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Environmental Pollution - Does Everyone Knows about it!

Sunil Kumar Dular*, Neetu Lobana, Deepa Mukherjee, Khiumajuliu Abonmai
Department of Community Health Nursing, SGT University, Gurugram (Haryana) - 122505, India.
*skdular@sgtuniversity.org

ABSTRACT

In the modern age, pollution emerged as a result of the large growth in the use of chemical industries, as well as the use of radioactive and nuclear materials in international conflicts, all of which have had a significant impact on the environment. Humans are frequently affected negatively by environmental pollution, which can lead to respiratory issues such as allergies, asthma, eye and nose irritation, acute bronchitis, and bronchiolitis. Because of its expanding sources of pollution around the globe, which are seriously harming humans, animals, agricultural productivity, and other aspects of life, the majority of cultures are daily exposed to an increased health risk. The contribution of human species towards environmental pollution is remarkable. The everyday use of motor vehicles, deforestation to compensate growing population habitant, use of mobile phone, use of loud speakers all some or other way does contribute towards environmental pollution. The increasing health concerns are the key triggering factors in making people conscious about their activities which may directly or indirectly contributes towards environmental pollution. Change in human behavior is notable and the government initiatives are also playing a major role in spreading awareness related to environmental pollution. Once every individual takes responsibility in taking care of their own environment the impact on global warming will be significantly reflective.

Key words: *Pollution, Environment, Health, Diseases, Respiratory issues*

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INTRODUCTION

The environment is everything around us and the quality of our life depends heavily on the quality of our environment. Environmental pollution is one the biggest problem the world faces today. It is an issue that troubles and economic, physical of our lives. The contamination of environment is also being linked to some of the disease that are currently. The effects of environmental pollutants on human health were cumulative. Respiratory issues like allergies, asthma, eye and nose irritation and bronchial infections can all be caused by air pollution. Diarrhea, nausea, and other gastrointestinal problems can be brought on by water contamination. Noise pollution can impair hearing and has negative effects on both physical and mental health. Hazardous chemicals, metals, and pesticides that are harmful to human health may be present in polluted areas. Cancer, lung problems, skin conditions, and birth deformities are a few potential effects of land pollution. The use of natural materials at very high levels or the introduction of synthetic compounds into the environment clearly has an adverse effect on the global ecosystem [1].

Environmental pollution has been found to play a significant role in the development and spread of tumors, among other long-term issues and diseases. In addition to liver infections, diarrhea, and various hormonal abnormalities, exposure to some pesticide-contaminated processed foods and agricultural commodities can also result in these symptoms [2]. Nearly half of the world's population lives in metropolitan areas that are congested, frequently have poor sanitation, and are vulnerable to measles and flu epidemics. 80 percent of all infectious diseases are caused by water-borne infections, which affect 1.2 billion people. Between 1.2 million and 2.7 million people per year are killed by malaria-carrying mosquitoes because of increased water pollution, and 3 million people per year are killed by air pollution [3]. Each year, over 5 million people die as a result of unhygienic living circumstances, with children making up more than half of these fatalities. Three million people every year are killed by air pollution from smoke and different pollutants. Many chemicals and pathogens found in soil can be transferred to people directly or through food and water. In addition to more soil being blown around the planet, increased soil erosion also leads to the spread of toxic substances and disease-causing microbes [4]. Worldwide, environmental pollution is a serious health issue[5].

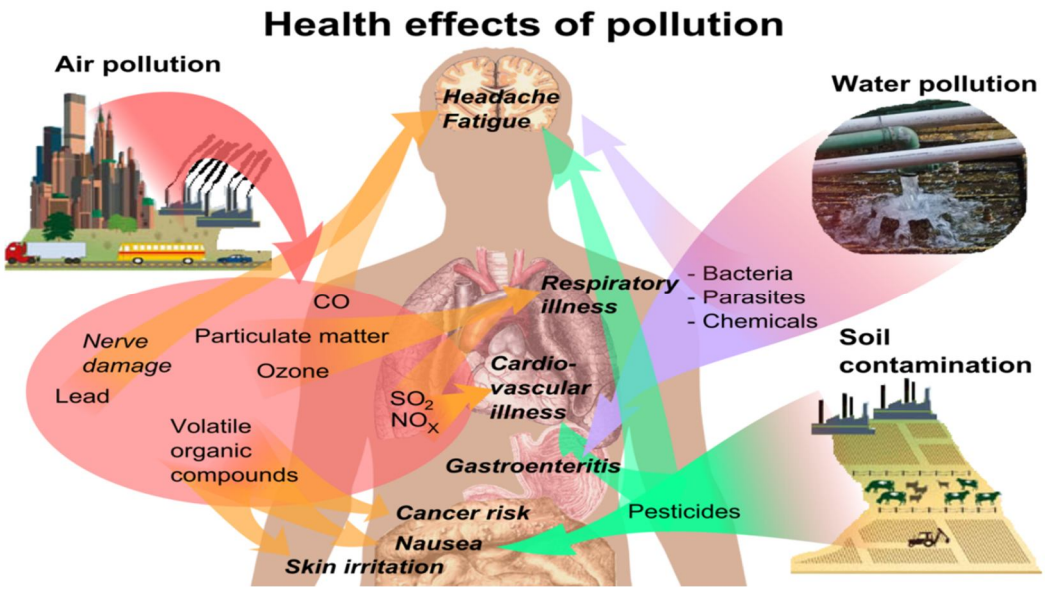

Fig 1: Effects of pollution on different organ of health/ human body [1]

TYPES OF ENVIRONMENTAL POLLUTANT

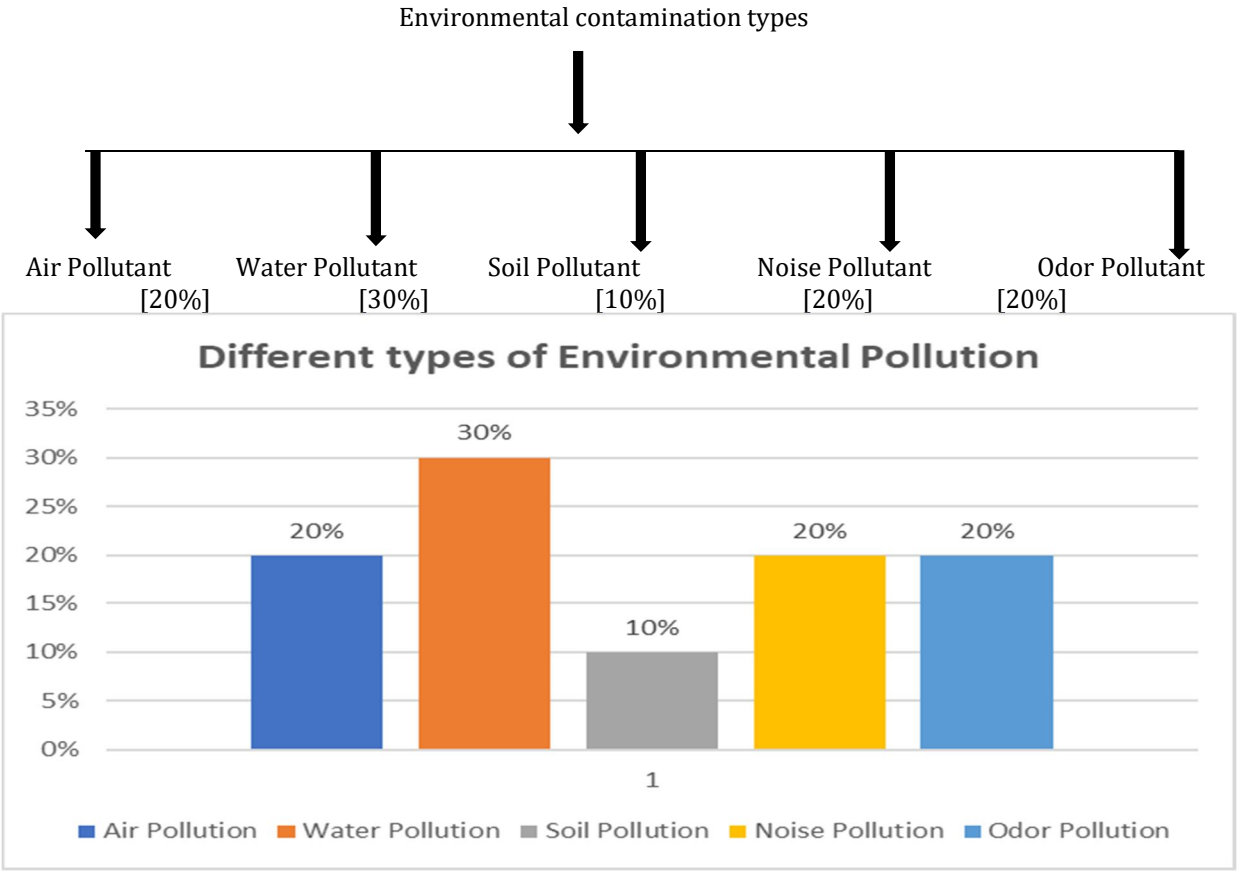

Fig.2- Different Types of environmental Pollution (Jindal, Kumar 2020)

AIR POLLUTION

An important component of our health and well-being is the air we breathe. Unfortunately, air pollution has been a problem since the 1960s, especially in wealthy nations. Even well-known, densely populated nations and cities struggle with air pollution. Toxic air may contain one or even more harmful compounds, pollutants, or toxins that endanger people's health. The main pollutants in the air we breathe include particulates, mercury, ground-level ozone, toxic metals, sulfur dioxide (SO2), methane, CO2, and NO2[6]. Air

pollution levels are getting higher due to urban population expansion, increased industry, and rising energy and automobile demand. Other elements, he continued, such as insufficient environmental legislation, inefficient production technology, overcrowded roadways, and old and poorly maintained automobiles also contribute to the issue. He continued by saying that ambient air pollution is brought on by both natural and man-made factors that are harmful to human health and cause death. Burning of solid fuels for cooking, heating, household cleaners, the pesticide industry, cars, and power generation; insufficient environmental regulation; production technology that is less efficient; clogged highways; and old and poorly maintained vehicles Incinerators, waste disposal facilities, woodland fires, and agricultural fires are some of the natural sources. Human Health Effects of Air Pollution: Global warming is brought on by air pollution [7], which is brought on by the smoke from industrial wastes and other visible and invisible elements that humans make and release into the atmosphere. One of the most dangerous airborne environmental contaminants is carbon dioxide. In addition to the methane produced by cattle and swamps, the usage of chlorofluorocarbons (CFCs), which were once utilized as fuel for rocket fuels and refrigeration, has been outlawed because of their harmful effects on the ozone layer. These gases and substances can significantly alter the environment, speed up the production of smog and acid rain, and exacerbate some human illnesses such as upper respiratory tract infections, allergies, and nausea [8]. According to studies, 90% of Americans consistently breathe air that is highly contaminated. Every year, air pollution causes the deaths of around 7 million people globally. It contributes to stroke and results in 1.4 million stroke-related deaths annually. Along with its connection to cancer and lung issues, which both result in death, air pollution also plays a role in heart disease, which accounts for 25% of heart disease cases and causes 2.4 million deaths annually. per year, 1.8 million individuals[8].

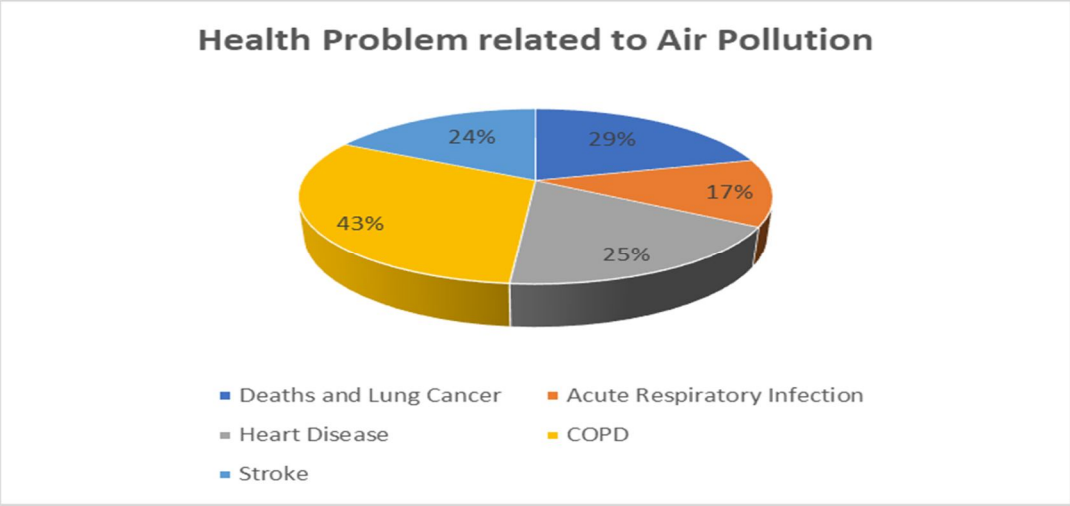

Fig.3: Health problem related to Air pollution [6]

WATER POLLUTION

Drinking water is crucial to maintaining our health and wellbeing. Unfortunately, contaminated water and air can be found anywhere. According to the WHO, Nearly one among the worldwide people, or 1.1 million people in the world, lack access to potable water, and half a billion people lack even the most basic sanitation. Water that has been contaminated by agriculture or households and that has caused harm to human health or the environment is referred to as polluted water. The condition and quality of soils and vegetation are impacted by this water contamination. Some effects of water contamination are noticeable right once, while others take months or years to manifest [9]. According to estimates, parts of all continents and Over fifty nations worldwide, spanning a surface area of Twenty million hectares, are supplied with unclean water that has either not been treated at all or only partially. Which endangers human health, kills aquatic life, and disrupts the growth of various crops. Water pollution is a broad and international issue since it affects our seas, lakes, rivers, and drinking water. In fact, it is claimed to be the greatest cause of death for humans worldwide. Due to industrialization and population growth, the drains in the current situation convey industrial and municipal effluents, which then send contaminated water to canals and rivers. Environmental risks from industrial and municipal wastes include those to drinking water, aquatic life, and irrigation for humans [10].

The drainage water also has biological contaminations and copper. Furthermore contaminating groundwater, when this toxic water has been used to irrigate crops, it also affected our food.Rising rainforest, resource depletion, food shortage, erosion, soil contamination, access to clean drinking water,

pollutants, and sanitation are issues in rural areas while urban congestion, poor air, water, and sewage treatment are issues in many cities.

The Impact of Water Pollution on Human Health: Typhoid, cholera, and giardiasis are just a few of the illnesses that are brought on by water pollution. Other conditions and issues like hormone difficulties, cancer, and brain dysfunction are also brought on by mineral contamination of water [11].

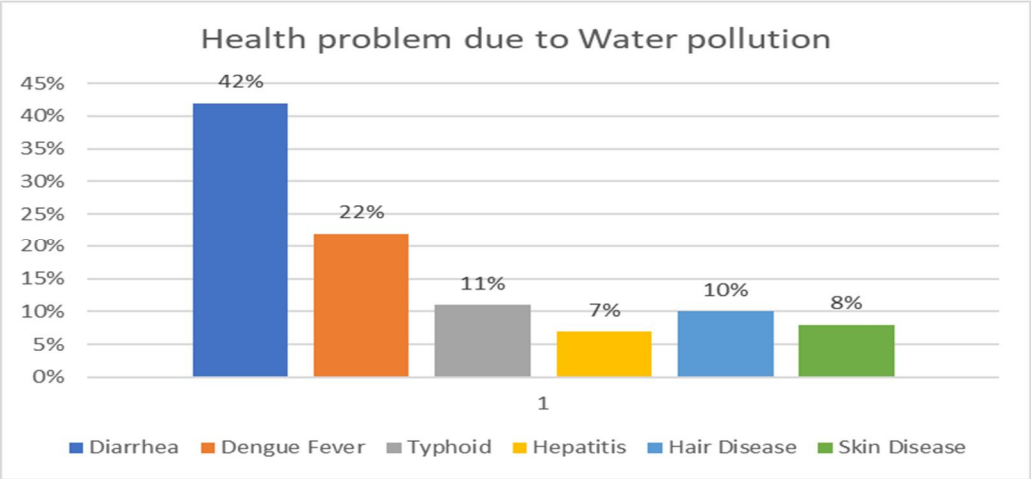

Fig.4- Health problem due to water pollution (Ahmed, Shafique 2019).

LAND/SOIL POLLUTION

The incorrect handling of garbage is one of the main causes of environmental damage [12]. Land contamination is among the primary ecological disasters that the globe is now suffering [15]. Heavy metal companies have generated trash that is carelessly dumped in landfills. The aluminum industry [13], chemical industries, lignite-based power stations, and open-pit mining are some of the worst causes of pollution. Heavy metals were included in a significant amount of the solid toxic waste that is discarded in open areas without prior treatment. How Soil Pollution Affects Human Health: Food becomes contaminated as a result of soil pollution, endangering human life and health. Land contamination may have a direct or indirect impact on people. The risks to human health from this exposure are very high. By ingesting infected plants or animals or inhaling evaporating soil toxins, humans are exposed to contaminated soil. More than 200 diseases have been linked to eating tainted food, according to studies. People who live close to the contaminated property are also at risk for a variety of harmful side effects, including malignancies, liver damage, reproductive problems, and other long-term illnesses like headaches, nausea, and skin issues. For instance, high levels of some metals, like mercury, in the soil can harm the kidneys or the liver of adults as well as create brain and neurological system disorders in children. Leukemia and other malignancies are also caused by other pollutants, such as benzene [14].

SOUND POLLUTANT

The development of noise that has different consequences on animals or human activity, which are mostly somewhat harmful, is known as noise pollution, sometimes known as ambient noises or sound pollution.Machines, transportation, and propagation systems are the main global sources of outdoor noise. The poor urban design may result in noise pollution or noise disintegration, and adjacent industrial and residential buildings may amplify noise in residential neighborhoods. Loud music, vehicles (cars, trains, planes, etc.), lawn-care equipment, construction, electricity generators, wind turbines, explosions, and people are a few of the main sources of noise in residential neighborhoods. Health and behavior are both impacted by noise pollution. Noise can harm one's physiological well-being. Numerous health issues, such as heart problems, high blood pressure, high levels of stress, tinnitus, hearing loss, irregular sleep patterns, and other detrimental and upsetting effects are all linked to noise pollution. In a review of the literature published in 2019, it was shown that noise pollution was linked to a quicker deterioration in cognitive function [15].

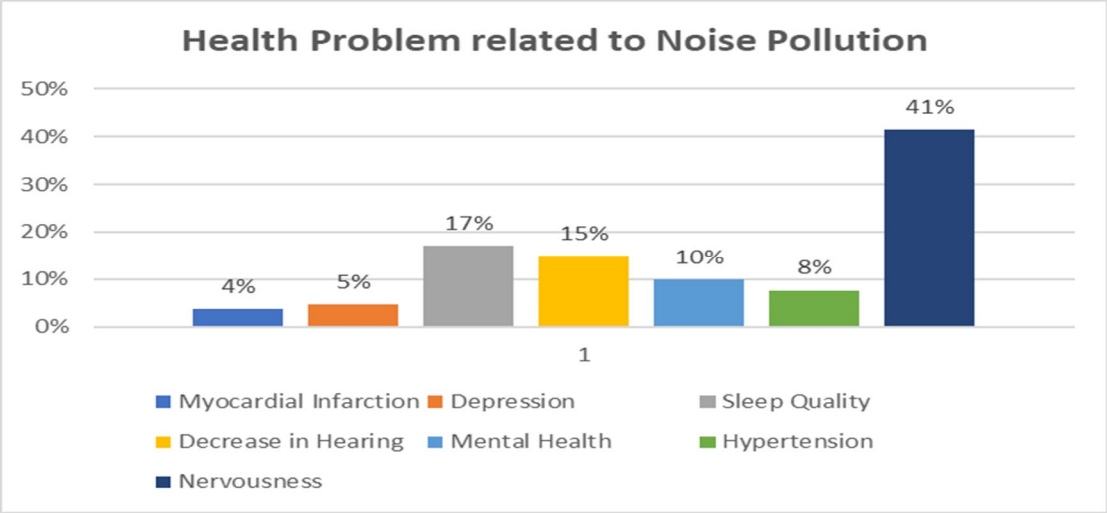

Fig.5- Health problem due to Noise pollution [22]

DISCUSSION

There have been numerous studies that have concluded that population health has an impact. Poonam conducted a study to look at environmental awareness among Rohtak city's secondary school pupils. Four schools, two public and two private, were chosen at random. 200 students in all, 100 male students and 100 female students. Praveen Kumar Jha evaluated the students using the Environmental Awareness Ability Measure (EAAM). The findings indicate that female student have greater environmental awareness than male students [16]. By Paramjeet Kaur studied to look at environmental awareness among senior secondary school students in rural and urban areas of the districts of Ludhiana. In the study, there was only one variable: environmental awareness. Environmental Awareness Ability Measures was a study tool. The statistics were gathered from a sample size of 200 senior high school students from Ludhiana District (A hundred male and a Hundred female), with 100 coming from urban regions and 100 from rural ones. Descriptive statistics including Mean, Median, Mode, SD, and t-ratio were used to analyze the data. Male and female senior secondary school pupils were shown to differ significantly on the variable of environmental awareness, according to analysis**.** This article's main goal is to examine how well 10+2 science and art students understand the environment. The sample was chosen using a random sampling methodology by the investigator using the normative survey approach.100 10+2 students were chosen as samples, with 50% of the students being male and 50% of the students being female. Data were gathered using the environment awareness ability scale created by Dr. Praveen Kumar Jha. This scale has 51 items with categories for agreeing and disagree responses, comprising 41 positives and 8 negative phrases. The findings indicate that there is a large gap in 10+2 students' environmental awareness skills between urban and rural areas. Students in metropolitan areas are more conscious of environmental contamination [17]. Everything in our immediate surroundings has an impact on our environment, and this has a significant impact on how well we live. One of the largest issues facing the globe today is environmental degradation. It is a problem that affects our lives in both the physical and economic senses. Some of the present ailments are also related to environmental contaminants. Conveniently, a sample of 100 persons was chosen, with 50 coming from the rural and 50 from the metropolitan areas. The research design used was non-experimental. The information was gathered utilizing a semi-structured questionnaire and an interview schedule. Result Compared to rural areas, these metropolitan areas are more knowledgeable about environmental contamination. People are more conscious of general pollution, air pollution, and soil contamination[4]**.** The survey method was used in this study to gather the necessary data. The original data was gathered through questionnaires that were given to different respondents in Western India, including those from Uttarakhand, Uttar Pradesh, Himachal Pradesh, Delhi/NCR, and Haryana, Punjab, and Rajasthan. For the purpose of conducting the poll, people connected to the business world, the legal and judicial systems, non-governmental organizations, social service providers, and academic institutions have been chosen. The secondary data was gathered from numerous published papers that were made available locally or globally. Portals for several environmental regulating authorities are also included. The correlation coefficients and chi-square values have been explored using the necessary statistical methods. Analysis of Data .There are 100 samples in all in this. Men make up 84% of all respondents, while women make up 16%. Of the 84 percent of the men, 38 percent are knowledgeable about the Water Prevention of pollutants. Act of 1974, while another 62 percent are not. In comparison to the 75% of females who are

unaware of a 1974 Groundwater Prevention and Control of Pollutants. Act, women make up 16% of the population. Act of 1977 forbids waterway pollution Men make up 84% of all responses, while women make up only 16%. Out of 84 percent of males, 19 percent are familiar with the 1977 Water Prevention and Management of Pollution Cess Act, while 81 percent are not. The 16% of ladies have no idea what the Water Preservation and Protection of Environment Act .

(Act 1981 for the Prevention and Control of Air Pollution) Men make up 84% of all responses, while women make up only 16%. The Wind Protection and Remediation of Contaminated Act of 1981 are known by 31% of the 84 %, but not by 69 percent of them. The Wind Prevention and Management of Pollution Act is known by 25% of the 16% of females, but not by 75%.

(Regulations from 1982 on Air Pollution Prevention and Control) 16 percent of the respondents were female, leaving 84 percent of the total replies to be men. Of the 84 percent of males, just 21 percent are knowledgeable of the Air Control and Prevention of Pollution Rules of 1982, while the remaining 79 percent are not. 25 percent of females, who make up 16 percent of the population, are aware of the 1982 Air Prevention and Management of Pollution Rules. Although 75% of women are unaware of the 1986 Environment Protection Act 16 percent of the respondents were female, with 84 percent of the total interviewees being men. Out of 84 percent of males, 21 percent of people are aware of the Environment Protection Act of 1986, while the remaining 79 percent are not. No one knows about the Environment Protection Act of 1986 among the 16 percent of females. (1948 Factory Act) 16 percent of the respondents were female, leaving 84 percent of the total interviewees to be men. 5 percent of the 84 percent of males are aware of the Factories Act of 1948, while the other 95 percent are unaware of it. 25% of females, who make up 16% of the population, are knowledgeable of the Industrial Disputes act of 1948, compared to 75% of females who are not.(1995 National Environment Justice Act) 16 percent of the respondents were female, with 84 percent of the total responses being men. 12 percent of males, who make up 84 percent of the population, are aware of the National Environment Arbitration Act of 1995, while the other 88 percent are not. 13 percent of the 16 percent of females who are in the population are aware of the National Environment Arbitration Act of 1995, whereas 87 percent are not.The Indian government has previously implemented a number of steps to prevent and manage air pollution in the nation. The government must also create legislation to curb the rising levels of air pollution and set emission limits. Vehicles older than 15 years are already prohibited from operating on Delhi's roads by the government. Additionally, measures have been done to decrease the number of diesel-powered vehicles on Delhi's roads. Other actions taken to improve traffic flow include the construction of flyovers and subways, the beginnings of a Rail line, the use of CNG in heavy trucks (including such bus services, taxi cabs, and auto-rickshaws), the step of extremely old trucks and buses, and the provision of "Pollution Under Regulation" certificates with three-month applicability. It appears that environmental pollution is a global problem, and the world community will continue to experience the worst effects. Effective hazard response is strongly influenced by how people view the problem, and pollution management initiatives evolve as an international fixed and variable costs effort that depends on participation. As a pollution prevention technique, the area is poor in education, research, and lobbying. Environmental auditing is currently optional in all economic sectors, but future laws may make it so. There is still time to use technology and information to make decisions about the environment's health. To lessen the harmful impacts of air pollution on human health, policymakers in developing nations must create programs, establish standards, and take action. Any successful firm or nation must have healthy people as its key resource. The available expertise from different settings must be carefully adapted for these efforts to benefit society, taking into account the variations in pollutant mixes, concentration levels, exposure patterns, and numerous underlying demographic characteristics.

In India, noise pollution is a serious issue. Although India's government has laws and regulations prohibiting loudspeakers and fireworks, enforcement is rather slack. Since 2003, the non-governmental organization Awaaz Foundation in India has been fighting to reduce noise pollution from a variety of sources through advocacy, public interest litigation, awareness campaigns, and educational programs. Rural communities are nevertheless impacted by the stricter rules and enhanced enforcement that are currently being used in urban areas. After 10 o'clock in the evening, music on loudspeakers was prohibited by the Supreme Court of India. The National Green Tribunal ordered Delhi's government officials to strictly enforce the laws against noise pollution in 2015, claiming that noise is more than simply an annoyance and can actually cause major psychological stress. However, the law's execution continues to be subpar. Soil contamination India will start banning single-use plastics on July 1 along with the burning of leaves, biomass, and municipal solid trash. In addition, the government will give farmers financial assistance so they can manage agricultural residue instead of burning it [18].

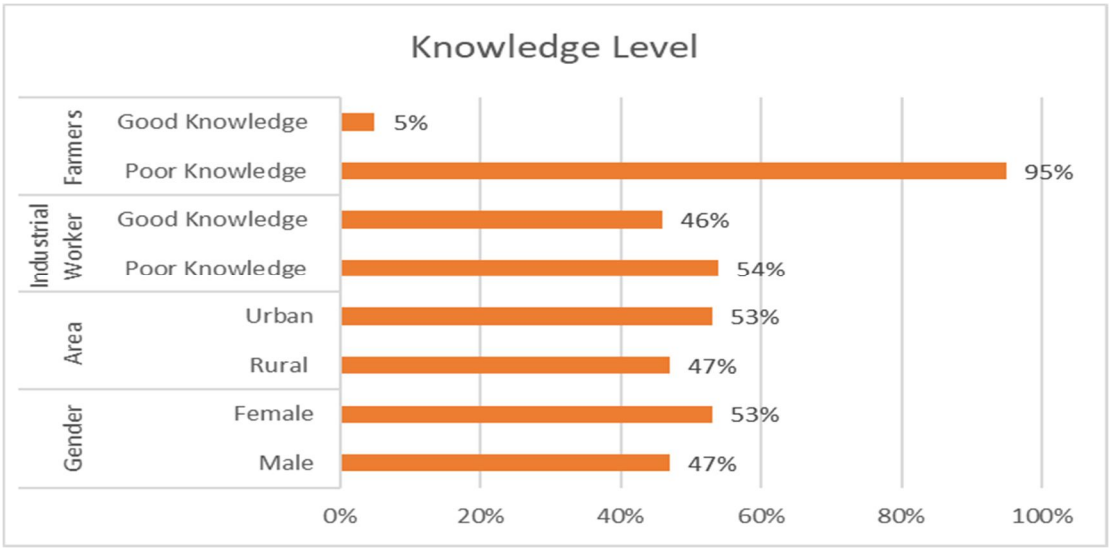

Fig.6- Graphical representation of different studies in terms of knowledge [23]

CONCLUSION

More than 50% of the population in India does not have access to formal education, which means that only formal education is adequate to raise environmental awareness among the general public. Efforts should be made to reach out to all illiterate youth and adults, boys and girls, and a focus should be placed on environmental issues with local and regional significance The growth of environmental education among the general public can be successfully accomplished through the use of mass media, including radio, television, newspapers, magazines, feature films, and documentaries. Although formal and informal education is not generally available in isolated and rural places, individuals can learn about the environment and become more interested in it by tuning in to compelling environmental programs on TV and radio. This goal can also be achieved by the broadcasting and broadcast of numerous advertisements, such as those about the deforestation catastrophe and the preservation of forests, trees, and plantations, as well as the causes and solutions to various forms of pollution. Thus, only environmental education can raise instructors', students', and the general public's knowledge of the environment.

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