PRESIDENT'S PAGE

Child Health and the Environment

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famous quote which we often come across these days is, "We do not inherit the Earth from our ancestors, we borrow it from our children." Of late, the Earth's environment has emerged as one of the foremost concerns of humankind. Not a single day passes without a mention of issues like global warming, climate change, pollution, plastic and hydrocarbons. The cars that we drive are slated to go electric by the end of this decade. We are advised not to use plastic carry bags. Local municipal bodies educate us regarding the proper disposal of household waste. The world seems to be opening its eyes to the multitude of problems that plague our beleaguered planet. A constant messaging tool is the appeal to safeguard the environment for the sake of our future generations. So this begs the question: have we pediatricians, being the custodians of future generations, opened our eyes to the perils of environmental threats to child health? In what way does the environment impact the health of children? What can we do to reduce the adverse effects? I, herein, present an overview of the issue.

THE IMPACT OF THE ENVIRONMENT ON CHILDREN

The focus of pediatrics thus far has been on improving child mortality using different parameters like perinatal, neonatal, and Under 5. Having made good progress in these spheres, we have extended our reach via different subspecialties to address other issues too. The new domain which seeks our urgent intervention has to do with the impact of the environment on child health. While we have successfully addressed the traditional threats to children's health, the question of environmental impact on child health is a relatively new one and goes hand in hand with global threats posed by environmental issues. As a recent article [1] points out, "Climate change is affecting every person on earth, with rising temperatures and sea levels, increased water and air pollution, and extreme weather events having an impact on our health, wellbeing, and stability. Children, in particular, bear the brunt of these devastating consequences." The article [1] further asserts: "There is no child health without planetary health. The child health community must step up its efforts, both individually and collectively, to protect the environment for all children and adolescents."

According to UNICEF, an estimated 26% of deaths in children under five years old can be prevented by addressing environmental risks [2]. "Climate change and environmental degradation threaten to reverse progress on child and adolescent survival, health and well-being we have achieved over the years. Environmental hazards have been linked to a range of significant health risks for children. For example, the global rise of cancer, diabetes, neurodevelopmental disorders and asthma has accompanied a surge in air pollution, e-waste and the use of harmful chemicals in everyday products [2]."

Figures published by the United Nations [2] reveal that reducing environmental risks could prevent 1 in 4 child deaths. In 2012, 1.7 million child deaths in under five were attributable to the environment. These included 570,000 deaths from respiratory infections, 361,000 deaths from diarrhoea, 270,000 deaths from neonatal conditions, 200,000 deaths from malaria and 200,000 deaths from unintentional injuries. The World Health Organization (WHO) estimates that three million children under the age of 5 die annually from environmentally related diseases [3].

ENVIRONMENTAL PEDIATRICS

From all available indications, children are the most vulnerable segment with regard to environmental impact on health [4].

- Children are constantly growing. They breathe more air, consume more food, and drink more water than adults do, in proportion to their weight.
- Children's systems are still developing. This includes their central nervous, immune, reproductive, and digestive systems. At certain early stages of development, exposure to environmental toxicants can lead to irreversible damage.
- Children behave differently from adults, and this means there are different ways they can be exposed to environmental risks. For example, young children crawl on the ground, where they may be exposed to dust and chemicals that accumulate on floors and soils.
- Children have little control over their environment. Unlike adults, they may be both unaware of risks and unable to make choices to protect their health.

INDIAN PEDIATRICS

All these factors have resulted in environmental causes drawing the attention of Pediatrics. As a result, a new domain called 'Environmental Pediatrics' has emerged over the last decade as a new subspeciality. The aforementioned paper [4] observes that environmental exposure is among parents' top health concerns for children. It goes on to state that the study of the effects of environmental exposure on health outcomes is a developing field, and clinicians feel inadequately prepared to address these concerns. The WHO created the first international Task Force for the Protection of Children's Environmental Health in 1999. That same year, the first edition of the American Academy of Pediatrics (AAP)'s Handbook of Pediatric Environmental Health was published, gathering together available evidence in the field. Three years later, the first formal fellowships in Pediatric Environmental Health were established across the United States and the WHO held the first International Conference on Environmental Threats to the Health of Children. This led to the development of the Bangkok statement, which established priorities and commitment for action.

In 2007, the WHO teamed up with the International Pediatric Association and launched the International Pediatric Environmental Health Leadership Institute to train healthcare providers. In 2012, a group of international experts contributed to the first Textbook of Children's Environmental Health. The AAP defines environmental pediatrics as a new and still developing subspecialty of pediatrics. It is the study of how environmental exposures, genetic influences and psychosocial experiences interact with each other and the helpful or harmful effects they might have on children's health. It is the practice of anticipatory guidance for parents about exposures in their children's environment.

AAP presents the view that human beings are subject to a macro environment, which is shared by the population, and a micro environment, which is unique to each person at each point in time. The environment consists of the atmosphere, including the air we breathe, the soil and ground, bodies of water and rain, the plants and animals that share our environment, and man-made environments where we live, work, and play. It also includes a person's psychosocial situation. This holistic approach was well embraced by IAP when we initiated ECHG – the Environment and Child Health Group of Indian Academy of Pediatrics in 2007. This sub specialty Group has been working relentlessly to make the Pediatric fraternity of our country to focus much more on environmental health issues related to child health. IAP currently looks at child health from an entirely new perspective and the future of pediatrics is sure to become more broad-based than at present.

TAKING CHILDREN BACK TO NATURE

While researching on this topic, I came across something called 'Nature deficit disorder', which is an interesting new term coined by the author Richard Louv, in his book Last Child in the Woods to describe what happens to children who become disconnected from their natural world. Louv, who is a co-founder of the Children & Nature Network, argues that human beings, especially children, are spending less time outdoors than they have in the past, and that this change results in a wide range of behavioral problems. He associates this separation from nature with some of the disturbing childhood trends, such as the rise in obesity, attention disorders, and depression. This so-called disorder is not recognized in any of the medical manuals for mental disorders, and there has been no systematic research undertaken to authenticate the concept. However, some preliminary research is said to indicate that a lack of time outdoors does have negative effects on children's mental well being.

While the ideas proposed by Louv may be debatable, there is no doubt that spending more time with nature does have good therapeutic and developmental value. For children, in particular, more time spent outdoors does fulfill their deepest need for activity, experience, interaction, and experimentation. Most modern kids living in the larger cities are deprived of these simple joys of life due to being cramped in the concrete jungle and having a highly regimented life.

More work might be needed to integrate the various ideas randomly discussed above and make them into cohesive, clinically adaptable concepts. Both IAP and individual pediatricians will have to keep their eyes open for more developments in this new and very promising field.

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