
A STUDY ON AIR POLLUTION CAUSED DUE TO THE BURNING OF PLASTIC IN THIRUVALLUR

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ABSTRACT:

Burning trash, particularly materials like plastic and treated wood, releases toxic chemicals such as nitrogen oxide, sulphur dioxide, volatile organic compounds, and polycyclic organic matter, causing severe health problems. The Indian scenario is concerning, with air pollution ranking the country in 5th place globally. Cities like New Delhi implement odd-even rules to combat pollution's adverse effects on respiratory health. India aims to reduce air pollution and improve cleanliness. Urban areas face pollution from various sources like burning plastic, vehicular emissions, and industrial activities. A convenient sampling method was used for a survey in Thiruvallur and Chennai, involving 200 respondents. Results indicate a need for increased awareness, as individuals believe they need not take action at the individual level to reduce air pollution.

Keywords: air pollution, causes, plastic, global disaster, reduce pollution, respiratory diseases

INTRODUCTION:

Chemicals or other airborne particles that are harmful to plants, animals, and people collectively constitute air pollution. It also damages buildings. burning of trash can cause long term health problems toxic gas released during burning of plastic can release nitrogen oxides, sulphur dioxide, volatile organic chemicals and polycyclic. Organic matter. burning can be inhaled by human and cause diseases. air pollution can be in many forms such as solid particles, liquid droplets and so on. Plastic debris in the ocean was first observed in the 1960s, a decade in which American became increasingly aware that environmental Pollution enters the Earth's atmosphere in many different ways. Most air pollution is created by people, taking the form of emissions from plastic, factories, cars, planes, or aerosol cans. Smoke from other people's cigarettes is likewise regarded as air pollution. Anthropogenic sources refer to these man-made pollution causes. Some types of air pollution, like the ash from volcanoes or the smoke from wildfires, happen naturally. These are called natural sources. government has brought many initiatives to prevent Air pollution, the air(prevention and control of pollution) act enacted in 1981 and amended in 1987 to provide for the prevention and control of air pollution by this act it insisted government on any matter concerning the prevention, control or abatement of air pollution, introduce of clear fuel like cng, lpg, promotion of public transport included metro compulsory certification of period driven vehicles which test to carbon, hydrocarbon. which is most common in large cities where emissions from many different sources are concentrated. Sometimes, air pollution is kept from spreading by mountains or big structures. This smog-causing air pollution frequently takes the form of a cloud. It is known as smog. The word "smog" is created by fusing the words "smoke" and "fog." Large cities in developing and underdeveloped countries typically have worse air quality than cities in industrialised countries. The World Health Organization (WHO) cites Karachi, Pakistan; New Delhi, India; Beijing, China; Lima, Peru; and Cairo, Egypt as some of the world's most polluted cities. However, air pollution is an issue in many affluent countries as well. California's Los Angeles is known as "Smog City." The most significant contribution to global warming has come from the greenhouse gas carbon dioxide. Coal, gas, and other fossil fuels are used to release carbon dioxide into the atmosphere. Fossil fuels are now heavily relied upon by humans to run companies, heat houses, and power cars and aeroplanes. Doing these things pollutes the air with carbon dioxide. Air pollution poses serious risks to human health, economic assets, and the overall environment (Gurjar, Butler, Lawrence, et al. 2008). In the current Indian scenario, urban cities are mostly polluted by burning of plastic, vehicular emissions, industries,

and thermal power plants (Gurjar, Ravindra, and Nagpure 2016). Nagpure, Gurjar, Kumar, et al. (2016) conducted research and concluded that the primary cause of Delhi's rising pollution levels is vehicle emissions. Gurjar, Aardenne, Lelieveld, et al. (2004) have previously noted that there aren't any emission factors for certain air contaminants that are peculiar to India, which could be a big problem for creating accurate emission inventory for Indian towns. Furthermore, for two-stroke and four-stroke two-wheelers as well as for light and heavy commercial vehicles, Nagpure, Sharma, and Gurjar (2013) noted that neither ratios nor realistic values were available. The rising travel demand in the nation is not taken into account when assessing the utilisation parameters for vehicles, which show how frequently a vehicle is utilised during a specific period of time. The estimated air pollution emissions become questionable as a result. The list that that was released on March 15, 2023 (Tuesday) suggests that India is at the ninth spot in

in terms of the nation that is most polluted. The nation, which was ranked fifth the year before, has somewhat fallen in the rankings for 2022. In 2019, India was home to 21 of the world's 30 most polluted cities. According to a study based on 2016 statistics, 13 of the world's 20 cities with the highest yearly levels of air pollution are located in India, where at least 140 million people breathe air that is at least ten times the WHO acceptable limit in India. India has one. Australia is a pollution-free city because fewer people use transportation and engage in active transportation, even though 20% of workers commute within 5 km. In a global survey, it was found that 21 out of 30 cities were polluted, pushing India to fifth place. Out of 50% of pollution, 25% comes from vehicles, 17% comes from plastic, and 50% comes from industries. Australia is a pollution-free country due to low rates of public transportation and active transportation. In a 2019 global survey, it was found that 21 of the 30 most populous cities were in India, moving that country up to the fifth position. over 50 cents in pollution from factories, 27 cents from cars, and 12 cents from plastic burning. Odd/even rule was implemented in New Delhi in 2017. Simply put, the city centre is off limits to vehicles with licence plates ending in even numbers on specific days of the week. India's goal is to eliminate pollution during the next few years; some rules also apply to odd numbers.

OBJECTIVE:

- To study the main causes of air pollution in thiruvallur district,

- To analyse the government initiatives to reduce air pollution.

REVIEW OF LITERATURE:

Johan, et al (2023). To analysed that to assess the association between sources specific concentration of ambient particulate air pollutants and lung cancer incidence in Swedish cohorts. concluded that there was some evidence for an association between exposure to particles from traffic but not wood burning.

Ramada, et al (2023). The present study aimed to examine the environmental effects and health risks associated with being open. Pannu is a cold waste in Indonesia. Semarang. Data collected two random questionnaires. Open burn cause carcinogenic risk was low, non cancer disease risk exceeded the standard.

Md. robiul Islam, et al (2002). Analysed the emissions of plastic by three fold method three type of plastic emissions (gc), (ms), (td). Using emission data they brought new insight to air quality. Sample from USA, Bangladesh. They conclude that various plastic give impact on atmosphere.

Addy, et al (2023). analysed air pollution was responsible for number of adverse environmental effects such as smog, acid rain, death of forest. the sample were taken by air pollution caused city. concluded that air pollutants include black carbon, not only contribute to global warming but also suspect of having on immediate effect region climate.

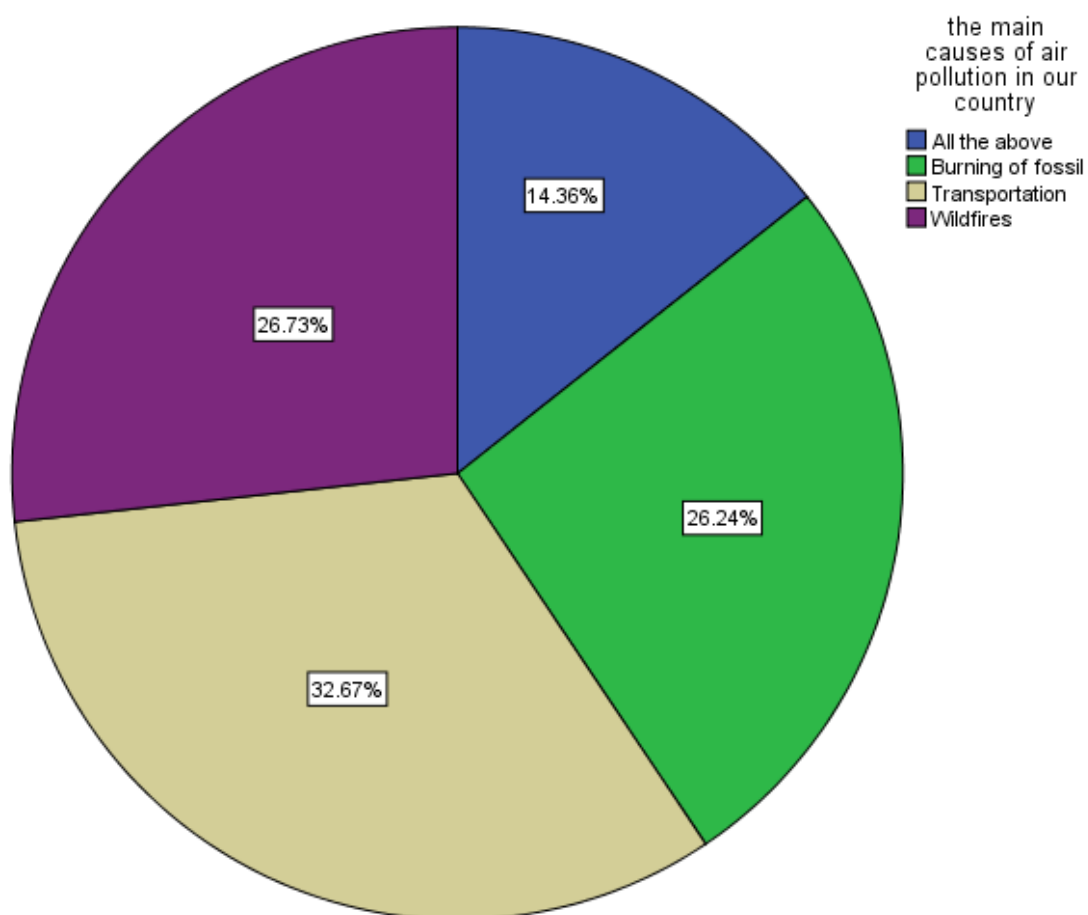
Oltra, et al(2014). analysed the state of public information in the field of air pollution in Spain. They conducted interviews with members of a public agency, Scientist, analysing air pollution documents. samples collected in Spain city. concluded that first analyse the ideas, concerns and considerations that underline the actions of public information on air pollution.

Wail, et al (2020). analysed air pollution has a negative effect on various environmental aspects which directly or indirectly affect the quality of human health by progression of some disease. the sample was collected in kabul Afghanistan. concluded that impact of air pollution on human health and environment with major source of air pollution in kabut. this article was also proposed solution to reduce air pollution.

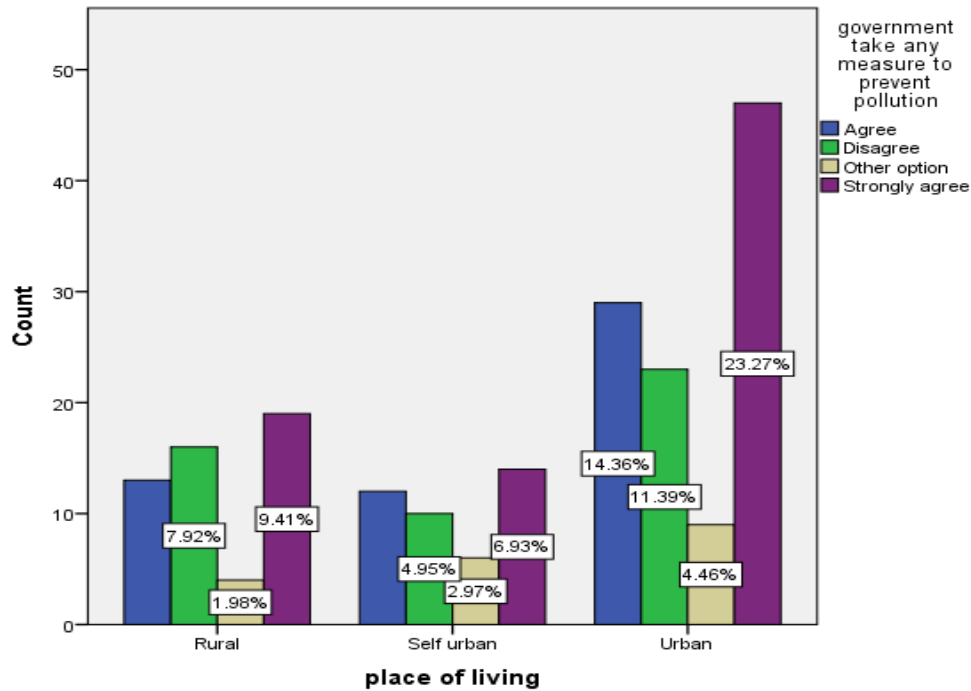
METHODOLOGY:

The study is based on both secondary and primary data for the study and it is collected from 200 sample respondents, By using well structured questionnaires. Convenient sampling was the method of sampling used in the investigation. The independent variables are age, gender, occupation, education qualification. The dependent variable is based on pollution free city, people is main reason to cause air pollution, government measures, part of the effect by pollution, place affected, awareness program, aware of polythene bags. The tools of analysis in the study are pie charts, clusters graphs by using SPSS software for a meaningful analysis.

ANALYSIS:



Legend : fig 1 shows the main cause of air pollution in country



Legend : fig 2 shows the place of living of the respondent and their opinion on government take any measure to prevent pollution

RESULT:

It is revealed that the percentage of 26. 24% of respondents says that burning of fossils is the main cause of air pollution. The percentage of 32. 67% of respondents says that transport is the main cause of air pollution. the percentage of 14. 36% of respondents says that all the above is the main cause of air pollution. the percentage of 26. 73% of respondents says that wildfires is the main cause of air pollution. (fig:1)

It is revealed that 7. 92%, 4. 95%, 11. 39% who are living in rural, self urban, urban areas disagree with government initiatives to prevent air pollution, 1. 98, 2. 78%, 4. 46% who are living in rural, urban, self urban say other opinion, 9. 41%, 6. 93%, 23. 28% of respondents who are urban, self urban, rural says strongly agree that government initiatives to prevent air pollution. (fig 2)

DISCUSSION:

32. 67% say's transportation is main causes of air pollution in our country because transport is a major user of energy and burns most of the world's petroleum. it based on quality of fuel. it releases carbon dioxide and causes air pollution. Emissions from Combustion Engines:Internal combustion engines in vehicles burn fossil fuels, releasing pollutants such as particulate matter, nitrogen oxides (NOx), and volatile organic compounds (VOCs) into the air. Traffic Congestion:Heavy traffic congestion in urban areas can lead to prolonged idling of vehicles, increasing the overall emissions and contributing to localised air pollution. High Volume of Vehicles:The sheer number of vehicles on the roads, especially in densely populated areas, results in a substantial cumulative impact on air quality, Dependency on Fossil Fuels:Most vehicles rely on fossil fuels like gasoline and diesel, contributing to the emission of greenhouse gases and air pollutants that degrade air quality. (fig 1)

Fig 2 represents 23. 27% of respondents who are living urban area says strongly agree that government take measures to prevent air pollution because of several reasons

Visible Impact:Urban residents may observe visible improvements resulting from government initiatives, such as reduced smog levels, clearer air, or stricter emission controls on vehicles.

Direct Experience:People in urban areas often experience the immediate effects of air pollution and may attribute positive changes to government actions, such as the introduction of cleaner public transportation or stricter industrial regulations.

Media Coverage:Media coverage tends to be more concentrated in urban centres, providing residents with information about government efforts to address air pollution. Positive coverage can influence perceptions of the effectiveness of these initiatives.

Access to Information:Urban residents may have better access to information about government policies, air quality monitoring data, and environmental campaigns, allowing them to stay informed about ongoing efforts.

Government Visibility:Government initiatives in urban areas may be more visible and have a direct impact on residents' daily lives, reinforcing the belief that government actions are effectively combating air pollution.

CONCLUSION:

Burning of trash can beget long time health problems, still the government takes prevention to reduce it. We humans have to come forward to reduce air pollution. Plastic pollution is intensifying quickly and has become a major worry. We are suitable to reduce plastic pollution by confining its use. Every one of us should work towards solving this problem. Every kind of

pollution leaves a huge negative impact on our terrain, mortal lives, brutes etc. We, as responsible citizens, must take way towards a better hereafter. We must join hands to take various enterprises and fight against the air pollution. Reducing plastic pollution requires cooperative sweats and each existent's conduct can make a meaningful difference in guarding the terrain and wildlife from the dangerous effect of burning plastic. This can be by reducing synthetic fibres, reducing plastic in kitchens supporting legislation, and supporting pollution free packaging.

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