

AWARENESS OF THE HEALTH IMPLICATION OF AIR POLLUTION AMONG
STUDENTS IN UNIVERSITY OF BENIN
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Abstract

Air pollution is seen as a major threat to human health. This study examined the awareness of undergraduate students of the health implication of air pollution on the Undergraduate students of the University of Benin. A descriptive survey research design was used and the population for the study was 5705, systematic and simple random sampling techniques were used and 222 respondents were drawn as a sample for this study. The instrument used for this study was a self-structured questionnaire titled Awareness of the Health Implications of Air Pollution, making up of two sections. The questionnaire was validated by three experts in the Department of Health, Safety and Environmental Education. A split half method was used to check the reliability of the instrument. A Cronbach alpha correlation coefficient value of 0.82 was obtained. The data collected were analyzed using frequency and percentage score. From the findings, it was concluded that the respondents were aware that air pollution destroys the nerves in the respiratory system, causes of lung cancer, heart and lung diseases are also caused by air pollution amongst others. In line with the conclusion of the study, it was therefore recommended that Government should enact laws that will checkmate the importation of old vehicle in the country, industries (oil companies) that pollute the air should be heavily fined and sanction.

Keywords: Air pollution , environment , environmental education

Introduction

Environment is the totality of the places and surrounding in which we live, work (Akinbode, 2002). In reality, it is the totality of the physical and biological surrounding in which man's life and work are conducted or where animals and plant species are sustained (Azubuike, 2010). The environment has been recognized as an important contributor to the attainment of good health or ill health.

According to Segilola (2002) environmental degradation is defined as the reduction in quality of a local ecosystem or the biosphere as a whole due to human

activities. Environmental degradation occurs when natural resources are being consumed faster than nature can replenish them or through man mismanagement of resources. However, Engelking (2009) considers pollution as contamination of the earth's environment with materials that interfere with human health, the quality of life or the natural functioning of the ecosystems (living organisms and their physical surroundings). Pollution is the introduction of any substance or stressor in such quantity and characteristics for such duration that a deleterious effect is produced on the biota in terms of their viability, relative abundance, health, mortality and so on.

Air pollution is the presence in the outdoor atmosphere of one or more contaminants such as dust, fumes, gas, mist, odour, smoke or vapour in such quantities, characteristics and duration as to make them actually harmful or potentially injurious to human, plant or animal life or property or which unreasonably interferes with the comfortable enjoyment of life and property.

World Bank Report (2003) recognized air pollution as a major threat to human health. The United Nations Environment Programme has estimated that globally 1.1 billion people breathe unhealthy air (UNEP, 2002). It was found that long-term repeated exposures to air pollution increases the cumulative risk of chronic pulmonary and cardiovascular disease and even death. Besides, rapidly increasing industrialization, urbanization, population growth and demand for transportation along with meteorological conditions influences air pollution. The WHO estimated that urban air pollution is responsible for approximately 800,000 deaths and 4.6 billion lost life years each year around the globe (WHO, 2002).

Statement of the Problem

Despite the impact of air pollution to psychological, emotional, economic and physical welling of an individual or a nation as a whole, people still go about polluting the air through their actions (indiscriminate waste disposal, vehicle emission and industrial discharge). This is because they are either unaware of the implication of air pollution to their health and the environment or the situation or conditions in which they find themselves make them to do so. Hence, this study was design to examine the awareness of undergraduate students on the health implication of air pollution.

Research Questions

The following research questions were raised to guide the study:

1. What is the awareness of the students to the health implications of air pollution?
2. What are the measures put in place to curb air pollution?

Methodology

This study employed the descriptive survey design. Descriptive survey was used to describe characteristics of a population being studied. The population of this study comprised all the undergraduate students in the Faculty of Education of the

University of Benin during the 2017/2018 academic session with the total population of five thousand seven hundred and five. The researchers adopted two sampling techniques. The systematic sampling technique was first used to select one and every second department in the faculty of education. Hence four departments were selected from the eight departments in the faculty for the study. Then a simple random sampling technique by balloting was used to select 10% of the students from each of the four departments selected. The sample size remove for the study was therefore two hundred and twenty two students. A self-constructed structured questionnaire titled “awareness of the health implication of air pollution” was the instrument used for the collection of data and it was constructed after meticulously studying the related literature of the study. In order to establish the content and face validity of the instrument for the study, the researcher presented the instrument to three experts in the Department of Health, Safety and Environmental Education, after which their suggestions, corrections and contributions were effected in the final draft of the instrument so as to ensure that the instrument measures what it set to measure. To test the reliability, the researcher used split half method. The test was administered to twenty (20) students outside the real population but similar to the real population. The responses collected was splited into two halves that is the even numbers and the odd numbers after which the result was correlated using Cronbach alpha statistics to obtain the reliability coefficient which was 0.82. The instrument was administered by the researcher and the research assistant, and data was collected at the spot to ensure high rate of return. However out of the 222 questionnaires distributed only 200 were properly filled and retrieved. Thus, return rate of 90.01%. The descriptive statistic of frequency count and percentages were used to analyse the data.

Results

Research Question One: What is the awareness of the students to the health implication of air pollution?

Table one: Frequency and percentage on the awareness of the students to the health implication of air pollution

Statement	Yes		No	
	F	%	F	%
Air pollution destroy the nerves in the respiratory system	162	81.0	38	19.0
Air pollution is one of the leading causes of lung cancer	142	71.0	58	29.0
Respiratory tract diseases are caused by air pollution	132	66.0	68	34.0
Heart and lung diseases are sometimes caused by air pollution	116	58.0	84	42.0
Air pollution lead to cardio-respiratory mortalities mostly in children and aged	104	52.0	96	48.0
Air pollution is also the leading cause of death among children and aged	114	57.0	86	43.0

Table one shows the responses of the respondents based on students' awareness of the health implication of air pollution. From the sampled respondents, 162 respondents representing 81.0% of the population affirmed that air pollution destroy the nerves in the respiratory system while 38 respondents representing 19.0% of the sampled population responded negatively. The findings above also revealed that 142 respondents representing 71.0% of the sampled population were of the view that air pollution was one of the leading causes of lung cancer while 58 respondents representing 29.0% of the sampled population held a different view. Similarly 132 respondents representing 66.0% of the sampled population were of the opinion that respiratory tract diseases are caused by air pollution while 68 respondents representing 34.0% of the sampled population held a contrary view.

In furtherance, the findings also revealed that 116 respondents which is 58.0% population of the sample were of the view that heart and lung diseases are also caused by air pollution while 84 respondents representing 42.0% population of the sample held a different view. Similarly, 104 respondents that is, 52.0% of the sampled population affirmed that air pollution lead to cardio-respiratory mortalities mostly in children and aged while 96 respondents representing 48.0% of the sampled population gave negative affirmation. In addition 114 respondents that is, 57.0% of the sampled population accepted that air pollution is also the leading cause of death among children and aged while 86 respondents representing 43.0% of the sampled population did not accept that air pollution is also the leading cause of death among children and aged. Conclusively, it can be deduced from the response that the students are aware of health implication of air pollution.

Research Question Two: What are the measures put in place to curb the effect of air pollution?

Table 2 Frequency and percentage on the measures put in place to curb the effect of air pollution

Statement	Yes		No	
	F	%	F	%
There is air quality monitoring station in Edo State	60	30.0	140	70.0
There is law that regulate the use of old vehicle in Nigeria	50	25.0	150	75.0
Industries especially the oil industries are fined when there is gas flaring.	30	15.0	170	85.0
Nigeria have agencies that regulate the emission of air pollutant into the environment	80	40.0	120	60.0
Bush burning is restricted in Nigeria	30	15.0	170	85.0

Results in Table 2 shows the distribution of the respondents based measures put in place to curb air pollution. From the sampled respondents, it was reveal that 60 respondents representing 30.0% of the sampled population affirmed that there is air quality monitoring station in Edo State while 140 respondents representing 70.0% of the sampled affirmed negatively. It also shows that 50 respondents representing 25.0% of the sampled population responded positively that there were laws that regulate the use of old vehicle in Nigeria while 150 respondents representing 75.0% of the sampled population responded negatively.

Furthermore, the above finding also reveals that 15.0% of the sampled population were of the view that industries especially the oil industries are fined when there is gas flaring while 85.0% of the sampled had a different view. Similarly, the result also shows that 40.0% sample of the population were of the opinion that Nigeria have agencies that regulate the emission of air pollutant into the environment while 60.0% sample of the population held a contrary view. In addition 15.0% of the sampled population positively affirmed that bush burning is restricted in Nigeria while 85.0% of the sampled population affirmed negatively. In conclusion, the finding revealed that there little or no measure put in place to curb the effect of air pollution.

Discussion of Findings

In reference to the first research questions; what is the awareness of the students to the health implication of air pollution? A careful look at the result, it was deduced from the response that the students are aware of the health implication of air pollution and that air pollution destroys the nerves in the respiratory system, it is one of the leading cause of lung cancer, that respiratory tract diseases are caused by air pollution, heart and lung disease are sometime caused by air pollution and that air pollution leads to cardio-respiratory mortalities in children and aged and also the leading cause of death among children and the aged. This is consistent with the finding of Kampa and Castanas, (2008) which state that human health effects can range from nausea and difficulty in breathing or skin irritation, to cancer; it is also corroborated with the finding of Bayram et al., (2006) which stated in their report that air pollution increases the risk of acute respiratory tract diseases in children and leads to an increase in cardio-respiratory morbidity and mortality; and also increases the risk of acute respiratory tract diseases especially in children and that it causes an increase in cardio-respiratory morbidity and mortality. It is also supported with the finding of WHO, (2002) which has estimated that urban air pollution is responsible for approximately 800,000 deaths and 4.6 million lost life each year around the globe. And also with the study of Pope et al., (2004) which state that long-term, repeated exposures to air pollution increases the cumulative risk of chronic pulmonary and cardiovascular disease and even death.

On the measures put in place to curb the effect of air pollution; the result revealed that there is no measure put in place to curb the effect of air pollution in Nigeria. This is consistent with the findings by Azubike (2010) that stated that the

enforcement agencies in Nigeria are unable to fully implement and enforce some existing laws and regulations due to lack of adequate equipment to carry out required tests; and also with the one that states that in Nigeria, much attention is given to general industrial pollution and pollution in oil industries, with little reference to pollution caused by automobiles.

Conclusion

Based on the findings in the study, it was concluded that the students are aware of the health implication of air pollution and that air pollution destroys the nerves in the respiratory system, is one of the leading cause of lung cancer, that respiratory tract diseases are caused by air pollution, heart and lung disease are sometime cause by air pollution and that air pollution lead to cardio-respiratory mortalities in children and aged and also the leading cause of death among children and aged. Despite their level of awareness on air pollution effect on their health, there are little or no measures put in place by the government to curb the effect of air pollution on human health.

Recommendations

In line with the findings of the study, recommendation and suggestion were made which is the opinion of the researchers and will help in curbing the effects of air pollution on the health of people or respondents and to also reduce the extent in which air is polluted. The following recommendations were made:

- There should be more sensitization on the causes of air and pollution and its effect.
- Bush burning should be discouraged.
- People that disposed waste indiscriminately should be punished by various environmental agencies.
- Industries (oil companies) that pollute the air should be heavily fined and sanctioned.

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