

Impact of Environment on Health: Nurse's Role

Vijayaraddi Vandali¹, Rekha .B. Biradar²

1. Associate Professor cum Vice-Principal, SND College of Nursing, Babhulgaon, Yeola, Maharashtra.

2. CHO, Devdurga Tq, Karnataka, India

Abstract: Human life without environment is not at all possible, recent years due to huge urbanization and rise in technology affecting the health in a worst manner, ultimately we are only the responsible, **Objectives** :This article focuses to create awareness regarding environmental health problems. This article focuses on the issues, information to environmental health problems including sources of toxicants. The resources for nurses to prevent, minimize, to treat adverse environmental exposures. To draw attention of NGOs and Govt. There are many report (TOI) says that 70% of Indians doesn't breathe fresh air due to air pollution and not able to get safe drinking/adequate water its due to water pollution and major cause for this is huge increase in population, fastest growing urbanization. Heavy pollution occurred such air, water, food and huge chemicals using for growing crops also the main reason to reduce life-span as well as increase the risk of developing diseases. The nurse plays a pivotal role in prevention of environmental related risk and illness by continuous touch with the community peoples. The Nurse plays a pivotal role in prevention of health problems with regard to environment, primarily should have thorough knowledge about environmental impact in health and prevent. Nurse is foremost person who will assist in screening, diagnosis and alleviating health symptoms at the all the levels of health care.

Keywords: Environment, Impact, Health, Disease & Nurse.

1 Introduction

“National surveys, such as the Third National Report on Human Exposure to Environmental Chemicals, published by the Centers for Disease Control and

Prevention (CDC), and the Draft Report on the Environment, published by the Environmental Protection Agency (EPA), have affirmed that persistent toxins in the air, water, soil, and food are also in the human bodies. Among the long list of invasive chemicals are lead, pesticides (including organ chlorine and organophosphate pesticides), methyl mercury, cotinine (a metabolite from expo-sure to environmental tobacco smoke), and organic sol-vents (CDC, 2005). There is growing concern in the scientific community about the potential health effects of these body-burdening contaminants on the health¹”.

Definitions:

1. **Environment:** The sum of the total of the elements, factors and conditions in the surroundings which may have an impact on the development, action or survival of an organism or group of organisms².
2. The circumstances, objects, or conditions by which one is surrounded³.

Health: Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity⁴.

Objectives:

- This article focuses to create awareness regarding environmental health problems.
- This article focuses on the issues, information to environmental health problems including sources of toxicants.
- The resources for nurses to prevent, minimize, to treat adverse environmental exposures.
- To draw attention of NGOs and Govt.



Fig: 01, Shows that factors of environment impact on health

Source: W.H.O.,

Factors of environment which impact on health:

- Air pollution including indoor & outdoor.
- Inadequate water, sanitation
- Chemicals & biological agents
- Radiation including UV & Ionizing
- Community noise
- Occupational hazards
- Agricultural practices including pesticide use.
- Built environments
- Climate change, global warming a horrible issue of recent years⁴.

- Encourage organic agricultural practices instead of pesticide use.
- Improve forest area and maintain ecosystem
- Stop deforestation and motivate peoples to cooperate for forest develop.
- Frequent screening and better treatment.
- Awareness campaigns for community peoples to improve their knowledge.
- Limit your exposure to toxins as much as possible on the individual level by eating organic food, avoiding places and times of heavy air pollution, and getting your water tested for dangerous metals and chemicals.

How to prevent environmental impact on health:

- Need to reduce air pollution including indoor & outdoor.
- Make utilization of water in a proper way & importance for best sanitation facilities
- Stop/decrease/minimal use of chemicals & biological agents
- Prevent radiation including UV & Ionizing
- Decrease the community noise by certain policy implementation by Govt
- Prioritize occupational care for its hazards

2 Review of Literature

Neufer L conducted a study on the role of the community health nurse in environmental health. Chemical contamination in the environment is affecting public health in increasing numbers of communities across the country. Although historically and theoretically well within the realm of nursing, methods for assessing and diagnosing threats to community environmental health are not being included in community health nurses' training. A

community's environmental health is assessed by retrieving information from federal, state, and local sources. Developing the diagnosis involves four steps: identifying a community aggregate at highest risk of exposure, determining the potential or actual health response, citing related host and environmental factors, and correlating any existing epidemiologic data that may substantiate the nursing diagnosis. To illustrate these concepts, a systematic environmental health assessment was conducted for Douglas, Arizona. The results indicated elevated lead levels in residential soils and led to the community diagnosis, potential for injury: children in Douglas are at risk of developing adverse neurobehavioral health effects, and pregnant women in Douglas are at risk of developing adverse reproductive health effects related to several environmental and host factors, as evidenced by average blood lead level, in children exceeding the Centers for Disease Control recommended level of 10 micrograms/dl⁷.

3 Physical Hazards, and Their Adverse Health Effects

- The most concerning physical hazards include those relating to health effects of electromagnetic radiation and ionizing radiation, noise and other physical hazards.
- Electromagnetic radiation ranges from low frequency, relatively low energy, radiation such as radio and microwaves through to infra-red, visible light, ultraviolet, X-rays and gamma rays.
- Exposure to ultraviolet (UV) radiation carries a increased risk of skin cancer such as melanoma, and of cataracts which are to an extent exposure related.

Radioactivity is associated with an exposure dependent risk of some cancers notably leukemia.

Ionizing radiation from the nuclear industry and from fallout from detonations contributes less than 1% of the annual average dose to inhabitants of the U.K.⁵.

Chemical Hazards, and their Adverse Health Effects

If one includes tobacco smoke as an environmental hazard then it probably represents the single biggest known airborne chemical risk to health, whether measured in terms of death rates or ill-health (from lung

cancer, other lung disease such as chronic bronchitis and emphysema, and disease of the heart, especially, and of blood vessels and other parts of the body).

General airborne pollution arises from a variety of causes but can usefully be subdivided into pollution from combustion.

Combustion of coal and other solid fuels can produce smoke and sulphur dioxide besides other agents such as those also produced by:

Combustion of liquid petroleum products which can generate carbon monoxide, oxides of nitrogen and other agents.

The tens of thousands of deaths have occurred from acute pollution episodes (e.g. the smog's in large cities in the early 1950s). Nowadays some people e.g. asthmatics can be adversely affected by excursions in levels of urban air pollution in some major cities.

Large scale industrial releases with serious acute effects are fortunately rare but you might recollect some events such as in Bhopal (India).

Water can be an important source of chemical hazards. It can leach lead from pipes especially if the water is soft. Chlorination of water has probably saved millions of lives .

Biological Hazards, and their Adverse Health Effects

These generally fall into two categories:

- Those which produce adverse health effects through infection and
- Those which produce adverse effects in non-infective (allergic) ways.

As regards microbiological hazards in water, substantial improvements in the health of the population have resulted historically from the supply of drinking water free from disease causing organisms such as cholera⁹.

The "clinical" waste/ bio-medical waste is not merely an occupational hazard of health care workers but is becoming an increasingly more risk.

Many allergens such as grass pollen grains, or fecal material from house dust mites may cause attacks of asthma or "hay fever" (allergic rhinitis)⁵.

The Healthy People 2020 Environmental Health objectives focus on 6 themes, each of which highlights an element of environmental health:

1. Outdoor air quality
2. Surface and ground water quality
3. Toxic substances and hazardous wastes
4. Homes and communities
5. Infrastructure and surveillance
6. Global environmental health⁶.

Nurse's role in prevention of health problems related to environment:

- Nurse plays a pivotal role in prevention of health problems with regard to environment
- Nurse primarily should thorough knowledge about environmental impact in health.
- Nurse is foremost person who will assist in screening, diagnosis and alleviating health symptoms at the earliest.
- Especially community health nurse is having direct and frequent contact with community peoples so it enables to understand and solve the health problems related to impact of environment.
- Industrial nurse also take part in solve the health problems.
- Foremost thing is to understand the particular impact of environment on the health and plan for to solve it.
- Nurse must provide health education to the community peoples such as, safe drinking water, sanitation, stop using harmful chemicals in food, hoe to prevent air and water pollution.
- To know statistical information regarding environmental impact on health in the particular geographical areas.
- Submit the report to the higher authority regarding the data collected during survey in particular area with related to environmental hazards/pollution/disease rate.
- Plan frequent health awareness programmes for community peoples in order to promote & establish healthy environment.
- Nurses always focus on water borne and air borne disease incidence and its measures to prevent.
- Educate the villagers regarding proper sanitation.
- Nurse also plays role in vaccination for vaccine preventable disease in community.
- Nurse must maintain better communication with the community peoples to smoothly implement any programmes.

- Maintain proper documentation.

4 Conclusion

The responsibility to maintain better environment should have everyone, we have to understand the consequences before destroy environment. Meanwhile we have to be prepared for futuristic health consequences such as resource for advance screening facility and technology/treatment. From the Govt end the policy required to prevent destruction of environment as much as possible.

Finally, to keep things in concern to the issue, we should not forgot, that as a species we are living because of the influence of the environment on our evolution. Problems to health arise at two levels: At the level of the individual, the environmental influences which slowly 'shape' the species may in some respect or another cause harm to some members of the species -that is how a species evolves.

Today we are in the edge of facing huge consequences of health due to destruction of environment because heavy and fastest urbanization in all the developed and underdeveloped countries. So it's time to act immediately on the cause so that the future generation could have not suffered much and if we do so, present we can lead better lifestyle.

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