



“Impact of Mass Awareness On Indoor Pollution Crisis”

Dr Rubina Shahnaz

Principal

Al-Barkat Institute Of Education

Abstract

Indoor air pollution has become a more pressing concern in recent years due to the construction of more energy-efficient homes. These properties tend to be relatively airtight, meaning that the air inside can quickly become stagnant and pollutant levels rapidly rise.

Elsewhere, the burning of fuels such as coal, wood, and gas for heating and cooking produce a large number of toxic chemicals. These include formaldehyde and carbon monoxide, as well as particulates and other dangerous compounds. Without effective ventilation, these chemicals are inhaled and can cause serious damage to your health in a countless of way because we hardly consider indoors have any pollution However, indoor air pollution has been shown to have considerable effects on both long and short term health problems and is thought to be responsible for 4.3 million deaths each year. Indoor Environment pollution results mainly from improper handling of domestic activities indoor air pollution refers to any contamination of the air within a building. In the present study the main objective of the investigation is to develop environmental awareness towards indoor pollution amongst people. Hence she will try to fulfill this criteria by implementing various programs related to environment on sample selected for the study, within the interval of pre-test and past test.

Introduction

We spend most of our time indoors. And feel that we are safe from pollution. we rarely consider the quality of the air that we are breathing when we are inside. because we hardly consider indoors have any pollution However, indoor air pollution has been shown to have considerable effects on both long and short term health problems and is thought to be responsible for 4.3 million deaths each year. Indoor Environment pollution results mainly from improper handling of domestic activities, Simply, indoor air pollution refers to any contamination of the air within a building. Pollutants are generally grouped into the following categories: molds, solvents, pesticides, smoke, pet dander, and gases. Most properties will suffer from indoor air pollution to some degree. The quality of our indoor air (IAQ) is a measure of how the air inside of a building affects its occupants' health and comfort.

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Elsewhere, the burning of fuels such as coal, wood, and gas for heating and cooking produce a large number of toxic chemicals. These include formaldehyde and carbon monoxide, as well as particulates and other dangerous compounds. Without effective ventilation, these chemicals are inhaled and can cause serious damage to your health in a countless of ways.

Indoor Air Pollution:effect on human health

A reduction in fresh air exchange in modern buildings has given rise to a phenomenon known as “sick building syndrome” or SBS. This is commonly caused by a combination of poor ventilation and poorly-maintained air conditioning.

The symptoms of sick building syndrome improve when you leave the premises and get worse the longer you stay there. The most common physical and psychological symptoms include:

Physical Symptoms

- Headaches
- Blocked sinuses or a runny nose
- Skin rashes
- Itchy eyes
- Drowsiness
- Difficulty breathing

Psychological symptoms

- Depression
- Pessimistic behaviour

Bear in mind that these symptoms are extremely common and can be caused by a wide range of issues including typical allergies. If you are experiencing these symptoms sporadically, or continually no matter where you are, it is unlikely that sick building syndrome is the cause.

Sources of Indoor Air Pollution

There are many sources that can be responsible for indoor air pollution, some of which are recognizable due to their odour, but there are many that fly under the radar.

1-Mold is a form of fungus which grows from spores that latch onto damp areas in buildings. It digests the materials it lands on, and can grow on many types of surfaces. It is prevalent in moist environments and is most common during the winter months and in more humid climates.

As there are many types of fungus that cause mold, it can take on a wide variety of features. Mold may be white, black, green or yellow, and can appear to be slick, fuzzy or rough in texture. Worryingly, mold can release a range of hazardous toxins into the air and can cause many different symptoms—and is a particular concern to babies, children, older adults, and those with existing skin problems, respiratory problems, or weakened immune systems

2-A major cause of indoor air pollution, tobacco smoke, or second hand smoke it causes over 40,000 deaths in the U.S. each year. The inhalation of cigarette smoke is particularly harmful to children, increasing the risk of sudden infant death syndrome (SIDS), severe asthma, ear problems, and acute respiratory infections.

Moreover, cigarette smoke contains at least 70 carcinogens, chemicals that have been proven to cause cancers, as well as around 7,000 other chemicals that your body could do without. When inhaled, these chemicals can cause illnesses such as chronic obstructive pulmonary disease (COPD) and other cardiovascular diseases which lead to heart attacks, as well as other serious complications.

3-Carpets act like traps for indoor pollutants, easily absorbing mold spores, particulates from smoke, allergens, and other harmful substances. Research has found that even some toxic gases can settle into carpets. While some may argue that this trap keeps occupants safe, pollutants caught in carpets can be easily disturbed simply by walking on them.

Household Products

4-Many day-to-day products present in almost every home can cause indoor air pollution. These include:

- Cleaning agents and disinfectants
- Paints
- Glues and solvents

- Personal care products
- Air fresheners
- Candles

These products may emit volatile organic compounds (VOCs), which can cause issues such as eye, nose or throat irritation, headaches, nausea, organ damage, and even cancer in some extreme cases.

5-Many homes and offices contain space heaters, ovens, furnaces, fireplaces and water heaters that burn fuels such as gas, kerosene, oil, coal or wood for energy. As combustion can be extremely dangerous, most appliances are rigorously tested to ensure they are safe for use. However, if the appliance is faulty, it can produce toxic gases such as carbon monoxide, sulphur dioxide, and other compounds including hazardous aldehydes.

6-A completely odourless and inert gas, radon can seep up through the ground and diffuse into the air in your building. When it undergoes decay, radon emits radiation which can attach to dust particles and pass into the lungs causing damage. Although it may seem strange, surveys have shown that radon concentration indoors is an order of magnitude higher than those typically found outdoors.

7-You might not think of pet dander when you think of indoor pollutants, but for many allergy sufferers, it's an acute irritant that can make some indoor environments vexing. Pet dander is comprised of microscopic flakes of skin shed by household pets, meaning that hairless breeds can cause symptoms like coughing, sneezing, watery eyes, and chest tightness.

It is important to note that air temperature, humidity, and circulation can produce symptoms similar to those of indoor air pollution, and simply turning down the thermostat may help.

In the present study the main objective of the investigation is to develop environmental awareness towards indoor pollution amongst people. Hence she tries to fulfill this criteria by implementing various programs relation to environment on population selected for the study, which the investigation administer on them in the interval of pre-test and past test.

TITLE OF THE STUDY:

The present study states as “**Impact of Mass Awareness On Indoor Pollution crisis**”

VARIABLES OF THE PROBLEM

The present problem has the following variables.

1. Dependent variables - Environmental awareness
2. Independent variable – (a) Indoor pollution

Objective of the study

1. To measure the environmental awareness of household people regarding their indoor pollution
2. To see the effect of awareness programs on the people towards their indoor pollution.

Hypothesis

1. Environmental awareness and participation will vary in household people towards their indoor pollution.
2. There will be a significant impact of awareness programs on behavior of control group towards their indoor pollution.

Sample N=120

Total Samples	120
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Data Collection:

In the present study the data was to be collected from the one locality of Aligarh city only. The investigator visited different families of Aligarh city by the permission of their heads, and collected data of the families individually in pre- test and post- test basis

Statistical Techniques Used:

In order to find out the difference in degree of awareness regarding indoor pollution on the selected samples Investigator used Mean, SD and t' test .

Interpretation

The present study intended to investigate the environmental awareness of people regarding indoor pollution. For the study on selected sample she divided her sample into two groups, in her pre-phase she used questionnaire and collect pre data of total sample. to measure the difference of awareness regarding indoor pollution t-statistical techniques applied. The tables given the detail description of awareness regarding indoor pollution among both groups.

M1=First Group

M2=Control Group

Table 1:

Table Showing Awareness regarding indoor pollution of people on Total Sample

I Awareness Regarding Indoor Pollution	Mean	S.D.	t-value
M ₁	166.37	21.65	
			1.75
M ₂	173.08	17.13	

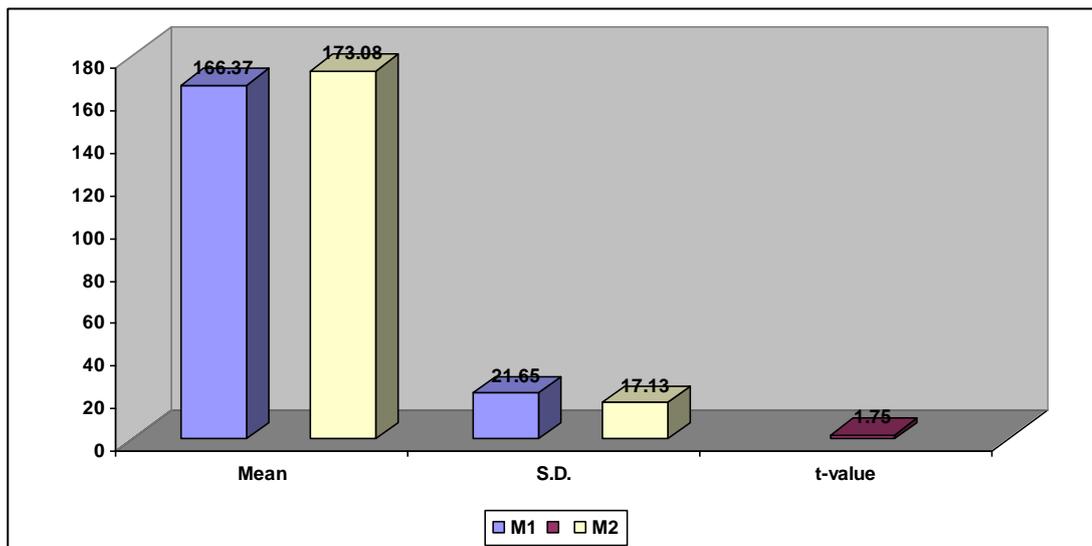


Figure-1 (Table 1)

The table (T.No.1) shows a comparison of one group with control group. It indicates that the t-value ($t=1.75$) is not significant which confirms that there exists no significant difference of first group + control group. The table also depicts that the mean of first group ($M_1=166.37$) and mean of control group ($M_2=173.08$) it is therefore concluded that there was no significant difference between first group + control group in awareness towards their indoor pollution. They have same degree of awareness regarding indoor pollution.

After collecting the pre-data, the investigator spent time with control group and aware the people regarding indoor pollution. The investigator took the consent of families of respective control group. Therefore, she got the consent to implement the program on them. She did the demonstration, distributed handouts, show some videos, charts related to indoor pollution. teach them about the use of

1-High-efficiency particulate air (HEPA) filters can be employed as air purifiers or attached to vacuum devices in order to remove dust, spores, mites and other particles from the air. According to The Institute of Environmental Sciences and Technology an appliance can only be considered a HEPA filter if it traps 99.97% of particles 0.3 microns or larger. For context, emissions from a car starting up begin at 1 micron.

2-Vacuuming is extremely important to improve indoor air quality, especially if you have carpets and pets. It is recommended that you vacuum at least 3 times a week in order to keep dust levels low

Heating, ventilation, and air conditioning filters, HVAC filters purify the air that enters and exits the various units located throughout your property. These filters ensure that your systems work efficiently and reduce the amount of irritating particles circulating in the air.

3-Houseplants have been shown by NASA to be “nature’s life support system”, and are an essential component in improving indoor air quality. They not only absorb carbon dioxide from the air, but particulates that attach to CO₂ too. Microorganisms in the soil have also been found to remove volatile organic compounds from the air. These same NASA findings also suggest that indoor plants are an excellent way to help control air pollution and mitigate its effects.

The more clutter you have in your home, the more places there are for dust to hide. DE cluttering will not only help clear your mind, but help clean the air too!

Hence, they were amazed to know about pollution which is closely associated with them and they don't know about that pollution After enough demonstration with control group investigator administered the questionnaire again on both groups as post-test.

Table -2

Table Showing Awareness regarding indoor pollution on first group and control group

Table-2

Behavioural	II	Environmental	Mean	S.D.	t-value
M ₁			41.85	10.01	
					16.26**
M ₂			50.76	5.93	

** Significant at 0.01

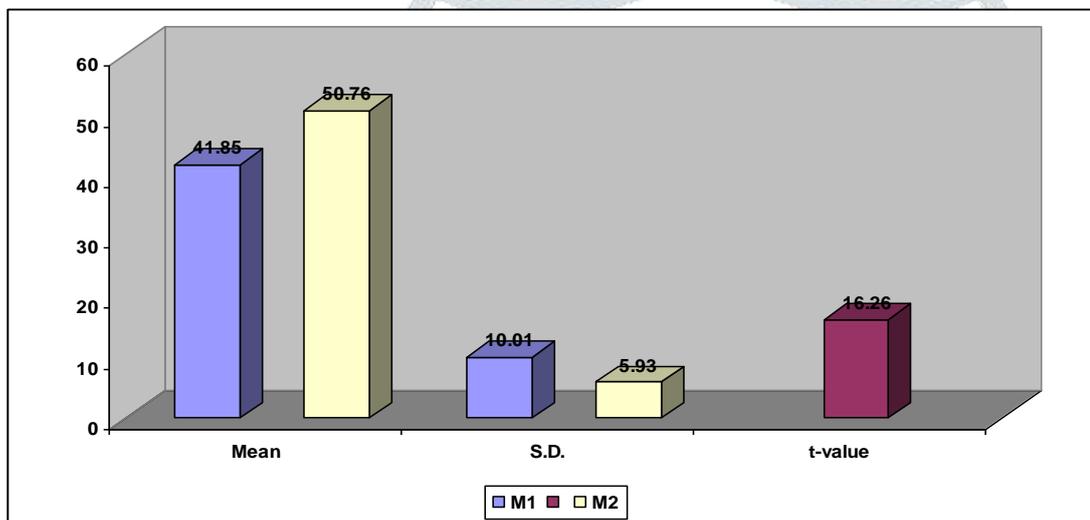


Figure -2 (Table -2)

- As shown in the above table After implementing the programs related to awareness towards indoor pollution when M₂ of total samples were compared with M₁ on the basis of awareness regarding indoor pollution, the obtained 't' value is (t=16.26) which is significant at both the level (0.5 and 0.1) of confidence this assures that there was significant difference in the awareness regarding indoor pollution of total samples. Where mean of control group (M₂ = 50.76) was higher than mean of first group (M₁ = 41.85).

conclusion

Above study depicts that awareness is the key concept which helps to improve the quality of our immediate environment and education is one of the process of recognizing values and classifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter relatedness among man, his culture, and his biophysical surroundings environmental education also initials practice in decision making and formulation of a code of behaviour about issues concerning Environmental quality. .

Hence environmental education takes care of the relationship of man with his fellow human beings in addition to the man nature relationship. In order to accomplish this goal, environmental education should develop certain ethical standards which prompt people, without fear of law to protect environments. The goals of environmental education are at four levels- ecological foundations, conceptual awareness, investigation and evaluation and action skills training and applications traditional thinking in environmental education. Thus many things can be done for protecting the environment from ourselves and others. It is our own lifestyle, greed, selfishness and lack of awareness that is the starting point of all the problems. As the cartoon character Pogo says "we have seen the enemy and it is us". Every one of us having the responsibility to protect the environment and aware the people from the evil of pollution.

Whenever there is a good response from the public the evil deeds play with its full vigor. At this juncture it is the responsibility of every citizen to change their attitude in change habits will contribute a lot to the environment. Every citizen should think individually and act globally. And it is the time to develop environmental attitude to understand the problems of environment indoor out through relevant experiences and to extend assistance to the society. The society is in dire need of environmentally trained citizens as the environmental conditions are quite alarming.

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