruction.

Then there is the explorative behavior of children, which increases their chances of exposure. Children live closer to the ground and they breathe more rapidly than adults and so absorb more pollutants. Constant exposure to household smoke, such as from kitchen fire (wood and charcoal stoves), burning of incense sticks or mosquito coils, tobacco smoke combined with poor ventilation and congested living spaces can be problem areas typical to developing countries like India. Exposure to vehicular smoke during commute to school adds to these problems. All these forms of air pollution can emit harmful elements like carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogenated compounds and particulate matter (PM), which can result in chronic problems impacting respiratory and cardiovascular health.

### **AIR POLLUTION AND CHILD RIGHTS**

With air pollution, chemical exposure and other environmental risks leading to 13.7 million deaths – about 24% of mortalities worldwide – each year, the United Nations Human Rights Council found it imperative to declare access to clean, healthy, and sustainable environment as a human right. Following the Resolution, which was approved on October 8, 2021, the UNHRC called on UN member states to act aggressively and promptly towards implementing this decision. The UN Environment Program

(UNEP), UN Children's Fund (UNICEF), and UN Human Rights (OHCHR) subsequently jointly launched the Principles and Policy Guidance on Children's Rights to a Safe, Clean, Healthy and Sustainable Environment in the Association of Southeast Asian Nations (ASEAN) Region [3].

### STEP UP OUR ADVOCACY FOR MITIGATING AIR POLLUTION

The issues associated with air pollution are far too deep and all encompassing to be dealt with in one stretch. There are many more aspects to it than we can enumerate here. Our primary focus should be on fostering a healthy home and school environment, as these are two places where children spent most of their time. The following are some of the simple measures that we can actively promote in schools to negotiate air pollution and its adverse impact on children:

- Scheduling outdoor activities at school during a time of the day when air pollution and sun exposure are the lowest.
- Prohibiting the entry of vehicles including school buses inside the school campus, which minimizes the exposure to diesel and petrol exhaust fumes.
- Prohibiting the use of polluting fuels inside homes and schools for cooking.
- Planting maximum trees around school grounds to create shade and prevent ultraviolet ray exposure.
- Eliminating the use of tobacco both at home and in or

around schools.

- Schedule painting works, floor refinishing and renovation during seasons when windows can be kept open and when school is not in session.
- Forming a school health committee to ensure that class rooms and premises are safe for children.

As the professional guardians of child health, let us all work together to minimize children's exposure to air pollution. There is a lot that we can do, as individuals and through our local IAP units, to make a real difference and ensure a healthy upbringing for our children. As rightly mandated by global bodies, access to a clean environment is the right of every child and we have a bounden duty to fulfill it.

*Funding:* None; *Competing interests:* None stated.

### REFERENCES

1. World Health Organization. More than 90% of the world's children breathe toxic air every day. Accessed April 30, 2022. Available from: <https://www.who.int/news/item/29-10-2018-more-than-90-of-the-worlds-children-breathe-toxic-air-every-day#:~:text=Air%20pollution%20also%20impacts%20neurodevelopment,cardiovascular%20disease%20later%20in%20life>
2. Let the children breathe easy. Indian Express Jan 25, 2021. Accessed April 30, 2022. Available from: <https://indianexpress.com/article/opinion/columns/who-health-pollution-children-breathing-7159999/>
3. United Nations Human Rights Council. Accessed April 30, 2022. Available from: <https://www.ohchr.org/en/hr-bodies/hrc/regular-sessions/session48/res-dec-stat>