

Awareness on Air Pollution among the Engineering Students in Lucknow

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Abstract: *The pure and clean air is very essential for the human's health and their survival. The air is the most important part of the environment. Any change in the composition of the air may affect all living things. The unwanted toxic substance in air may become harmful for safety and health of the human. Due to population explosion, industrialization and nuclear family increases the problems like acid rain and global warming. Need a good syllabus for the awareness of environment pollution and air pollution. The engineering students are the most intelligent and need a good curriculum about the air pollution, so they can educate, motivate that they can protect and developed the machines to reduce air pollution. Here in this paper the present study is only an attempt to study the awareness of the air pollution among B. Tech and M. Tech students of Bansal Institute of engineering and technology Lucknow. In this study we have taken total 128 students of Mechanical Engineering and Information and Technology Engineering B. Tech and M. Tech students from Bansal Institute of Engineering and Technology Lucknow. Here in this paper for the study on awareness of air pollution we use mean, calculated mean, standard deviation (σ) and student's "t" test. By applying these we find the significance difference among the engineering students with respect to gender, branch, age group, living areas, class etc.*

Keywords: Air Pollution, Global warming, Ecosystem, Atmosphere.

1. Introduction

Air pollution occurs when harmful substances including particulates and some biological molecule are introduced into the Earth's atmosphere. It may cause of diseases, allergies or death in human and animals. It may also cause harm to other living organisms such as birds and food crops, and may damage the natural or built environment. Human activity and natural process can both generate air pollution. Pollutants in the air can end up in natural water supplies that human used for drinking. In a study of Smith W. H [1] says that air pollution also affected the forest ecosystem. Waleed M. Sweeleh and et al [2] analyse that outdoor pollution is a major thread of global public health that needs responsible participation of researchers at all level. Afroz, R [3] indicate that the results of the monitoring indicate that Suspended Particulate Matter (SPM) and Nitrogen Dioxide (NO₂) are the predominant pollutants. Other pollutants such as CO, O₃, SO₂, and Pb are also observed in big cities. The air pollution comes mainly from land transportation, industrial emissions, and open burning sources. Among them, land transportation contributes the most to air pollution. This paper reviews the results of the ambient air quality monitoring and studies related to air pollution and health impacts. In Lucknow city the main reasons for air pollution are industrialization and heavy traffic, air pollution can reach high level both in short and long terms. Due to air pollution in Lucknow city many diseases such as lung cancer, asthma, stroke and obesity appeared. In our educational system students play an important role they lead the program of awareness about air pollution. The Engineering students such as B. Tech and M. Tech, follow a curriculum that is much broader and courses are delivered in an effort to prepare a student for a career in the field. So, in the present study it aimed to see the difference between the

students about awareness of air pollution among B. Tech and M. Tech courses.

Objectives of the Study

The aim of this study is to evaluate engineering student's awareness about air pollution with reference to gender, branch of engineering students and knowledge. The students will be able to define the term Pollution, enumerates the causes of air pollution, interpret the effect of air pollution and suggest measures to control air pollution. The following main objectives of our study are,

- 1) Find the level of awareness among the B. Tech and M. Tech students about air pollution.
- 2) To find the significance difference in the level of air pollution awareness among the Engineering Graduates and Engineering Post Graduates students the following attribute variables are age, subject of study, degree, area of residence and reading practice.

Population

In the present study, we adopted the random sample technique and the population of data is engineering graduates and post graduates students belong to Bansal Institute of engineering and technology Lucknow.

Tools

Air pollution attitude scale booklet developed by the investigator and was used in this study to measure the awareness towards air pollution. The tool consist of 40 questions of objective type. The correct answered get one mark each and wrong answered get zero marks hence maximum marks are 40 and the minimum marks are zero.

The statistical technique used in the study

Statistical technique is used to convert voluminous data in to few numerical values so that it becomes possible to draw valid conclusions. For the analysis of data, researcher used central tendency (Arithmetic Mean), standard deviation and the t-test.

Hypothesis 1: The level of air pollution awareness is not high between the B. Tech and M. Tech Students.

Table 1: Level of air pollution awareness between B. Tech and M. Tech students

Sample	Total (N)	Theoretical Mean	Obtained Mean
B. Tech Students & M.Tech Students	128	20.00	26.74

From the above table it is clear that the obtained mean is 26.74 and the theoretical mean is 20.00, hence the obtained mean is greater than theoretical mean.

From the above it is very much clear that the hypothesis which states that "The level of air pollution awareness is not high between the B. Tech and M. Tech students" is rejected. This clearly indicates that the level of air pollution awareness between B. Tech and M. Tech students is very high.

Hypothesis 2: There is no significance difference in the level of air pollution awareness among the B. Tech and M. Tech students in terms of the age difference between them.

Table 2: Level of air pollution awareness between age group above and below of 20 years

Age (Years)	Total(N)	Mean	S.D.	t-value	Significance
Below 20	95	26.34	7.34	0.98	Not Significance at 0.05 level
Above 20	33	27.73	6.15		

The table -2 reveals that the mean score of air pollution awareness of below 20 years age of 95 students and above 20 years of 33 students are 26.34 and 27.73 respectively. The standard deviation between these two groups is 7.34 and 6.15 and calculated t-value is 0.98. Since calculated t value *i.e.* 0.98 is less than the table value *i.e.* 2.58. Hence the hypothesis there is no significance in the level of air pollution awareness among the B. Tech and M. Tech students in terms of the age difference between them is accepted.

Hypotheses 3: There is no significance difference in the level of air pollution awareness among the B. Tech and M. Tech students.

Table 3: Level of air pollution awareness between B. Tech and M. Tech students

Degree	Total(N)	Mean	S.D.	t-value	Significance
B. TECH	94	25.34	7.13	5.54	Significance at 0.01 level
M. TECH	34	31.73	4.61		

The table-3 reveals that the mean score of air pollution awareness among the B. Tech and M. Tech students are 25.34 and 31.73 respectively and standard deviation are 7.13 and 4.61. Since calculated t-value is 5.54 which is greater than tabulated value hence hypotheses is accepted.

Hypotheses 4: There is no significance difference in the level of air pollution awareness among the rural and urban students.

Table 4: Level of air pollution awareness between urban and rural background engineering students

Degree	Total(N)	Mean	S.D.	t-value	Significance
Urban	61	32.30	5.81	0.001	Not Significance at 0.01 level
Rural	67	22.57	3.12		

The table-4 reveals that the mean score of air pollution awareness among the Urban and Rural students are 32.30 and 22.57 respectively and standard deviation are 5.81 and 3.12. Since calculated t-value is 0.001 which is less than tabulated value hence hypotheses is rejected. Hence there is no significance difference between the awareness of air pollution among Urban and Rural background engineering students.

2. Findings the Study

The following result is obtained after the statistical analysis of data:

- 1) B. Tech and M. Tech students have different air pollution attitude. The M. Tech students are more active towards air pollution than the B. Tech graduates students.
- 2) According the age group above 20 years age group students are more positive towards awareness of air pollution than below 20 years age group of students this result clearly indicate that the awareness of air pollution affects by the age group in Bansal Institute of Engineering and Technology College students.
- 3) Table 3 in the above study indicates that M. Tech Students are more aware than B. Tech Students they have different attitude towards air pollution.
- 4) In Table 4 this study indicates that Urban and Rural background students in Bansal Institute of Engineering and Technology Lucknow of B. Tech and M. Tech engineering students have approximately same attitude towards air pollution.

3. Conclusion

The present study has been grate relevance and importance. Air pollution kills over a million Indians every year, silently. Families are thrown into a regular spiraling cycle of hospital visits, critically weak and poor health and financial trouble impacting their productivity and ability to participate in the economy of India. The children which are born in regions of high air pollution area shown to have irreversibly reduced lung function and cognitive abilities that affects their incomes for years to come. They all suffer, silently. Air pollution awareness is a broad based and is strongly related with basic principal of journal Education. The result of this study is useful of policy makers and curriculum designer for Engineering graduates and post graduates courses. We can motivate and can make arrangement for better learning air pollution for the students.

References

- [1] Smith W. H. "Air Pollution and forest". Springer-Verlag New York 1990.
- [2] Waleed M. S., Samah W. A. "Outdoor Air Pollution and Respiratory Health", Multidisciplinary Respiratory Medicine. Vol 13, 15(2018).
- [3] Afroz, R, Hassan, MN & Ibrahim, NA (2003), 'Review of air pollution and Health impacts in Malaysia', Environmental Research, vol.92, pp. 71-77.
- [4] Chen R, Pan G, Zhang Y, Xu Q, Zeng G, Xu X, et al. Ambient carbonmonoxide and daily mortality in three Chinese cities: the China Air Pollution and Health Effects Study (CAPES).Sci Total Environ. 2011; 409 (23):4923–8.