

Knowledge and Practices towards Health and Environment among the Teaching Staff of JSS Medical Institutions, Mysore, Karnataka, India.

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ABSTRACT

The purpose of this study was to assess knowledge and practices among the teaching staff of J.S.S. Medical Institutions of Mysore towards health and environment and suggest measures to protect our only home i.e., Planet earth. Questionnaire based cross sectional survey to assess knowledge and practices towards health and environment conducted among the teaching staff of J.S.S. Medical Institutions of Mysore. When the questions were asked regarding the knowledge towards health and environment like cause of global warming, 90.12% (n=73) answered correctly. 62.96% (n=51) knew that solar energy is renewable and 7.4 % (n=6) of the respondents didn't have any knowledge regarding renewable resources. 87.65 % (n=71) of the respondents knew that health emergencies can arise from natural disasters like Tsunami, floods, earthquakes etc. Respondents were using one or the other eco-friendly materials and methods to protect the climatic changes. Climate change is real. Human activities are prime cause. Human activities can also be the solution. We must act now together, to find ways to protect human health and the people on this planet.

INTRODUCTION

Climate change is one of the greatest challenges of our time. Climate changes will affect in profoundly adverse ways to some of the most fundamental determinants of health – food, air, water. Climate change alone accounts for more than 60,000 deaths from climate related natural disasters every year [1].

Health professionals are on the frontline in dealing with the health impacts of climate change. All populations are likely to experience some impacts but the most vulnerable populations are those who live in poor countries where the health systems already struggles to detect, control and treat infectious diseases and health conditions including malaria, dengue hemorrhagic fever, protein energy malnutrition and diarrhea [1].

While it is true that global warming is already occurring and affecting the way we live, it is vital that we take steps to curb global warming pollution. If we do not begin to make the change, the heat waves and hurricanes that we have already suffered through will become more routine and worse. Thankfully, we have all the tools necessary to curb our emissions of greenhouse gases - tools like clean energy, energy efficiency, and cars that go farther on a gallon of gas [2].

Global warming is caused by the build up of gases in the atmosphere such as carbon dioxide and methane, which form a sort of blanket over the Earth, trapping in heat that would normally escape the atmosphere. The commonly known greenhouse gas is carbon dioxide, a pollutant emitted from the burning of fossil fuels, such as coal, oil, and natural gas. While it is true that there has always been some natural climate variability, the changes that are currently underway are unlike anything that has been seen before. Record levels of carbon dioxide are having a far reaching change over our weather, sea levels, and climate [3].

Global warming is sometimes referred to as the most dangerous experiment ever conceived. We do not know what the full affect of radical climate change will be on our environment, but we do know that even a modest rise of 2° - 3°F (1.1°-1.7°C) could have dramatic effects. In the last 10,000 years, the Earth's average temperature hasn't varied by more than 1.8°F (1.0°C). Leading scientists assert that a rise of 3 degrees would cause famine and drought and threaten millions of lives. It would also cause a worldwide drop in crops of between 20 and 400 million tons, threatening 400 million more people with famine, and put up to 3 billion people at risk of flooding and without access to fresh water supplies. Few ecosystems could adapt to such a dramatic temperature change, resulting in the destruction of half the world's nature reserves and a fifth of coastal wetlands. Global sea levels could rise by more than 20 feet if the ice shelves in Greenland and Antarctica collapses, which is a distinct possibility if temperatures continue to climb. Droughts and wildfires will occur more often. More than a million species worldwide could be driven to extinction by 2050 [4].

The United states produces far more carbon dioxide than any other country in the world. According to the latest figures by the Department of Energy, the US produces 22% of all CO₂ emitted into the atmosphere, at 5,912.21 million metric tons in 2004. That is more than China, and India together (17% and 4.1% respectively), more than Russia (6%), Japan (4.7%), Australia (1.4%) and the whole of Europe put together (17.2%) [4].

We burn coal and natural gas to produce electricity and energy for our homes, businesses, and factories, while most of the oil is burned to power transportation – planes, buses, and especially cars.

Factors in Global Warming

One major factor in global warming is a solar heating process termed the greenhouse effect. The glass structure of a greenhouse allows most of the Sun's light inside, but stops a good share of the heat from escaping. This causes the temperature inside the greenhouse to be warmer than the outside air.

The Earth's atmosphere, along with certain greenhouse gases, acts much like a greenhouse, absorbing the infrared energy emitted by the Earth and warming the atmosphere. Without the presence of a greenhouse effect, the temperature of the Earth would be about -18°C (-0.4°F) instead of its present 15°C (59°F) [2].

The most abundant greenhouse gas is water vapor, followed closely by carbon dioxide (CO₂). There also are trace gases including methane (CH₄), nitrous oxide (N₂O), tropospheric ozone (O₃), and human-made chlorofluorocarbons (CFCs). These trace compounds, though in very low concentrations are important because they absorb far more radiation, molecule per molecule, than does carbon dioxide [4].

The local consequences of global warming:

Direct manifestations of a widespread and long-term trend toward warmer global temperatures

- Heat waves and periods of unusually warm weather
- Ocean warming, sea-level rise and coastal flooding
- Glaciers melting
- Arctic and Antarctic warming

Events that foreshadow the types of impacts likely to become more frequent and widespread with continued warming.

- Spreading disease
- Earlier spring arrival
- Plant and animal range shifts and population changes
- Coral reef bleaching
- Downpours, heavy snowfalls, and flooding
- Droughts and fires [5]

We need to make clear that in rapidly changing environment it is not only the animals and plants but humans that need protection. We need governments to put human health and well being at the heart of climate change policy and renew efforts to protect health through achieving the millennium developmental goals. We need ministries of health to strengthen public health policy and practice to meet the challenges of climate change and protect their population and most importantly we need individuals to make personal choices that will both enhance the health and reduce climate change. Climate change will exacerbate these weaknesses by bringing new pressures on health services with greater frequency [1].

Aims and Objectives

The purpose of this study was to assess knowledge and practices among the teaching staff of J.S.S. Medical Institutions of Mysore towards health and environment and suggest measures to protect our only home i.e., Planet earth.

MATERIAL AND METHODS

A descriptive cross sectional survey was conducted to assess knowledge and practices towards health and environment, among the teaching staff of J.S.S. Medical Institutions of Mysore using a predesigned questionnaire. This questionnaire was written in English and validated through a pilot survey. Later it was distributed among the staff members of J.S.S. Institutions (Medical, Dental, Ayurveda and pharmacy). The respondents were asked to mark more than one response for questions if they wanted to. Permission to conduct the survey was obtained from the Principal of the college. The staff members present in the college during the survey were included with their consent. The collected data was analyzed. The survey was descriptive and data was summarized as counts and percentages and were presented in tabular and graphic forms.

RESULTS

The sample size was 81.

Table 1 shows the number of participants according to their relative strengths in the respective institutions.

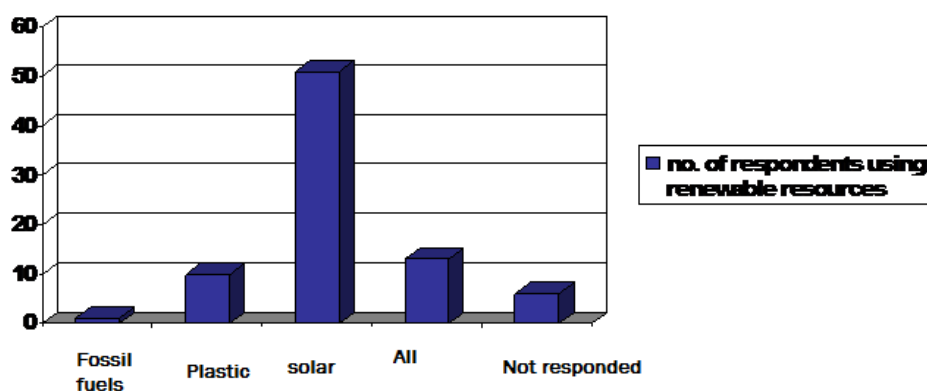
Table 1: shows the number of participants from different professional institutions.

Institutions	No. of participants	Percentage
J.S.S. Dental College	40	49.38%
J.S.S. Medical College	07	8.64%
J.S.S. Ayurveda College	23	28.39%
J.S.S. College of Pharmacy	11	13.58%
Total	81	100%

When the questions were asked regarding the knowledge towards health and environment like cause of global warming, 90.12% (n=73) answered correctly. Whereas 2.46% (n=2) of the respondents thought that only increased pollution will cause global warming.

When asked about renewable resources, 62.96% (n=51) knew that solar energy is renewable whereas 1.23% (n=1) of the respondents thought that fossil fuels can be used as renewable resources and 7.4 % (n=6) of the respondents didn't have any knowledge regarding renewable resources (Graph 1). 87.65 % (n=71) of the respondents knew that health emergencies can arise from natural disasters like Tsunami, floods, earthquakes etc.

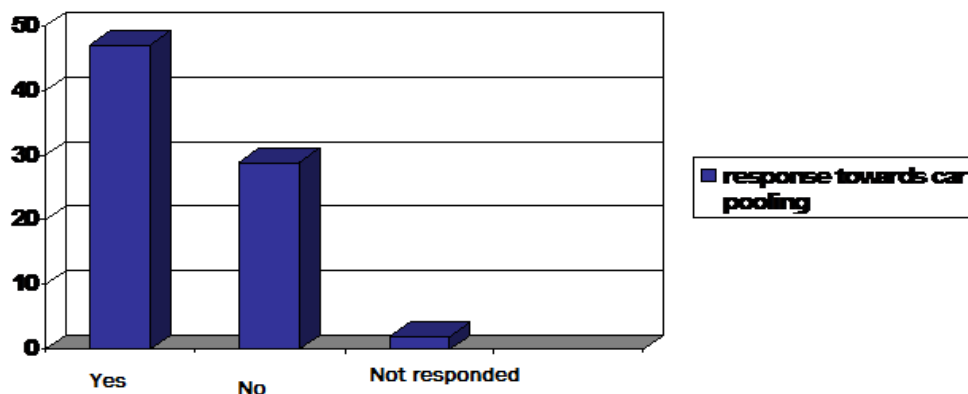
Graph 1: Shows No. of respondents using renewable resources



When question was asked about their practices to protect their health from climate change, almost all the respondents were using one or the other eco-friendly materials/ methods like 18.51 % (n=15) are using rain water harvesting method, 64.19 % (n=52) are using solar energy for their regular needs e.g., lighting, heating purpose and cooking and 8.64 % (n=7) of the respondents are using Compressed natural gas (CNG fuel).

When we asked about their mode of transport to college or for small distance, 64.19 % (n=52) were interested in using bicycle or taking a walk for small distance, whereas 9.87 % (n=8) were interested in using electric vehicles and public transport. 58.02% (n=47) were interested in car pooling also (Graph 2).

Graph 2: Shows No. of respondents showing interest in car pooling



DISCUSSION

The rationale of our survey was to find out the knowledge and practices among the teaching staff of J.S.S. Medical Institutions of Mysore towards health and environment.

Most of the respondents knew that solar energy is a renewable resource. Renewable energy solutions, such as wind and solar power, can reduce our reliance on coal-burning power plants, the largest source of global warming pollution [6]. Most of the respondents knew that health emergencies can arise from natural disasters like Tsunami, floods, earthquakes etc. This shows that health care professionals have a good knowledge towards climate and health. Through increased collaboration, the global community will be better prepared to cope with climate-related health challenges worldwide and in religions, countries and communities [4]. When question was asked about their practices to protect their health from climate change, almost all the respondents were using one or the other eco-friendly materials/ methods like using rain water harvesting method, solar energy for their regular needs e.g., lighting, heating purpose and cooking and CNG fuel. Their reasons for using these eco-friendly appliances are saving the time and pocket money and also that by following these methods they can prevent climate change. Money isn't all you're saving. More efficient use of energy means a cleaner environment. Most energy used to power homes comes from the burning of fossil fuels, which contributes to urban smog, acid rain, and global climate change. Environment Protection Agency (EPA) expects the annual pollution prevention from ENERGY STAR labeled homes built over the next 20 years to be equivalent to eliminating the emissions from half a million cars! So using less energy at home not only saves you money, it provides tremendous environmental dividends to your community, our nation, and the planet [7].

When we asked about their mode of transport to college or for small distance, most of them were interested in using bicycle or taking a walk for small distance, using electric vehicles, public transport and car pooling also (Graph 2). This shows that most of them are interested in adopting new methods of transportation like car pooling, common bus etc. so by this survey we can make sure to provide an opportunity for using car pooling method and common bus for college. Hence this can be our first step in saving our only home – planet earth!

CONCLUSION AND SUGGESTIONS

Climate change is real. Human activities are prime cause. Human activities can also be the solution. We must act now together, to find ways to protect human health and the people on this planet [4].

The choices we make and the products we buy test our commitment to maintain a healthy planet. Choosing modern technology can reduce our use of fossil fuels and help protect the planet.

Ten steps will help curb global warming, save you money, and create a safer environment for the future.

- Drive Smart!: A well-tuned car with properly inflated tires burns less gasoline—cutting pollution and saving you money at the pump. If you have two cars, drive the one with better gas mileage whenever possible. Better yet, skip the drive and take public transit, walk, or bicycle when you can.

- Support clean, renewable energy: Renewable energy solutions, such as wind and solar power, can reduce our reliance on coal-burning power plants, the largest source of global warming pollution.
- Replace incandescent light bulbs with compact fluorescent bulbs: Especially those that burn the longest each day.
- Saving energy at home is good for the environment and for your wallet: Start with caulking and weather-stripping on doorways and windows. Then adjust your thermostat and start saving.
- Become a smart water consumer: Install low-flow showerheads and faucets and you'll use half the water without decreasing performance ^[6]
- Buy energy-efficient electronics and appliances. Look for the Energy Star label on new appliances ^[7]
- Plant a Tree, protect a forest.
- Reduce! Reuse! Recycle!
- Mount a local campaign against global warming.
- Educate your community about how it can cut global warming pollution. Support measures at the national, state, and local level ^[6]

Let's make WHO Day 2008 "protecting health from climate change" a landmark event that sets the stage for truly global action.

ACKNOWLEDGEMENTS

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