

Impact Of Air Pollution on Children's Health

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Abstract: The article highlights the concern about the impact of air pollution on children's health and development process. It is said that about 90% of the world's children under the age of 15 years (1.8 billion children) breathe very rapidly than adults and for this reason absorb more pollutants from the air which is very much affect their health and development at serious risk. Tragically, many children's die because of polluted air, the reason behind is that the children spend much time generally outside the home where the level of polluted air basically from combustion sources like factory chimneys, traffic, power plants, cigarette smoking etc. is very higher. There are many straight forward ways to reduce emissions of dangerous pollutants. Article is concern for the sustainable development for the future generation and for this reason some suggestive ways acc to the experts are also included to reduce air pollution as every child should be able to breathe clean air and can able to grow and fulfil their inherent ability.

Keywords: cigarette smoking, inherent ability, air pollution, dangerous pollutants.

Introduction

Children's health is very precious for every society. Article tries to through light on the latest scientific knowledge on the links between exposure to air pollution and its total impact on children. The journey of a child begins from mother's womb. When the foetus start developing into multipul organs and changing metabolic capabilities it become more at risk to environmental toxicants and thus pregnant women breathe in polluted air and exposure to the polluted air it is more likely to give birth to a child with subsequent health problems like birth defects, growth retardation, respiratory problems, premature birth, low birth weight, cardio vascular disease in further life etc. Acc to (Calabrese EJ, 1986)¹ in his study has observed the effects of cognitive abilities and neurodevelopment problems, can also lead to asthma and cancer in children. The lungs of a child also grow even after the birth and as the lungs are in growing process, highly in active condition and breathe in high level of air and face special risk from air pollution. Beside this air pollution can act as a catalyst for obesity and diabetes in young children. Children's even have weak immune system that's why they are more vulnerable.

How air gets polluted

Our atmosphere is full of harmful gases like oxides of carbons and nitrogen which are released from the burning of the fossil fuel, firewood, smoke from factories and vehicles, volcanic eruptions, power plants, thermal nuclear plants and other things like household goods etc. Earlier there were large number of trees and forests which help in reducing harmful gases from the atmosphere and filter the air we breathe in. Increase in demand of land for urbanization and industrialization people and government has started cutting down the trees which lead to deforestation because of it there was rapid decline in the filtering capacity of trees ultimately lead to release of harmful gases in the environment.

Types of air pollution

There are three types of air pollution which cause health and environmental problems:-

Ground level ozone (O₃)

The level of ozone is very high in spring and summer and low in winters. The peak level of ozone is afternoon .Bad ozone is released when chemical reaction take place between the oxides of nitrogen obtain by power plants, cars, chemical plants and other sources .In the presence of sunlight volatile organic compounds are present which irritate the throat, eyes and nose. Prenatal exposures to O₃ can higher the risk of valve defects, pulmonary artery and aortic artery (Ritz et al)².

Nitrogen dioxide (NO₂)

NO₂ is a very dangerous and toxic gas which can be easily notice in the atmosphere with orange colour smog. Man made sources are responsible for its presence in the atmosphere like diesel vehicle, power station and heating .The high level of NO₂ can effect flare-up of asthma and can even develop symptoms like coughing and problem in breathing. Tiny practical of NO₂ get inside deep into our lungs and blood stream. These ultrafine particles carry toxic chemicals which can develop cancer. The worse condition of lungs and cancer can lead to death.

Sulphur dioxide (SO₂)

Sulphur dioxide is very irritating smell, sophisticated, traffic pungent and colourless gas. Much of the part of SO₂ comes from electric industries which burn fossil fuels and also produced by burning of sulphur contain fuels like oil and coal which is largely produce by petrol refineries and cement manufacturing industries. The adverse effect of SO₂ on health can lead to irritating in the inner lining of throat, nose and lungs can cause narrowing of airway which reduces the flow of air in lungs, can cause tightness and coughing of chest. It develops the sensitive conditions towards chest infection like asthma.

The combustion of fuels in European countries produces a variety of outdoor pollutants, particularly ozone, Sulphur dioxide, nitrogen dioxide and PM₁₀.the highly consistently studied being PM₁₀ and nitrogen dioxide (Chauhan et al.)³ . Both are produced in indoor and outdoor air from the sources such as gas stoves, fossil fuels, fires and vehicle traffic. The exposure to these pollutants is linked to respiratory disease in children and adults in the developed world. There are also so many other harmful toxic pollutants in the atmosphere which are releasing every day and which have high capacity to harm children (Etzel Ra, Balk Sj)⁴.

What can we do to protect yourself and children from air pollutions?

- Check the air quality before walk or jog, air quality should be better.
- Be the part of (BreatheLife air pollution campaign)⁵: This campaign work with the partnership of WHO, UN Environment and Climate and contributes to clean air alliances to lessen short survived climate pollutants. Its prime duty is to spread awareness and action on air pollution by policy makers.
- Should avoid busy roads while running, walking, cycling.
- While passing through a car in slow moving traffic the windows should be closed and off the car while waiting.
- Spend the quality time in green open areas of your city.
- Replace or repair your old gas gagged of your home.
- Try to move in car pools.
- Better waste management process can help the community people by reducing the waste which is burned and will help in reducing 'community air pollution'.
- Adopting the habit of reforestation.
- Strict policy for industries should be adopted related to the dispose of harmful gases .It will help to reduce the toxicity from the air.
- Use of eco friendly fuel like CNG (Compressed Natural Gas), LPG (Liquefied Petroleum Gas), bio gas etc.
- Adaptation of WHO global air quality guidelines for good health and for the safety of children's.
- Whenever the air quality worsens, use a mask.

(WHO's First Global Conference, Geneva)⁶, Conference on air pollution and health has provided great chance for the world leaders, mayors, ministers of health and environment, intergovernmental organizations and scientists were guided to act seriously for healthy lives so that million lives can be saved against air pollution. Action plan include very suggestive guideline:-

- Prime duty of health ministers to educate and guide health workers by providing necessary resources and target policy making.
- Implementation of policies to adopt WHO global air quality guidelines to all the countries for reducing air pollution and to enhance the healthy life of the children's. To adopt this, necessary measures should be taken :-
 - Government has to adopt important steps to reduce the over dependency on fossil fuels it will provide chance to take necessary inehciatives for renewable energy sources.
 - Community air pollution can be reduce by adopting better waste management process like use of advance technologies for smokeless cooking, lighting and heating work. It will improve indoor and outdoor air quality of home and community.
 - Necessary inehciatives need to be taken for minimum exposure of children's in the polluted air like industries, power plants, busy markets and centres of the city etc it should be located away from the schools and academies

Acc to the (NPCCHH Training manual2020)⁷, for any drastic change in the society, it is important to guide and counsel with knowledge to the students and young leaders of the community to stop the adverse effect of air pollution on health. It is also important to provide timely information to the children/students on the sources of air pollution so that timely necessary and relevant behaviour change can be taken into action. The IEC guidebook contain following targets:-

- Enable students and teachers to understand the importance of Information, Education and Communication (IEC) in promoting health behaviours.
- Prime duty of the teachers to guide and inform the children regarding the bad effects of air pollution on health

CONCLUSION:

As our societies are developing and the size of cities are also increasing and side by side air pollution is also increasing. We need to be aware and make aware to others too about the adverce effects of air pollution on children. Policy makers and health workers should work hard for advance our understanding on air pollution and so on the health of children. Quality and hard decisions should be taken for the sustainable development of future generation.

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