

**A CROSS SECTIONAL STUDY ON PUBLIC AWARENESS, KNOWLEDGE AND ATTITUDE ON AIR POLLUTION AND HEALTH THREATS****<sup>1</sup>Riddhi Gaikwad, <sup>2</sup>Krutika Sonare and <sup>3\*</sup>Dr. Srabani Bhattacharya**<sup>1,2</sup>MBBS Student at Rajiv Gandhi Medical College and CSM Hospital, Thane, Maharashtra, India.<sup>3</sup>Professor of Physiology, Rajiv Gandhi Medical College and CSM Hospital, Thane, Maharashtra, India.**\*Corresponding Author: Dr. Srabani Bhattacharya**

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Article Received on 31/05/2022

Article Revised on 21/06/2022

Article Accepted on 11/07/2022

**ABSTRACT**

It is a cross sectional study. Total number of participants were 102. This study was conducted among adult population of either gender. The participants were from both urban and rural residence of India. Among the respondents 69% were female and 31% were male. 90.2% from urban area 9.8% from rural are. Regarding the question few causes of air pollution 78.2% participants answered about traffic congestion, 43.6% climate change, 52.5% over population, 81.2% cutting of trees and 65.3% answered about urbanisation. Regarding pattern of weather is generally changing 96.08% of participants answered yes. 100% of the respondents know about air pollution. 85.29% of the participants agreed to take part in a campaign about environmental issue. Regarding few air pollutants 85.3% know about dust, 83.3% automobiles, 62.7% coal/oil combustion. Quality of life can be achieved by identification and effective management of health related issues

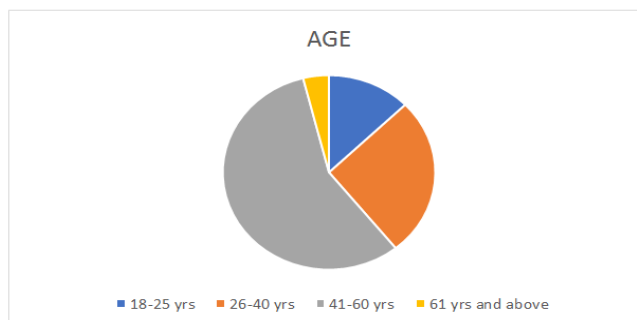
**KEYWORDS:** Air Pollution, Health threats, Weather change, Causes of Air Pollution.**INTRODUCTION**

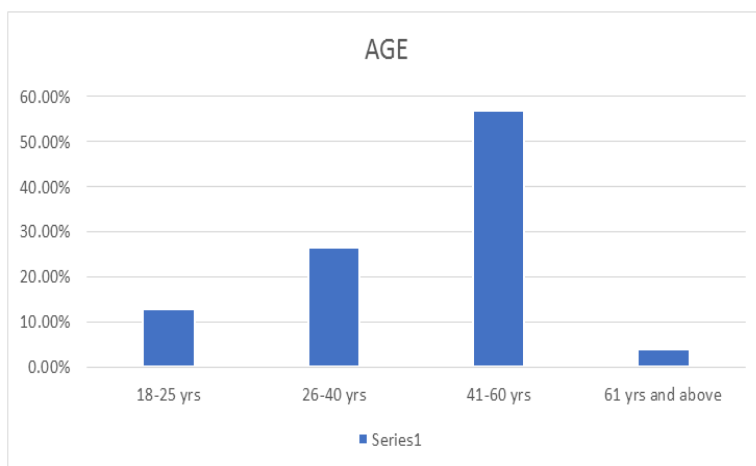
Air pollution is the presence of substances in the atmosphere that are harmful to the health of humans and other living beings, or cause damage to climate or to materials.<sup>[1]</sup> Air pollution has remained a major unease to the public health throughout the world. It is also a serious threatening issue faced by the developing countries.<sup>[2]</sup> Air pollution is a major public health problem affecting health of people in an adverse manner.<sup>[3]</sup> Air pollution is a major threat to human health. Air pollution is associated with increased risk of acute respiratory infections. Outdoor air pollution increases the incidence rate of multiple diseases such as lung cancer, asthma, respiratory symptoms and other diseases.<sup>[5]</sup> Studies conducted around the world show that both air pollution, on the one hand and weather and climate conditions, on

the other have a negative impact on human respiratory health.<sup>[6]</sup> Four air pollutants of concern: Sulfur, nitrogen, mercury and ozone. Ozone is a well studied pollutant known to be toxic to plants and animals.<sup>[7]</sup> Rising levels of air pollution are a global concern and they are caused by many factors, such as increasing urbanization, industrial pollution, traffic emissions and energy usage.<sup>[8]</sup>

**MATERIALS AND METHODS**

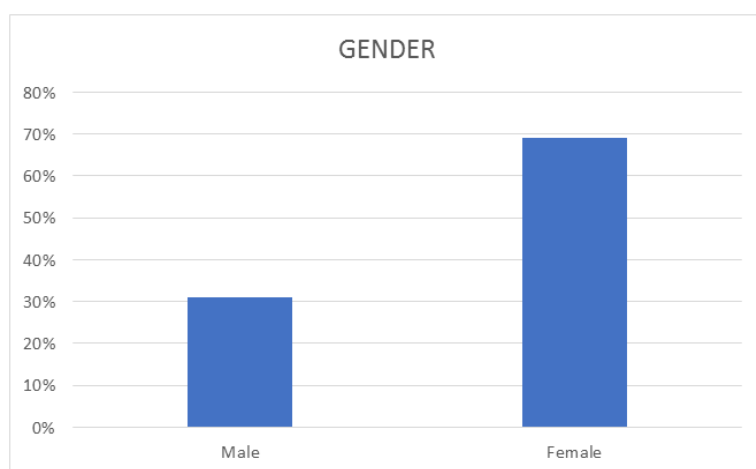
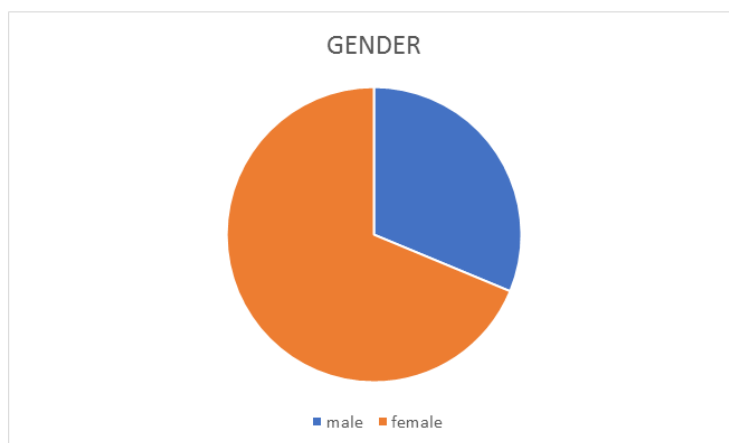
This cross sectional online based study was conducted with a pre tested and pre validated questionnaire administered via Google forms to the participants. Informed consent was taken on the Google forms. Those who were willing to take part only those participants were considered. The data was statistically analysed.

**RESULTS AND DISCUSSION****1. AGE**



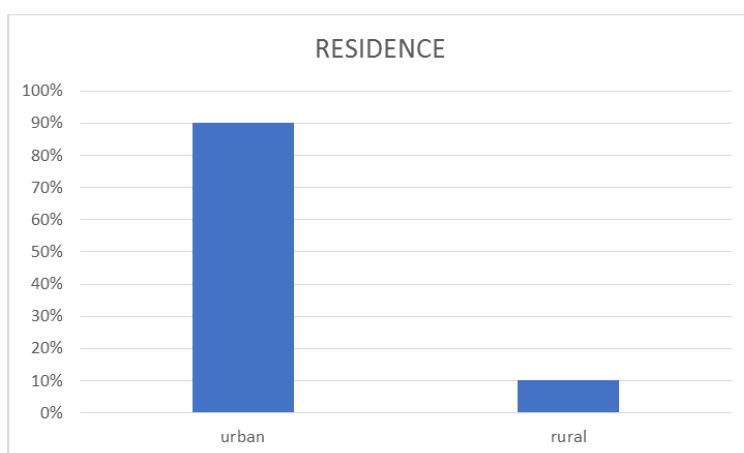
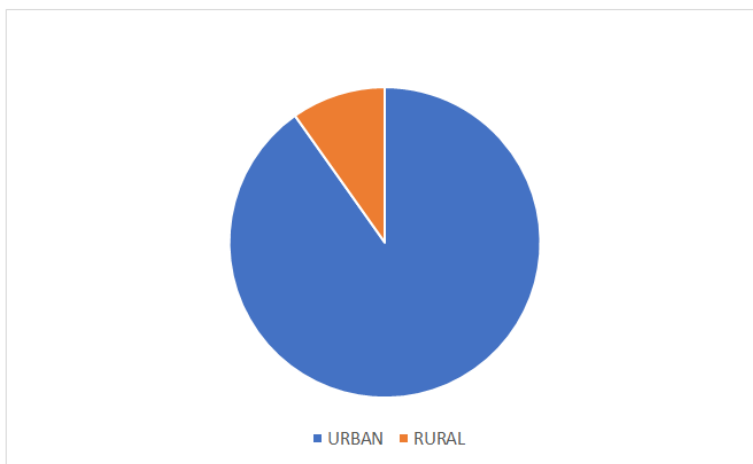
Age	Number of Participants	Percentage
18-25 yrs	13	12.75%
26-40 yrs	27	26.47%
41-60 yrs	58	56.86%
61 yrs and above	4	3.92%

**2. GENDER**



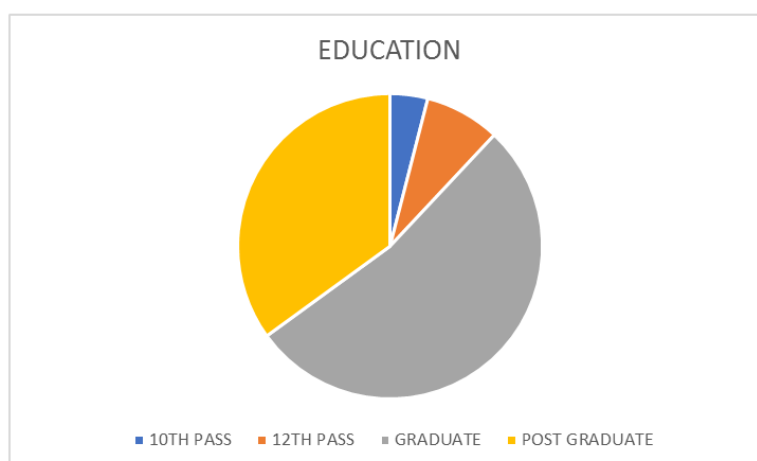
Gender	Number of Participants	Percentage
Male	32	31%
Female	70	69%

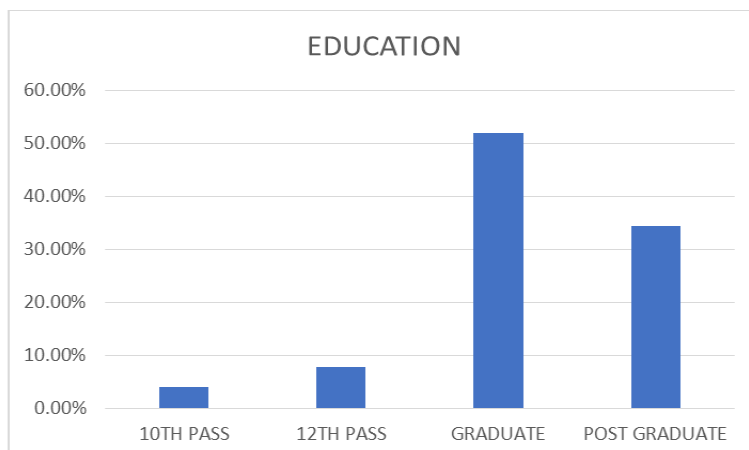
**3. RESIDENCE**



Residence	Number	Percentage
URBAN	92	90.2%
RURAL	10	9.8%

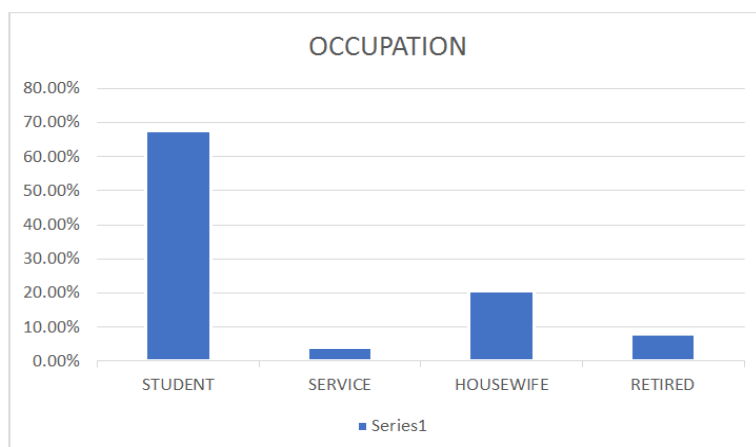
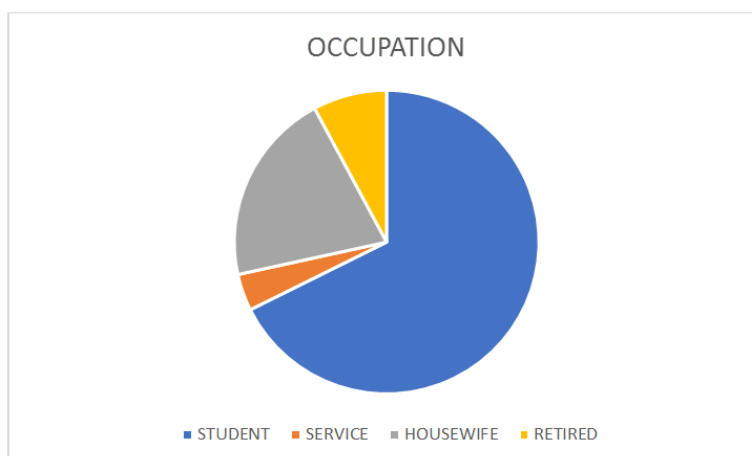
**4. EDUCATION**





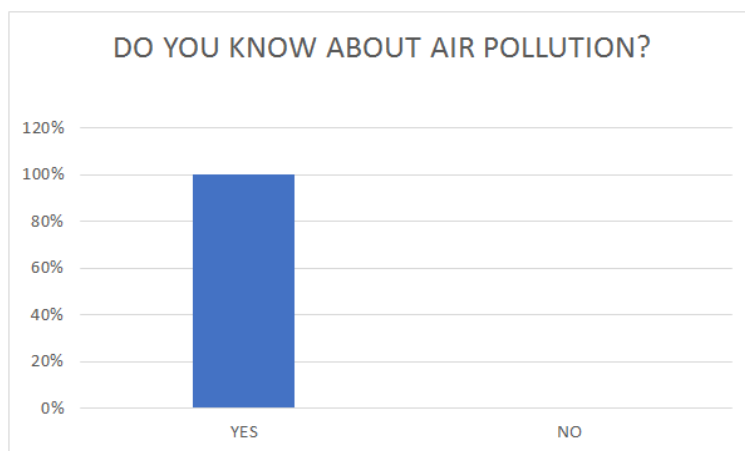
Education	Number	Percentage
10 <sup>TH</sup> PASS	4	3.92%
12 <sup>TH</sup> PASS	8	7.84%
GRADUATE	53	51.96%
POST GRADUATE	35	34.31%

5. OCCUPATION



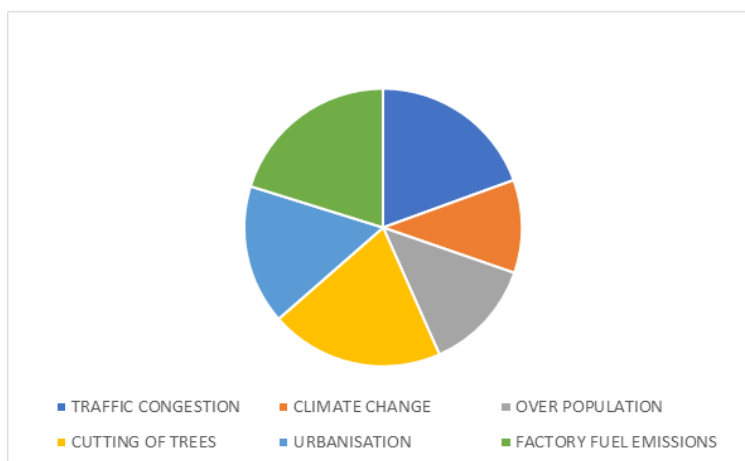
OCCUPATION	NUMBER	PERCENTAGE
STUDENT	8	67.65%
SERVICE	69	3.92%
HOUSEWIFE	21	20.59%
RETIRED	4	7.84%

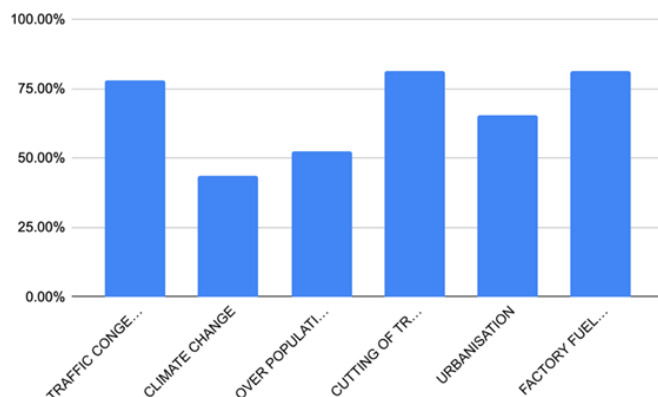
**6. DO YOU KNOW ABOUT AIR POLLUTION?**



DO YOU KNOW ABOUT AIR POLLUTION?	NUMBER	PERCENTAGE
YES	102	100%
NO	0	0%

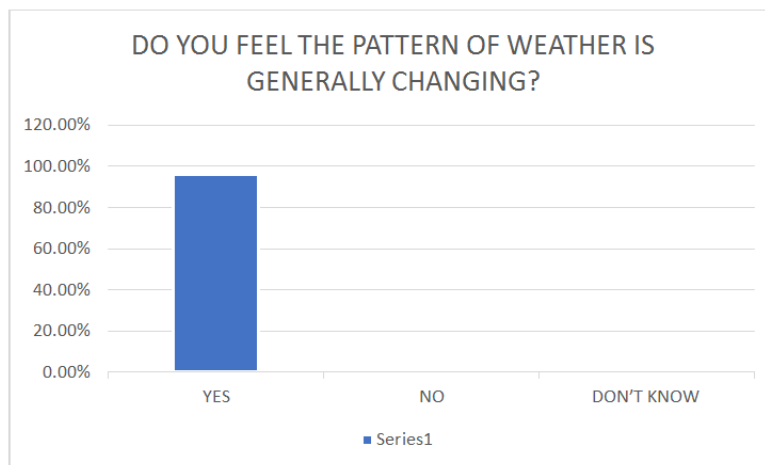
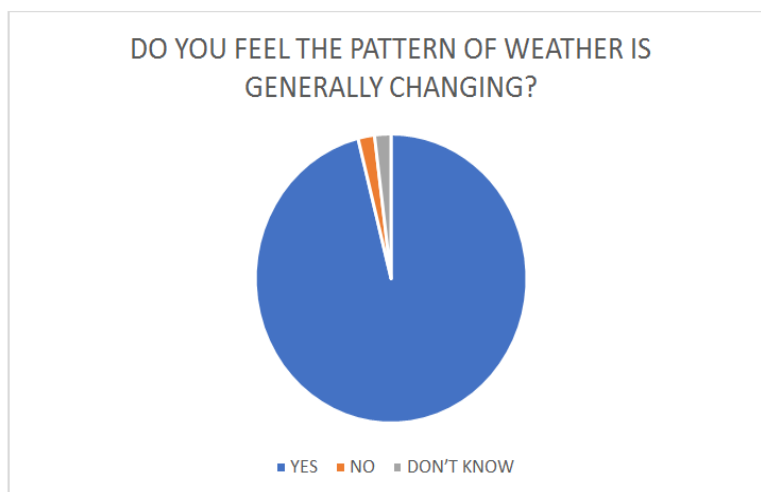
**7. IF YES, FEW CAUSES OF AIR POLLUTION**





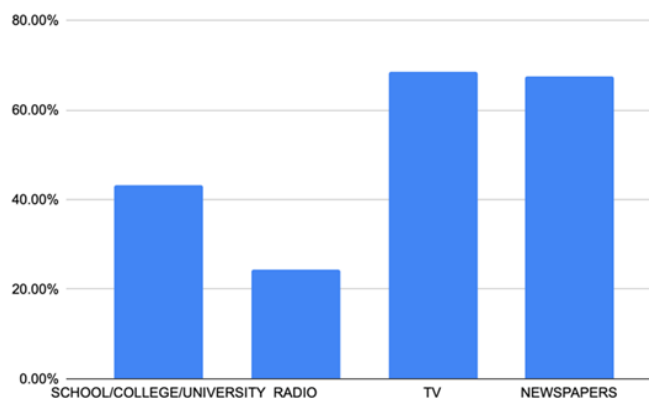
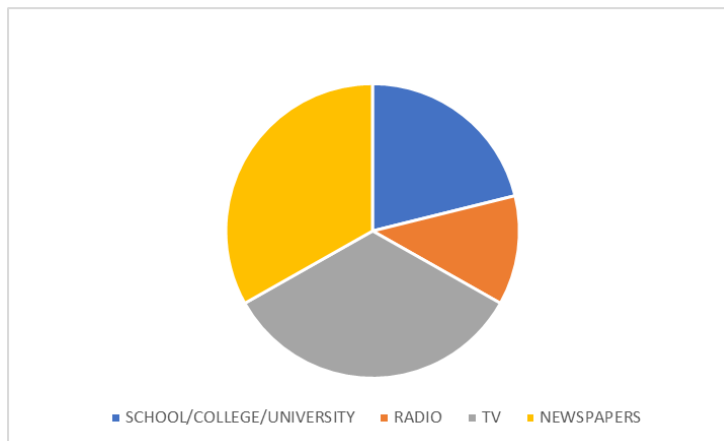
IF YES, FEW CAUSES OF AIR POLLUTION	NUMBER	PERCENTAGE
TRAFFIC CONGESTION	79	78.2%
CLIMATE CHANGE	44	43.6%
OVER POPULATION	53	52.5%
CUTTING OF TREES	82	81.2%
URBANISATION	66	65.3%
FACTORY FUEL EMISSIONS	82	81.2%

**8. DO YOU FEEL THE PATTERN OF WEATHER IS GENERALLY CHANGING?**



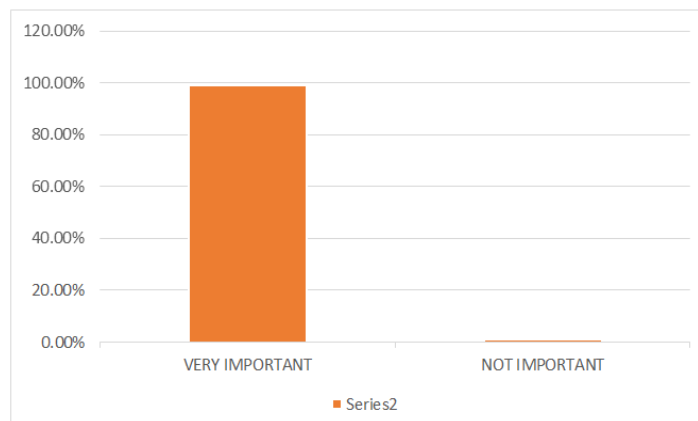
DO YOU FEEL THE PATTERN OF WEATHER IS GENERALLY CHANGING?	NUMBER	PERCENTAGE
YES	98	96.08%
NO	2	1.96%
DON'T KNOW	2	1.96%

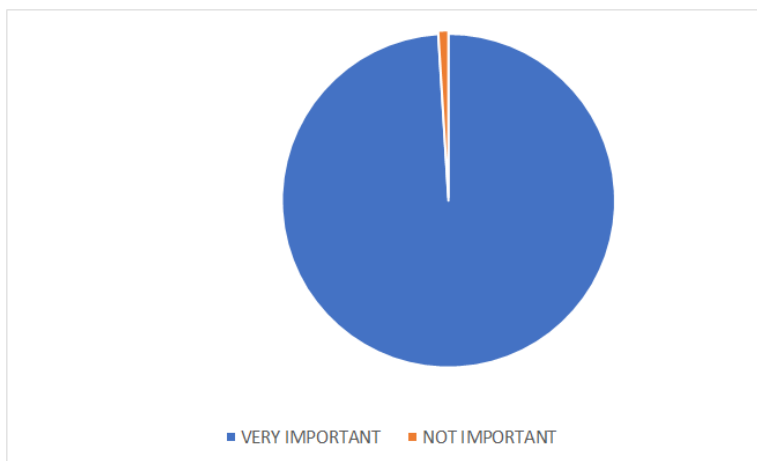
**9. WHERE HAVE YOU HEARD ABOUT CLIMATE CHANGE?**



WHERE HAVE YOU HEARD ABOUT AIR POLLUTION?	NUMBER	PERCENTAGE
SCHOOL/COLLEGE/UNIVERSITY	44	43.1%
RADIO	25	24.5%
TV	70	68.6%
NEWSPAPERS	69	67.6%

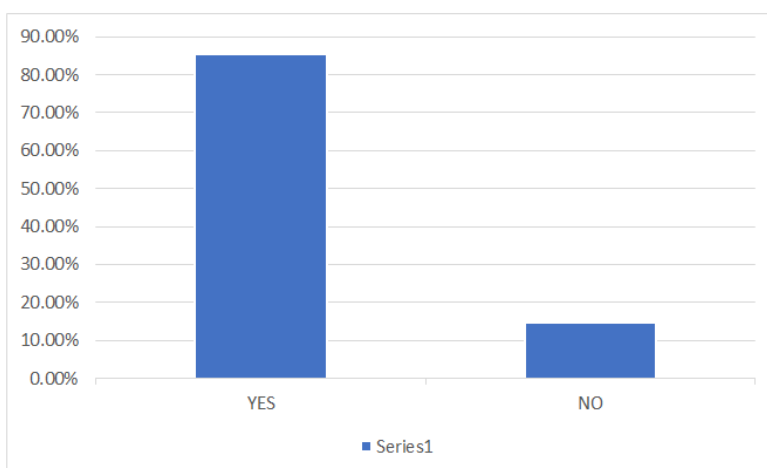
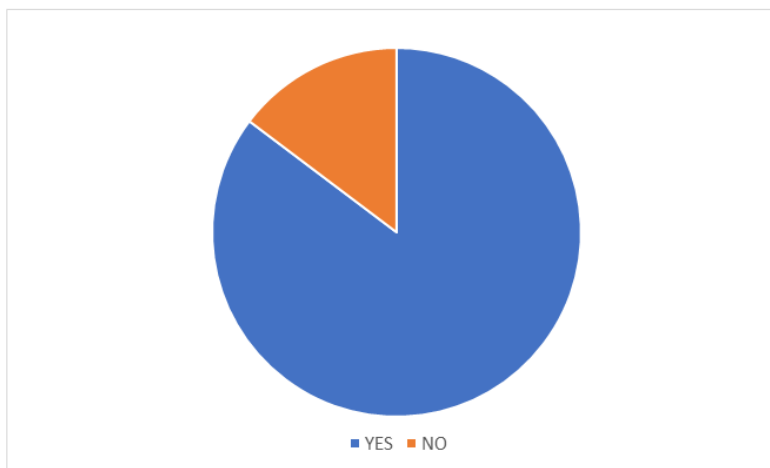
**10. HOW IMPORTANT IS THE ISSUE OF CLIMATE CHANGE IMPORTANT TO YOU?**





HOW IMPORTANT IS THE ISSUE OF CLIMATE CHANGE IMPORTANT TO YOU?	NUMBER	PERCENTAGE
VERY IMPORTANT	101	99.02%
NOT IMPORTANT	1	0.08%

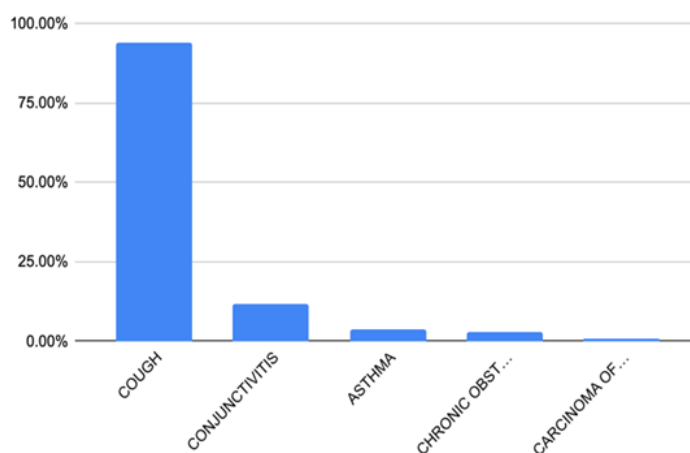
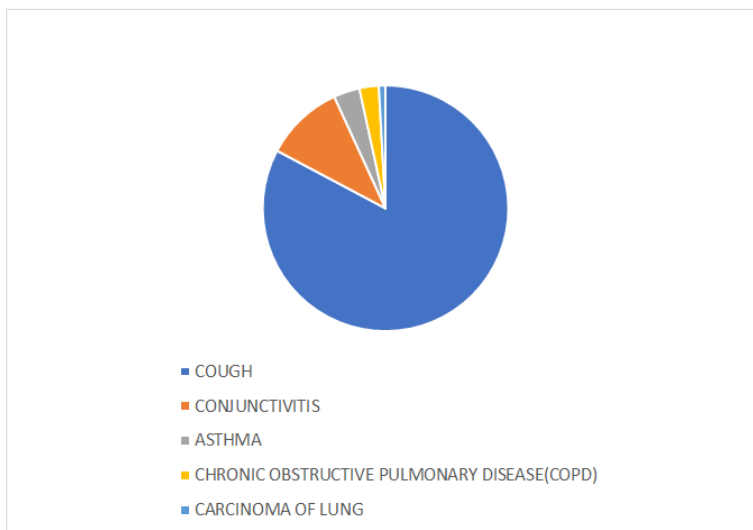
11. WILL YOU TAKE PART IN A CAMPAIGN ABOUT AN ENVIRONMENTAL ISSUE?



WILL YOU TAKE PART IN A CAMPAIGN ABOUT AN ENVIRONMENTAL ISSUE?	NUMBER	PERCENTAGE
YES	87	85.29%
NO	15	14.71%

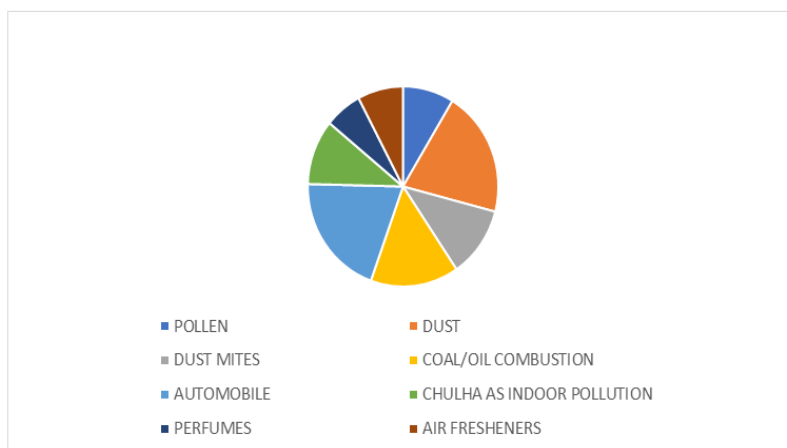


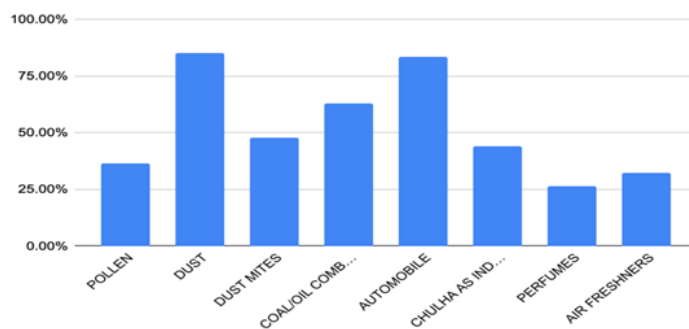
12. DID YOU SUFFER FROM



DID YOU SUFFER FROM?	NUMBER	PERCENTAGE
COUGH	96	94.1%
CONJUNCTIVITIS	12	11.8%
ASTHMA	4	3.9%
CHRONIC OBSTRUCTIVE PULMONARY DISEASE(COPD)	3	2.9%
CARCINOMA OF LUNG	1	1%

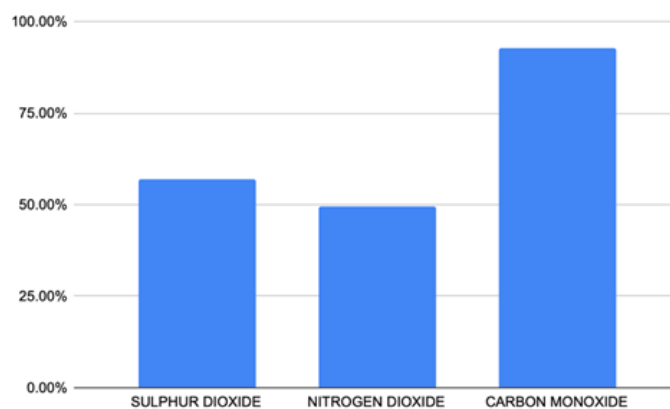
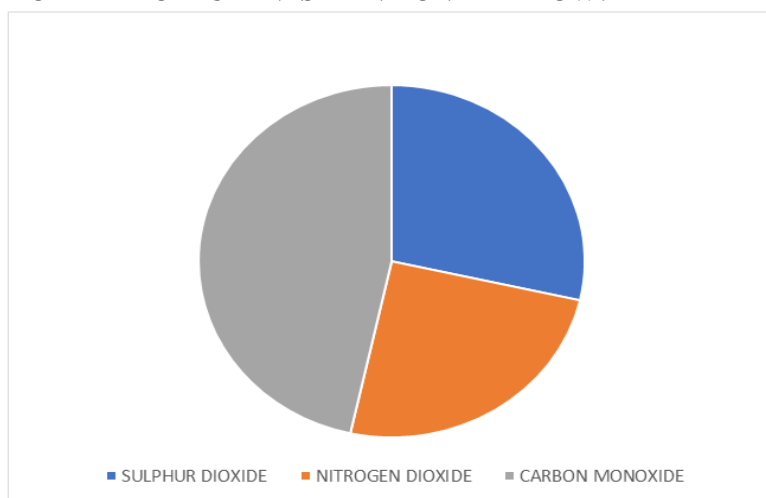
13. NAME A FEW IMPORTANT AIR POLLUTANTS YOU KNOW?





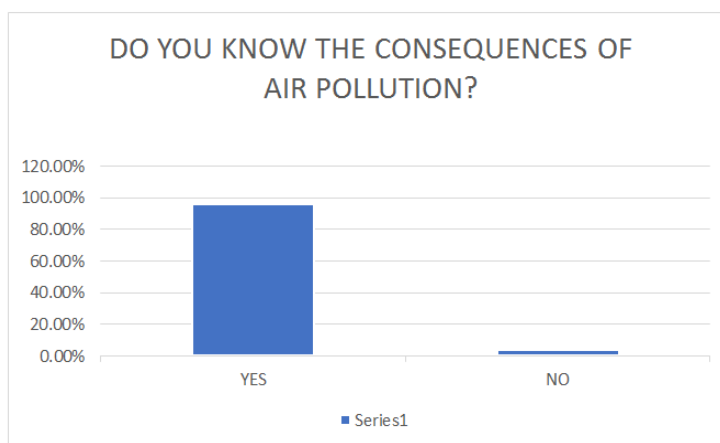
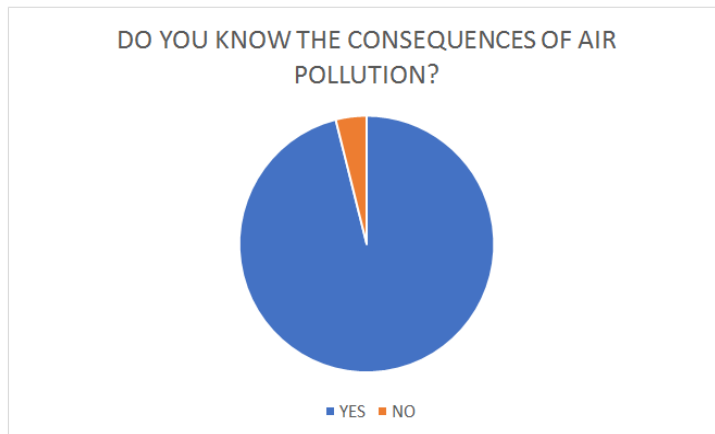
NAME A FEW IMPORTANT AIR POLLUTANTS YOU KNOW?	NUMBER	PERCENTAGE
POLLEN	37	36.3%
DUST	87	85.3%
DUST MITES	49	48%
COAL/OIL COMBUSTION	64	62.7%
AUTOMOBILE	85	83.3%
CHULHA AS INDOOR POLLUTION	45	44.1%
PERFUMES	27	26.5%
AIR FRESHENERS	33	32.4%

**14. ARE YOU AWARE OF THE POLLUTANTS MENTIONED BELOW?**



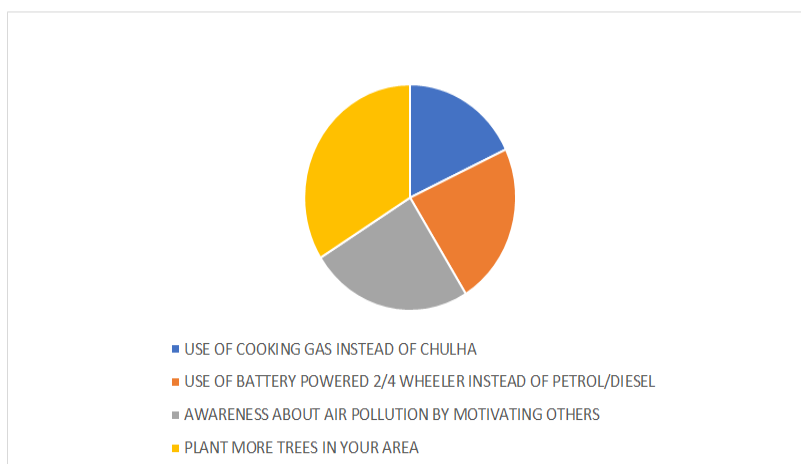
ARE YOU AWARE OF THE POLLUTANTS MENTIONED BELOW?	NUMBER	PERCENTAGE
SULPHUR DIOXIDE	54	56.8%
NITROGEN DIOXIDE	47	49.5%
CARBON MONOXIDE	88	92.6%

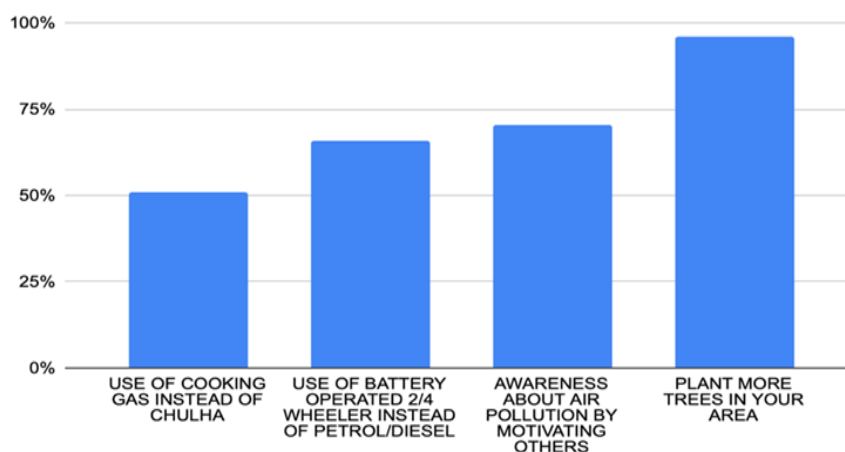
**15. DO YOU KNOW THE CONSEQUENCES OF AIR POLLUTION?**



DO YOU KNOW THE CONSEQUENCES OF AIR POLLUTION?	NUMBER	PERCENTAGE
YES	98	96.08%
NO	4	3.92%

**16. THE PROCESS BY WHICH YOU WISH TO REDUCE AIR POLLUTION**





THE PROCESS BY WHICH YOU WISH TO REDUCE AIR POLLUTION	NUMBER	PERCENTAGE
USE OF COOKING GAS INSTEAD OF CHULHA	52	51%
USE OF BATTERY POWERED 2/4 WHEELER INSTEAD OF PETROL/DIESEL	67	65.7%
AWARENESS ABOUT AIR POLLUTION BY MOTIVATING OTHERS	72	70.6%
PLANT MORE TREES IN YOUR AREA	98	96.1%

In this study total number of respondents were 102. Among them 69% were female and 31% were male. About 90.2% were from urban area and 9.8% were from rural area. 100% of the respondents knew about air pollution. The world's most challenging environmental problem currently is the destruction of its forest cover. Deforestation leads to habitat loss while preservation and conservation of the natural forests increases biological diversity. Climate change and air pollution interact in affecting forest by changes in soil processes, tree growth, species composition.<sup>[9,10,11]</sup> Among the participants 96.08% agreed for pattern of weather is generally changing. Climate change and air pollution are very important environmental problems facing nations and cities of the world.<sup>[12]</sup> 94.1% of the respondents suffering from cough, asthma 3.9%, chronic obstructive pulmonary disease 2.9%, 1% of them suffering from carcinoma of lung. Air pollution is a major environmental problem affecting the health of people in both developed and developing countries.<sup>[13]</sup> 96.08% knew about the consequences of air pollution. Reduction of air pollution has a positive effect on health particularly the health of susceptible individuals.<sup>[14]</sup>

## CONCLUSION

Quality of life can be achieved by good health which can be reached and maintained by health related issues identification and their effective management. If air pollution levels in heavy traffic areas are reduced, the incidence of respiratory diseases may be significantly reduced. The remediation strategy within set framework can protect the human environmental health now and in future as well.

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