

Public Opinion on Measures for Improvement in Air Quality with special reference to Chennai

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ABSTRACT --The World Health Organization defines pollution as “the presence of materials within the air in such concentration that area unit harmful to man and his surroundings. The objectives of the study are to analyse the difference between the precautionary actions of polluted air and gender and to find the association between major cause of toxic air in the atmosphere and age of the respondents. For the purpose of this study is descriptive research is used to portray accurately the public opinion on measures for improvement in air quality. Convenient sampling method is used to collect the samples. 1640 samples were collected for the research. Dependent variables are prevention of polluted air, causes of toxic air in atmosphere, renewable energy, public transport and car pooling, CNG and electric vehicles, solar power, sustainable products. Independent sample t test, Chi square and ANOVA are the research tools used in this research. It was found that there is significant association between major cause of toxic air in the atmosphere and age of the respondents. It also shows that there is difference between the precautionary actions of polluted air and gender. We must always conjointly seriously think about energy and renewable energy use to scale back pollution. To reduce the pollution in the atmosphere we can take certain steps like reducing the number of trips in personal vehicles, avoid burning of trash, reduce the use of wood stove etc.

Keywords--Pollutants, Toxicants, Health, Diseases, Air Quality, Renewable Energy, Public Transport, CNG, Solar Power, Sustainable Products.

I. INTRODUCTION

The World Health Organization defines pollution as “the presence of materials within the air in such concentration that area unit harmful to man and his surroundings.”.The various causes of pollution are(i) Combustion of gas, petroleum, coal and wood in industries, vehicles, aircrafts, railways, thermal plants, agricultural burning, (ii) science process. Natural air pollutants embrace (a) spore, spores, (b) methane, (c) volcanic gases and (a) synthesis of harmful chemicals by electrical storms and star flares. the foremost reason behind pollution within the urban areas is vehicles that inefficiently burn crude oil, releases seventy fifth of noise and eightieth of air pollutants. Concentration of industries in one space is another major reason behind pollution. Steps to cut back pollution are unit Run tree plantation drives, Raise awareness regarding pollution, Conserve energy, Curb unchecked manufacture, Reduce the use of private vehicles, Let your vehicles keep on with pollution management norms. Pollution could be a real threat to health and well being of world. Studies by World Health Organization

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reveal that globally seven million individuals died attributable to exposure of pollution. Those embrace death because of exposure to toxicant pollutants each within the house and within the surroundings.

A fast check up on ways that to cut back pollution at a glance

- Keep the smoke emanating from house, factory, vehicle at intervals the permissible vary.
- Do not burn firecrackers.
- Do not burn garbage; keep it in a very fastened place.
- If necessary, use flowing drains for forcing out.
- Follow all the laws associated with pollution.

II. OBJECTIVES

- To understand measures for improvement in air quality.
- To analyse the difference between the precautionary actions of polluted air and gender.
- To find the association between major cause of toxic air in the atmosphere and age of the respondents.
- To examine the difference in the mean source of level of agreeability towards measures of improvement in air quality among the educational qualification group

III. LITERATURE REVIEW

Sanjoy maji ,sirajuddin ahmed and weqar ahmed Siddique (2015) have observed that the air quality index system is to interpret public to understand the health and environmental impacts of air pollutant concentration level on any day. The study was undertaken to evaluate,ascertain the association and examine seasonal variation of air quality. The present study increases public awareness of the health implications of air pollution and helps assess pollution trends in a meaningful way. Dinesh c Sharma(2015) has described about the ideology of phasing out old cars and vehicles to reduce the amount of pollution in the atmosphere in Delhi,his research involves and explains various methods to reduce atmospheric pollution and different methods to use public transport which will cause less pollution when compared to the use of private transport.J. Srinivasan(2014) has observed that the progress which we make in our day to day life which releases particulate matter in the air causes air pollution. He has concluded by saying that if we pollute air now ,in mere future we have to carry bottled clean air and quoted that the government will not understand the impending crisis in particulate air pollution until it is too late.Sanjeet Bacchi(2014) has analysed and reports say that air pollution in the Indian capital Delhi has reached a serious level making it the world's most polluted city ahead of Beijing. K Srinath Reddy president of New Delhi based public health foundation of India has recommended certain steps to combat air pollution in Delhi and he has also recommended investment in public transports. Kala seetharam and Surender Kumar(2013) have observed air and water pollution in cities and provided empirical evidence to demonstrate the seriousness of the challenges and have presented relevant political economy issues related to introducing pollution taxes or other policies aimed at building green cities.Kalpna Balakrishnan, R.S Dhaliwal and Bela Shah(2011) have identified that environmental and occupational risk factor

contribute to nearly 40% of the national burden of disease in India with air pollution ranking among the leading risk factor. They have concluded that the nature of air pollution exposures in India presents unique challenges but also affords important opportunities for health effects research. **Kakali Mukhopadhyay(2010)** has focused on the integration of energy and environment, air pollution and health etc. she has authored Air pollution in India and its impact on the health of different income groups, she has described about carbon dioxide emission, different types of air pollutants and different ways for energy consumption. Jessica Sequeira(2008) has analysed the increasing pollution in the Indian capital New Delhi due to automobiles, industries etc. and has mentioned the different types of air pollutants present and quoted that when it comes to air pollution India faces the challenging but vital task of cleaning up its act. Naresh Kumar and Andrew D. Foster(2007) have described the impact of cng regulations on the spatial dynamics of air pollution in Delhi and its surroundings, 2 findings. emerge, i) the post regulations state of air quality is significantly worse than the domestic and international standards of air quality. ii) the data reveals that no significant improvement in air quality has been made in post regulation period. Sumeet Saksena(2007) has analysed the public perception on the increasing urban air pollution with the main focus on the developing countries, with sustainable cities, their environmental psychology and their environmental assessment. **K. Lenin** babu and S. Manasi(2007) have analysed and reviewed the pollution control regime, water pollution ,steps to conserve natural resources, use of clean technology, industrial effluents, pollution load and ecological economics.

IV. METHODOLOGY

For the purpose of this study descriptive research is used to portray accurately the public opinion on measures for improvement in air quality. Convenient sampling method is used to collect the samples. 1640 samples were collected for the research. Dependent variables are prevention of polluted air, causes of toxic air in atmosphere, renewable energy, public transport and car pooling, CNG and electric vehicles, solar power, sustainable products. Independent sample t test, Chi square and ANOVA are the research tools used in this research.

V. ANALYSIS AND DISCUSSION

Hypothesis 1: Opinion on Precautionary actions of polluted air is based on the gender

Table 1: Limits and Precautionary actions for the Release of Polluted Air and Gender

Gender	N	Mean	Std. Deviation	Std. Error Mean
Male	1064	1.15	.361	.011
Female	576	1.25	.435	.018

Table 2: Independent Samples t Test - Limits and Precautionary actions for the Release of Polluted Air and Gender

	t	df	Sig. (2-tailed)
Independent Sample t test	4.938	1638	.000

Based on the significant value it was found that there is a difference between the precautionary actions of polluted air and gender. Male and Female opinion differs for the action to be taken.

Hypothesis 2: Opinion on Major cause of toxic air in the atmosphere depends on the age of the respondents.

Table 3: Crosstabulation - Cause of Toxic Air in the Atmosphere and Age

Age	Cause of Toxic Air in the Atmosphere				Total
	Toxic organic micro pollutants	Burning of tires and plastic waste	Exhausts from industries and factories	Burning of fossil fuels	
Less than 25 years	135	321	103	26	585
26-35 years	187	167	80	33	467
36-45 years	96	221	72	11	400
46-60 years	41	49	54	12	156
Above 60 years	11	15	5	1	32
Total	470	773	314	83	1640

Table 4: Chi-Square Tests - Cause of Toxic Air in the Atmosphere and Age

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	97.638	12	.000

From the table value it is observed that there is significant association between major cause of toxic air in the atmosphere and age of the respondents. It shows that opinion on the major cause of toxic air in the atmosphere depends on the age of the respondents.

Hypothesis 3: Level of agreeability towards measures of improvement in air quality among the educational qualification groups

Table 5: ANOVA - Measures of Improvement in Air Quality and Educational Qualification

		Sum of Squares	df	Mean Square	F	Sig.
Replace use of fossil fuel with clean , renewable	Between Groups	11.619	4	2.905	3.850	.004
	Within Groups	1233.659	1635	.755		

energy	Total	1245.278	1639			
Use of public transport/car pooling	Between Groups	11.772	4	2.943	4.242	.002
	Within Groups	1134.372	1635	.694		
	Total	1146.144	1639			
Use of more CNG/Electric vehicle	Between Groups	21.258	4	5.314	6.244	.000
	Within Groups	1391.581	1635	.851		
	Total	1412.839	1639			
Use of solar power	Between Groups	7.033	4	1.758	2.138	.074
	Within Groups	1344.546	1635	.822		
	Total	1351.580	1639			
Use of sustainable products	Between Groups	12.331	4	3.083	2.764	.026
	Within Groups	1823.659	1635	1.115		
	Total	1835.990	1639			

VI. INTERPRETATION

Since the p value is less than 0.05 for replace use of fossil fuel with clean, renewable energy, use of public transport/car pooling, use of cng/electric vehicle, use of sustainable products null hypothesis is rejected. Therefore, there is significant difference in the mean scores of level of agreeability towards measures of improvement in air quality among the educational qualification group. But p value is greater than 0.05 for use of solar power alternate hypothesis is rejected therefore there is no significant difference in the mean scores of level of agreeability towards measures of improvement in air quality among the educational qualification group.

VII. CONCLUSION

Government of India has already taken many measures to stop and management pollution within the country. Further, the Government must enact laws for hindrance of this increasing pollution and emission customary of air pollutants. Already quite fifteen years recent vehicles are illegal from running on the roads of Old Delhi by government. Steps have conjointly been taken for reducing vehicles mistreatment diesel as fuel on roads of Old Delhi. electricity precipitators are additional to chimneys of industries to stop the emission of particulate matters within the atmosphere. we must always conjointly seriously think about energy and renewable energy use to scale back pollution. It was found that, to reduce the pollution in the atmosphere we can take certain steps like reducing the number of trips in personal vehicles, avoid burning of trash, reduce the use of wood stove etc. Through this research we have come to know the various effects of toxic air in the atmosphere and have got to know different methods and policies to reduce the pollution in the atmosphere.

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