



Effectiveness Of Structured Teaching Programme On Knowledge Regarding Global Warming And Its Effects On Health Among Higher Secondary School Students In A Selected School At Jamshedpur, Jharkhand

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Abstract: Human health has always been influenced by climate and weather. Climate change, together with other natural and human-made health stressors, threatens human health and well-being in numerous ways. Global warming also referred to as climate change is the observed rise in the average temperature of the Earth's climate system.¹ According to the statistical reports, it is clearly evident that the prevalence of global warming is increasing average temperatures of the earth's atmosphere and oceans, largely driven by human activities such as fossil fuel combustion, deforestation and industrial processes. It is therefore important that we create opportunities to educate the future generation so that they are enable for taking appropriate preventive measures following energy saving practices. Quantitative approach was used to assess the effectiveness of structured teaching programme on knowledge regarding global warming and its effect on health among higher secondary students at a selected higher secondary school, at Jamshedpur Jharkhand. A pre experimental study with one group pre-test and one group post-test design was used. Non- probability convenience sampling technique was used to select 60 higher secondary students. Data collection was done using structured knowledge questionnaire. Study concluded that the pre-test knowledge of higher secondary students on global warming and its effect on health was low as the mean score obtained by the subject was 15.73 with standard deviation 3.17. On analysis of the results of the posttest knowledge of higher secondary students on global warming and its effect on health, the mean score obtained by the subject was 23.48 with calculated 't' value 22.9 which was higher than the table value 2.02 with 59 df at 0.05 level of significance. The study concluded that the structured teaching programme showed significant improvement in the understanding of higher

secondary students on global warming and its effect on health.

KEYWORDS: *Effectiveness ,knowledge, STP, Global warming ,Effect, Health, Higher secondary students.*

INTRODUCTION

Global warming, a relentless escalation of earth's temperature orchestrated by the unchecked release of greenhouse gases, poses a profound and insidious threat to human health. This is not merely an environmental crisis; it is a direct assault on our well-being, permeating every facet of our existence. The World Health Organization (WHO) estimates that climate change could cause approximately 250,000 additional deaths per year between 2030 and 2050, primarily from malnutrition, malaria, diarrhea, and heat stress.² In India, for example, rising temperatures have already led to a significant increase in heat-related illnesses, with vulnerable populations, such as the elderly and children, disproportionately affected.³ From the escalating frequency and intensity of heatwaves that strain our bodies to the altered landscapes that foster the proliferation of infectious diseases, the consequences are far-reaching and deeply concerning. The delicate balance of our ecosystems is disrupted, jeopardizing our food and water security, while extreme weather events wreak havoc, leaving trails of displacement, injury, and psychological trauma.⁵ This crisis demands urgent and decisive global action to safeguard the health of present and future generations.

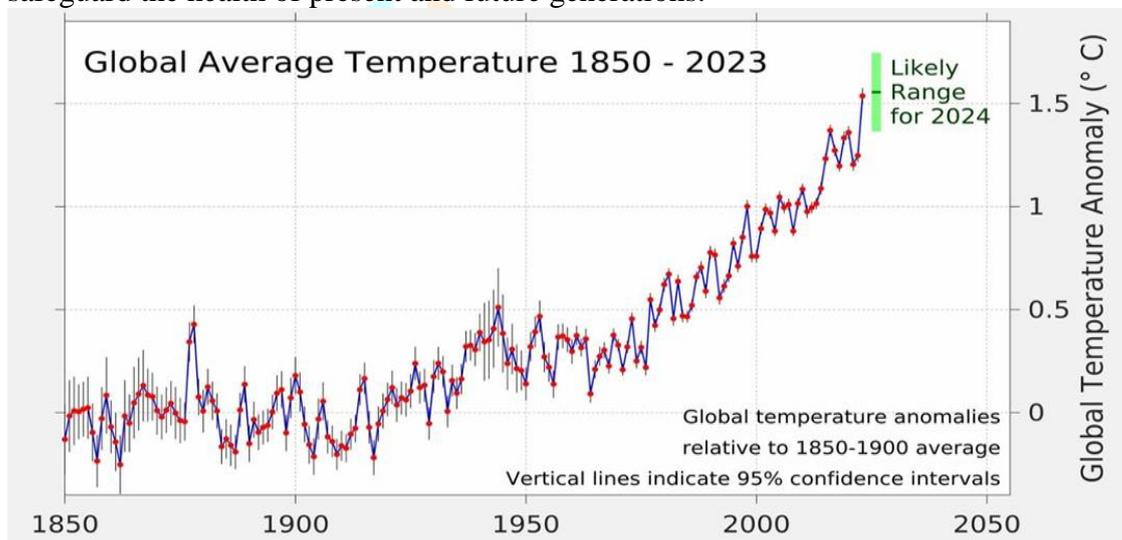


FIGURE. 2 GLOBAL WARMING TEMPERATURE (1850 -2024)

Source : [https:// images.app.goo.gl/m4jtxWq756Xxuo](https://images.app.goo.gl/m4jtxWq756Xxuo)

Figure-2 shows about global temperature Report for 2023 posted on January 12, 2024 by Robert Rohde Berkeley Earth, a California-based non-profit research organization, which has been preparing independent analyses of global mean temperature changes since 2013. The following report on global mean temperature during 2023 concludes that 2023 was the warmest year on Earth since 1850, exceeding the previous record set in 2016 by a clear and definitive margin.³

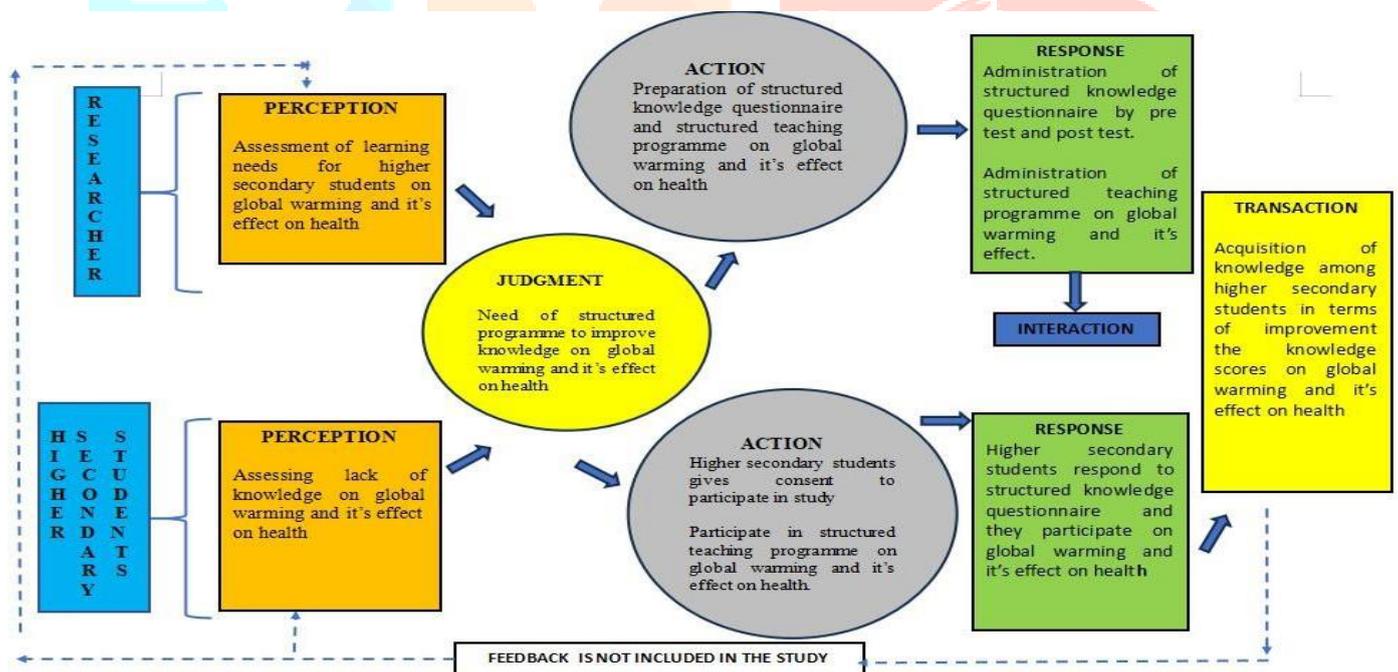
NEED FOR THE STUDY

Statistical reports unequivocally demonstrate that global warming is escalating, evidenced by rising average temperatures in the earth's atmosphere and oceans. This alarming trend is primarily driven by human activities such as the burning of fossil fuels, deforestation, and industrial processes. The concentration of greenhouse gases like carbon dioxide in the atmosphere has reached unprecedented levels in recent years.⁶

Recognizing the critical importance of educating future generations, this study aims to assess the knowledge of higher secondary students regarding global warming and its profound impact on human health. By evaluating their understanding of the causes, consequences, and potential solutions to this critical environmental issue, we can identify key knowledge gaps. This information will be instrumental in improving environmental education curricula and teaching methodologies. Furthermore, the study will evaluate the effectiveness of existing environmental education programs by assessing students' knowledge levels.

Ultimately, the findings will inform the development of more effective educational programs that equip students with the knowledge and skills necessary to address the challenges of climate change. By empowering students with this knowledge, we can encourage them to adopt sustainable practices such as energy conservation at home and school, embracing sustainable diets, participating in tree-planting initiatives, practicing recycling, promoting sustainable transportation, and actively engaging in community clean-up drives. These collective actions by higher secondary students can significantly contribute to mitigating the adverse effects of global warming.

THEORITICAL FRAMEWORK



METHODOLOGY

A pre experimental study was done using one group pretest and posttest design. The study was conducted among higher secondary school students and 60 samples were selected using non probability convenience sampling technique. The study was conducted for a period of one week from 02.08.2024 to 08.08.2024. Students who were studying in the selected higher secondary school of Jamshedpur, Jharkhand were considered as the samples.

The inclusion criteria of the study included higher secondary students who are studying at selected higher secondary school and who were willing to participate in the study. However, higher secondary students who are not available and not willing to participate were excluded.

An extensive search of literature was made for the purpose of developing appropriate tool for assessing the knowledge regarding global warming and its effects on health among higher secondary students. An instrument in the form of structured knowledge questionnaire was developed by the investigator with the help of selected literature from various text books and journals and internet and discussion with the experts in the field of community health nursing.

TOOL AND TECHNIQUE

TOOL : Structured Knowledge Questionnaire which consists of two parts.

Part A: Demographic proforma:

The demographic proforma consisted of 12 items. Age, religion, type of family, educational status of mother and father, occupational status of mother and father, monthly income, mode of transport, type of fuel used for cooking, previous knowledge about global warming, source of information.

Part B: Structured knowledge questionnaire:

The questionnaire consists of 30 multiple-choice questions each having four options. Each item had a score of one for the correct answer and zero for the wrong answer.

TECHNIQUE: Pen and paper technique

SCORING:

SL.NO	KNOWLEDGE SCORES	SCORE PERCENTAGE	LEVEL OF KNOWLEDGE
1	0-15	<50%	Below average
2	16-22	51-75%	Average
3	23-30	>75%	Above average

The structured teaching programme on global warming and its effects on health was administered for 30 minutes' duration. Lecture cum discussion were the teaching method used and the various audio-visual aids and detail descriptions were employed during the teaching session. The contents included in structured teaching programme were introduction, definition, statistics, causes, effects, steps to stop global warming, summary and conclusion.

The reliability of the tool was tested by using split half technique. The Karl Pearson Co – efficient Correlation 'r' was computed by deviation method along with Spearman's Brown Correlation. The 'r' value obtained is 0.78 and the tool was found to be reliable. Pretest data was collected using the structured interview knowledge questionnaire from the selected higher secondary students. Structured teaching programme was administered on knowledge regarding global warming and its effect on health. On the seventh day post-test was done using the same knowledge questionnaire.

It was planned to analyze and interpret data with the help of descriptive and inferential statistics. The data was edited, coded and entered in excel sheet, using SPSS version 20 and the probability of less than 0.05 was considered statistically significant.

Demographic variables of elderly people were analyzed using frequency and percentage distribution. Results were analyzed using mean, mean percentage, standard and the paired “t” test to find the significance of difference between the selected variables and the pre – test post - test knowledge scores. Chi – Square test to determine association between post – test knowledge scores and selected demographic variables.

RESULTS

Section A – Sociodemographic data

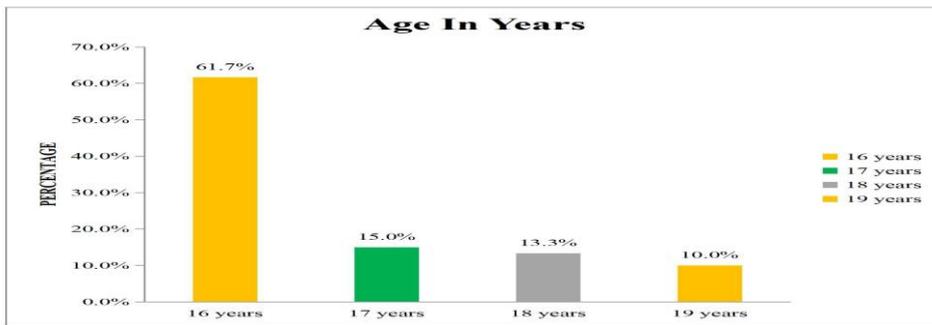
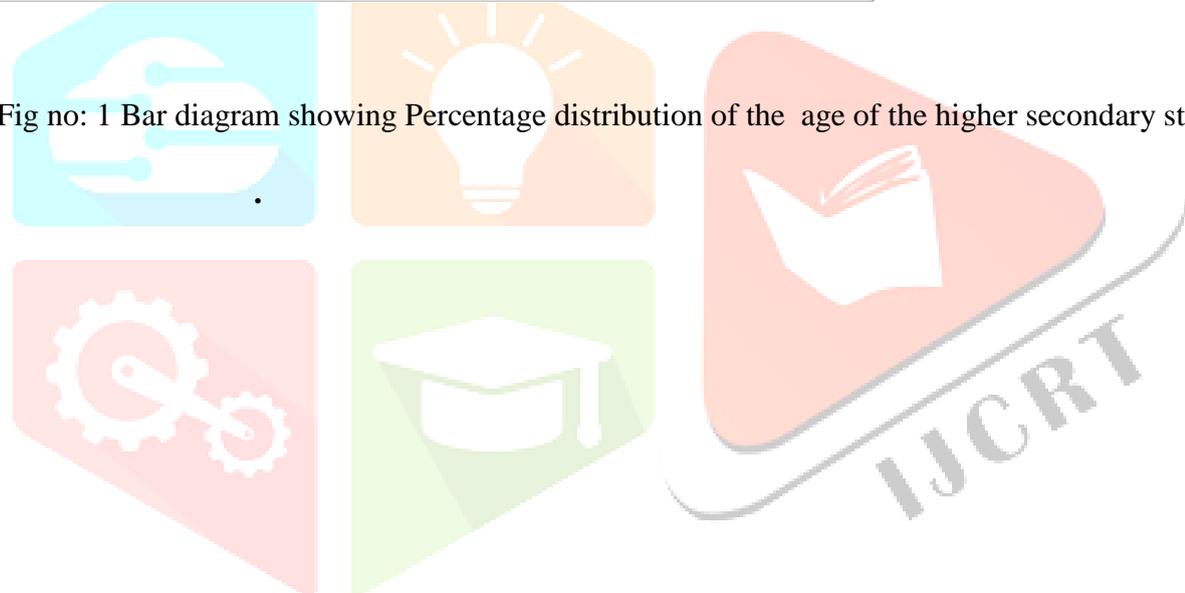


Fig no: 1 Bar diagram showing Percentage distribution of the age of the higher secondary students



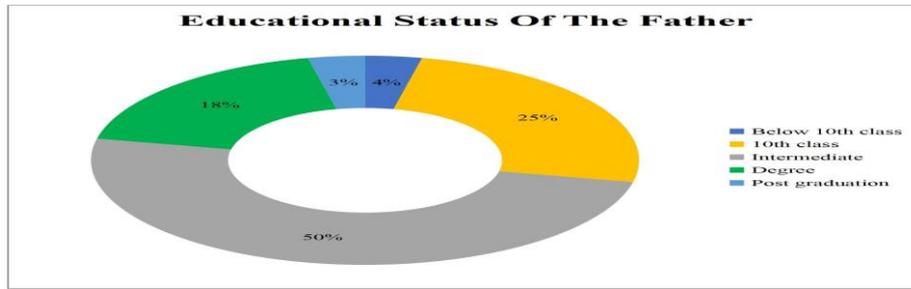


Fig. No-2 Pie diagram Showing the educational status of the father of the Higher secondary.

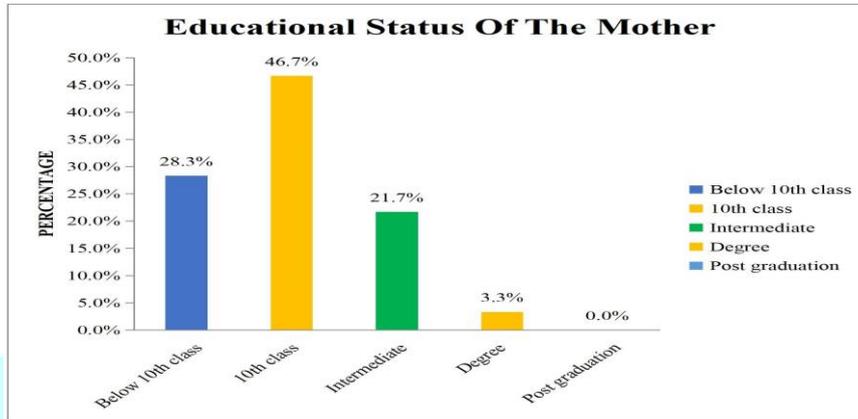


Fig.No-3 Bar diagram Showing Percentage distribution of the educational status of the mother.

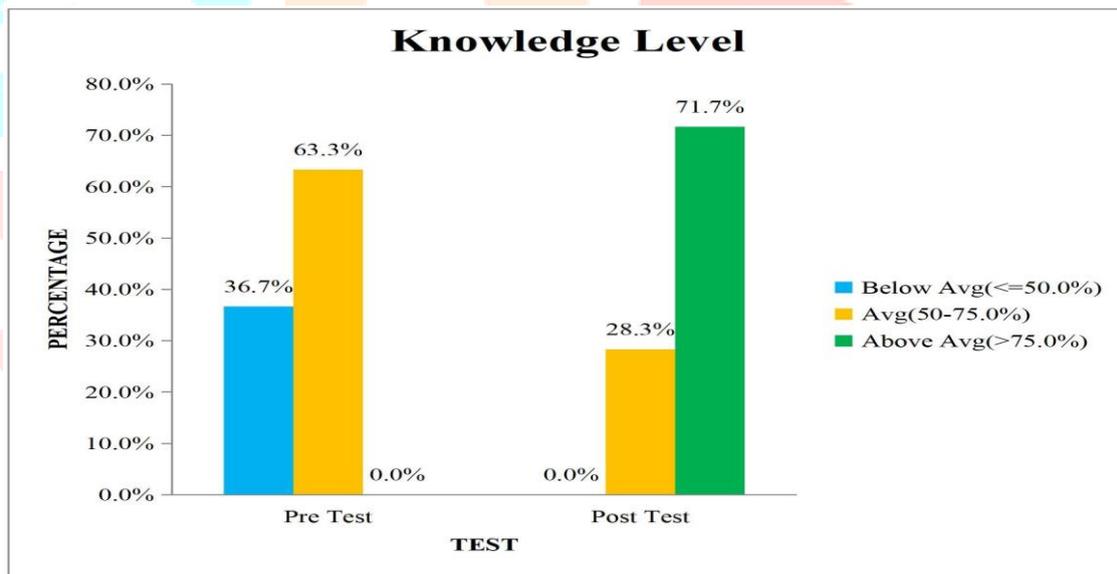


Fig. No-4 Bar diagram Shows Percentage distribution of the Knowledge levels in Pre test and Post test about global warming and its effect on health.

Section B-Effectiveness of Structured teaching Programme in terms of ' t' value.

Table 2 – To assess the effectiveness of structured teaching Programme.

Area of knowledge	Pre-test Mean	Post-test Mean	Mean difference	't' value
Overall knowledge scores	15.73	23.48	7.75	22.9 P Value P<0.005

The above table explains that the pre -test mean was 15.73 and that of post- test was 23.48 with 7.75 mean difference and the calculated 't' value was 22.9 which is higher than the table value of 2.027 at 59 df with 0.05 level of significance . It shows that there is a significant difference ($p<0.005$) in pretest and post test knowledge scores .

DISCUSSION

The present study was undertaken to assess the knowledge regarding global warming and its effect on health among higher secondary students through pretest and posttest method. Structured teaching programme was conducted on the global warming and its effect on health. Pretest mean was 15.73 and that of the posttest was 23.48 with 7.75 mean differences and the calculated 't' value was 22.9 which is higher than the table value at 2.02 at 59 df with 0.05 level of significance. It shows that there is a significant difference ($p<0.005$) in pre-test and posttest knowledge scores. Hence it was concluded that after administration of structured teaching Programme on global warming and its effect on health the knowledge scores of the Higher secondary students have been increased. The findings of the study demonstrated that there was a significant association found between the knowledge and demographic variables such as age, educational status of father, educational status of mother and occupation of mother.

CONCLUSION

The study attempted to assess the effectiveness of structured teaching programme on knowledge of higher secondary students regarding global warming and its effect on health and the study revealed significant improvement in the knowledge scores on global warming and its effect on health. It was concluded that structured teaching Programme has been effective in increasing the knowledge of Higher secondary students.

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REFERENCES

1. Anderson P, Collins M. Climate Change and Health Impacts. Global Health Press. 2019; 3rd Edition. New York: page no. 1-5.
2. World Health Organization (WHO) Climate Change. Key Facts. Oct 12, 2023.
Available from: <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health>
3. World Health Organization. (2020).
WHO global strategy on health, environment, and climate change: the transformation needed to improve lives and wellbeing sustainably through healthy environments.
4. Global Temperature Report 2023. <https://berkeleyearth.org/global-temperature-report-for-2023>
5. Intergovernmental Panel on Climate Change (IPCC). (2021).
Climate Change 2021: The Physical Science Basis. Cambridge University Press.
6. Taylor K, Jackson D. The Role of Climate Change in Global Health Challenges. Environmental Studies Publications. 2020; 2nd Edition. London: page no. 10-15.

