Section: Community Medicine

Original Research Article

KNOWLEDGE ATTITUDE AND PRACTICES OF YOUNG ADULTS TOWARDS CLIMATE CHANGE IN INDIA

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Abstract

Background: This cross sectional study was conducted to assess the knowledge attitude and practices of Young adults towards climate change in India. **Materials and Methods:** This Knowledge Attitude Practices study was conducted among the young adults of 15-29 years age group belonging to Southern states of India. The KAP measured respondent's general knowledge on climate change including their understanding of what climate change is, what causes climate change and how climate change is impacting their community. **Result:** Majority of the respondents believe that our Climate is changing (97.23%). 47.85% answered that Carbon dioxide was the primary greenhouse gas responsible for Global warming. 17.79 % believe that human health is the most affected by Climate change. 30.37% young adults are afraid thinking about Climate change. 93.55% of respondents agree that Climate change should be taught in school. **Conclusion:** Young adults have knowledge that Climate change is occurring though they don't understand the term Climate change fully. Most of the knowledge has been acquired from social media, which has been converted into a good attitude. But practice is still not up to the desired level.

INTRODUCTION

I don't want your hope. I don't want you to be hopeful. I want you to panic and act as if the house was on fire. Greta Thunberg on Climate change. Just what is climate? Climate is commonly thought of as the expected weather conditions at a given location over time. People know when they go to Kashmir in winter, they should take a coat. When they visit Kerala in August they take an umbrella. Climate can be measured at many geographic scales—for example, cities, countries, or the entire globe—by such statistics as average temperatures, average number of rainy days, and the frequency of droughts. Climate change refers to changes in these statistics over years, decades, or even centuries.[1]

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable periods.[2]

Climate change continues to represent one of the greatest threats to the global environment, society and the economy. The impacts of climate change are being felt all over the world. It is becoming warmer, rainfall is more erratic, the sea level is slowly rising and extreme weather events are becoming more frequent and intense. Prolonged periods of drought, floods and shifting climatic zones are endangering development successes. The poor and marginalised are often most affected by climate variability and change.[3]

India is a large emerging economy with a great variety of geographical regions, biodiversity and natural resources. However, the country is one of the most vulnerable to climate change risks worldwide. More than half of India's population of over 1 billion people lives in rural areas and depends on climate-sensitive sectors like agriculture, fisheries and forestry for their livelihoods. Natural resources and the environment are already under pressure as a result of rapid urbanisation, industrialisation and economic development. Climate change is projected to exacerbate these pressures.

The climatic changes described above will have serious implications for a number of sectors and resources, including agriculture, water availability and quality, and ecosystems like coastal zones. They will also have an influence on the frequency and magnitude of natural disasters. Very minor changes to temperature can have major impacts on systems on which human livelihoods depend, including changes to water availability and crop productivity, the loss of land due to sea level rise and the spread of disease.

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The lives and livelihoods of many different communities will be at risk.[3]

This KAP study was conducted among the young adults to identify the gaps in knowledge about climate change and to assess the attitudes and practices of young adults towards Climate change.

MATERIALS AND METHODS

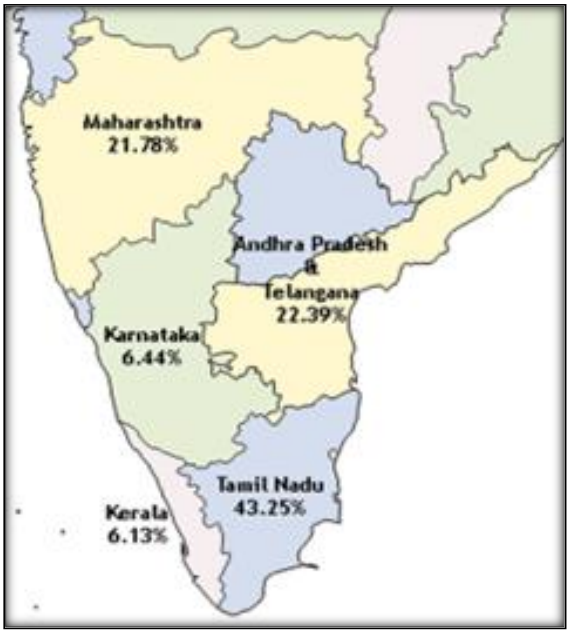
This KAP study was conducted among the young adults of 15-29 years age group belonging to Southern states of India. The KAP measured respondent's general knowledge on climate change including their understanding of what climate change is, what causes climate change and how climate change is impacting their community.

It also measured respondent's attitudes to climate change, perception on actions being taken by the Government to address climate change. The study also attempted to identify the practices of the young adults that will impact Climate change.

Sample Size

Considering prevalence as 69% 95% CI, 5% as absolute precision, the Sample Size calculated is 328.[4]

The study adopted snowball sampling technique wherein the link to the Questionnaire was shared by the Investigator to College going students who were prompted to share the link to their friends and acquaintance. We received a total of 330 responses, 4 of them did not fit the age criteria for Young adults so they were excluded from the study (n= 326).



RESULTS

34.05% of our respondents belonged to the age group of 18-20 years. 32% of the respondents were females and 68% were males. [Table 1]

Half of the respondents answered that they have experienced atleast one disaster in their lifetime. Majority of respondents (97.23%) believe that the climate is changing. [Table 2]

Knowledge

Though 97.23% of our respondents believe that the climate is changing only 38.04% of them answered that they understand the term Climate change fully. 51.23 % respondents said they understand Climate change to some extent.

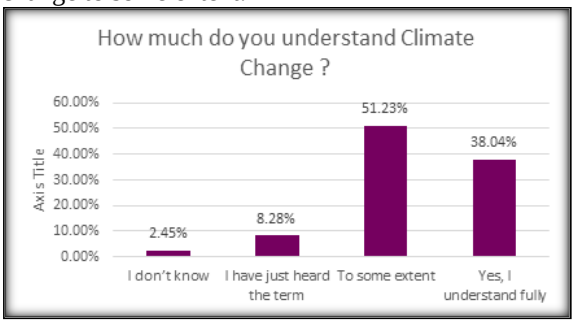


Figure 1: Responses for "How much do you understand Climate change".

The most common responses regarding respondents understanding of climate change are changes in weather pattern (45.09 % of respondents), and changes in environment (28.22% of respondents).

From the responses we received, carbon emission from vehicles and industries (69.33%) was identified as the most common cause of climate change. Deforestation was identified by 83.13% of respondents followed by burning of fossil fuels (56.44%). However, only 31.90% identified Agriculture, such as methane emission from livestock as a cause of climate change.

47.85% of our respondents answered that Carbon dioxide was the principal green house gas responsible for Global warming. The next highest responses were for Chloroflurocarbons (28.83%) and Methane gas (11.34%). [Table 4]

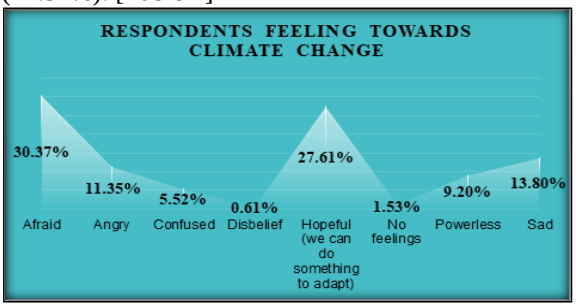


Figure 2: Responses to "Feeling towards climate change"

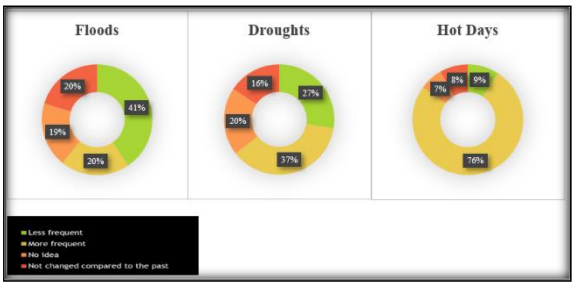


Figure 3: Responses to "Weather changes experienced in the last 5 years".

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49.94% of respondents answered that Flora and Fauna is the most affected by Climate Change. This was followed by Human health and Agriculture as the most commonly affected by Climate Change. [Table 5]

Social media (72.70%) was the most common Medium from which our respondents heard about Climate change. Next to Social media, Television (57.36%) and Internet (54.60%)were the prime sources of information of Climate change to our respondents. [Table 6]

Attitude

From the responses gathered we can say that most of them are Hopeful (27.61%) that we can do something to adapt to Climate change. 30.37% answered that they are afraid and 13.80% feel sad about Climate change. [Figure 2]

We tried to gauge the respondents feeling towards the weather changes they have experienced in the last 5 years. 76% of them answered that hotter days have increased in the last 5 years, whereas 8% answered that's its unchanged. Most of the respondents believe that the frequency of Droughts has increased in the past 5 years. [Figure 3]

Practices

Most of the respondents (93.55%) answered that Climate change should be taught in school and 84.96% of the respondents felt that the Government has not taken adequate measures to combat Climate change. [Table 7]

Table 1: Distribution of participants according to their age.

Age of study participant	Frequency	Percent
15-17	13	3.99%
18-20	111	34.05%
21-23	91	27.91%
24-26	80	24.54%
27-29	31	9.51%
TOTAL	326	100.00%

Table 2: Responses to questions regarding Knowledge component of Climate change

Question	Yes	No	Don't know
Have you ever experienced any disaster in your lifetime ?	162 (49.69%)	164(50.31%)	-
Do you believe the Climate is changing	317 (97.23%)	6 (1.84%)	3 (0.92%)
Air pollution is linked to Climate change	271 (83.12%)	10 (3.06%)	45 (13.80%)

Table 3: Responses to "What do you think best describes Climate change"

What do you think best describes Climate change ?	Frequency	Percent
Changes in environment	92	28.22%
Changes in weather pattern	147	45.09%
I don't know	9	2.76%
Increase in Earth's temperature	78	23.93%
TOTAL	326	100.00%

Table 4: Responses to "Causes of Climate change"

Causes of climate change		
Cause of climate change	**No. Of responses**	**% of total participants**
Burning of fossil fuels, such as oil and coal	184	56.44
Deforestation	271	83.13
Natural events- forest fires ocean currents	111	34.05
Agriculture, such as methane from livestock	104	31.90
Carbon emissions from vehicles and industries	227	69.63
God	10	3.07
Others	45	13.80
I don't know	5	1.53

Table 5: Responses to "Most affected by Climate change"

Most affected by Climate change	Frequency	Percent
Agriculture	49	15.03%
Flora and Fauna	140	42.94%
Forests	16	4.91%
Ground water	34	10.43%
Human health	58	17.79%
Ocean life	29	8.90%
TOTAL	326	100.00%

Table 6: Responses to "Source of information about Climate change"

Source of Information	No. of Responses	% of Total Participants
Radio	55	16.87
School/College	165	50.61
TV	187	57.36
Newspaper	167	51.23

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Social media	237	72.70
Internet- Google	178	54.60
Government	46	14.11
Friends/Family	102	31.29
Billboards/Posters	23	7.06
Pamphlets/Handouts	22	6.75
None	2	0.61

Table 7: Responses to questions regarding expectations of Young adults from School, Government and Self.

Question	Yes	No	Don't know
Climate change should be taught in school	305 (93.55%)	8 (2.45%)	13 (3.98%)
Climate change will impact Future generation	311 (95.39%)	4 (1.22%)	11 (3.37%)
The measures taken by our Government is adequate to combat Climate change	15 (4.60%)	277 (84.96%)	34(10.43%)

Table 8: Responses to Practices component of Climate change

Practices
259 of 326 (79.44%) people said they have planted trees.
246 of 326 (75.46%) people said they always switch off lights when not in use.
128 of 326 (39.26%) people said they have rain water harvesting facility in their House/Flat.
167 of 326 (51.22%) people have ≥ 2 vehicles in their house
106 of 326 (32.51%) people commute to their workplace by walking/cycyling.
52 of 326 (15.95%) people have Solar Hydro Wind energy alternative in home
44 of 326 (13.49%) people said they use plastic bag for shopping/buying vegetables.

DISCUSSION

Young adults (15-29 years) were chosen as the study population because in the years to come they will be teachers, parents and policymakers. They may don different caps but all their actions and decisions will impact the future of our planet.

The reassuring finding of our study is that 97.23% of respondents believed that the Climate is changing. This is similar to the findings by Rawlins et al wherein 95% believe that the climate change is occurring.[5]

The most common responses regarding respondents understanding of climate change are changes in weather pattern (45.09 % of respondents), and changes in environment (28.22% of respondents).

In a KAP study on Climate change by Japan-Caribbean Climate Change Project September, 2016 Belize, changes in weather patterns and weather conditions (22.1% of respondents), changes in temperature (19.8% of respondents) and extreme heat (17.9% of respondents) were the most common responses for respondents understanding of Climate change.[6]

In a KAP study on Climate Change Adaptation & Mitigation in Guyana 88% of respondents recorded that they encountered a disaster. In our study 49.69% people replied that they experienced atleast one disaster in their lifetime.[7]

Majority of the respondents also felt that the increasing air pollution is linked to Climate change. Though our respondents believed in Climate change most of them answered that they understand Climate change only to an extent.[8]

44% of our respondents believed that Flora and fauna is the most affected by Climate change. This is in line with the finding by Rawlins et al.(44.28%). But in contrast to the findings by Rawlins et al wherein 53.73% felt Climate change caused a reduction in food produce, only 15.03% of our respondents believed that Climate change impacted Agriculture primarily.

Majority of the respondents in our study were of the opinion that our Government has not taken enough measures to combat Climate change. In a KAP survey conducted in the Caribbean region,[9] over 80% of the respondents agreed (42.1%) or strongly agreed (42.1%) that the government should play a stronger role in addressing the impact of climate change on communities.

In our study Social media (72.70%) was the most common Medium from which our respondents heard about Climate change. Next to Social media, Television (57.36%) and Internet (54.60%)were the prime sources of information on Climate change. In contrast to this, the results of the KAP study in Caribbean region noted that they obtained their information on climate change from television (80.1%),radio (57.7%), newspaper (37.3%), the internet (22.5%), schools (17.2%) and friends or family (16.4%).

47.85% of our respondents answered that Carbon dioxide was the principal green house gas responsible for Global warming. In a study by Jamaican Conservation and Development Trust, 75% answered that Carbon dioxide gas is the main cause of Climate change.[10]

Majority of the respondents believe that Climate change will affect our future generations. They also believe that Climate change should be taught in school. Students from an young age should be sensitised about Climate change, its impact on Biodiversity and human health so they can convert these knowledge into good practices.

In our study 75.46% respondents replied that they always switch off lights/fans when not in use 39.26% respondents have rain water harvesting facilities and only 15.95% have Solar/Wind/hydro alternative in their house. In a KAP study for the SMART Health Care Facilities in the Eastern Caribbean Project

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90.87% people answered that they off lights and appliances when not in use, 25.13% have installed solar panels/water heaters and 64.84% have rainwater harvesting facilities.[11]

There are some limitations in this study. The reliability and validity of the instrument are subject to further scrutiny. The study adopted a cross-sectional design. No causal relationships can be drawn from the results. Precautions should be taken in attempts to generalize the findings to other regions of the countries and other countries.

CONCLUSION

- Young adults have knowledge that Climate change is occurring though they don't understand the term Climate change fully. Majority of the respondents believe that increasing air pollution is linked to Climate change.
- Most of the knowledge has been acquired from social media, which has been converted into a good attitude. 27.61% respondents are hopeful that something can be done to combat Climate change.
- But practice is still not up to the desired level.
- Legislations should be made that mandate every building to have rain water harvesting facility.
- All roads should incorporate bicycle lanes. People should be encouraged to use public transport and cycles to commute.
- Efforts should be made to fill the gaps and to instigate the required practices for them.
- Government should consider Climate change as an urgent threat and bring about policies and legislations that will protect our environment and its inhabitants.

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