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EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING WATER CONSERVATION METHODS AMONG THE STUDENTS OF SELECTED COLLEGES AT MANGALURU, KARNATAKA, INDIA- QUASI EXPERIMENTAL STUDY.

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ABSTRACT

The importance of water is known to one and all. Despite water being the basic human need. Water is one of the precious natural resources each and every living being need to survive. The aim of this study was to access the effectiveness of structured teaching programme on knowledge regarding water conservation methods among the students of selected colleges at Mangaluru, Karanataka, India. A Quasi Experimental one group pre-test and post-test design was adopted to conduct this study. By using simple random sampling 120 college students were selected from the selected college of Mangaluru. Structured knowledge questionnaires were used to collect the data after obtaining the written consent. A Structured teaching program was administered after pre- test and then set of post-test questionnaire was given after 7 days. Result showed that, majority i.e., 73.3% of samples had moderate, 25.5% had inadequate knowledge in pre-test, where as in post-test majority of the samples that is 48.3% had moderate knowledge, 42.5% had adequate knowledge regarding water conservation methods. The mean knowledge score in pre-test computed was 7.88 ± 2.48 and in post-test 12.17 ± 3.87 , which showed marked increase (4.29) in mean value. The calculated paired 't' test value was 9.84, ($t(119) = 1.66$ at $p \leq 0.05$ significance level) which showed significant difference between pre-test and post-test level of knowledge regarding on water conservation methods and structured teaching programme was effective in significant increasing the knowledge of college students. Result also revealed that there is significant association with pre-test knowledge score and age in year, type of family ($4.52, 5.82 \times \chi^2_{(1)} = 3.84$ at $p \leq 0.05$ significance level). The study concluded that, there is requirement of large group mobilization towards water conservation methods. Further study can be conducted through mass communication in assessment of awareness, practice and attitude of different group of people in the communities regarding water conservation and its importance.

KEYWORDS

Structured teaching programme, Knowledge, Water conservation Method, Students

INTRODUCTION

Water is a very important and precious natural resource in each and every living. But the precious thing is being wasted (1). India is facing severe water shortage due to reduced rainfall, manmade climate changes, Industrialization, population explosion and staggering amount of water wastage because of negligence or lack of knowledge in using and dilapidated water supply system. (2). Today the globe is in high need of water conservation practice as the quantity of the water is going down day by day. Even we say earth is a blue planet and about 71% earth covered with water, the reality is that only 3% of the total water is fit for drinking (3).

A report in 2009 suggested that by 2030, few developing countries of the world water demand will exceed supply by 50%. More than 2 billion people in developing county currently lack of safe water to meet the basic needs (4). The rate of population growth and global warming alarming the water scarcity in many countries (5).

In India water has been recognized vital to economic growth, wellbeing of people and the sustainability of ecosystem. In the major cities of India water scarcity and water management is an everyday problem (6). Over the last few years Government of India has been implementing a wide range of programmes and legislations for promoting water efficiency in the country (7).

Understanding of water issues and having good knowledge on conservation considered core ingredient of solving water problem. The concept of water literacy initiates and engage people helps in good decision making in use and conservation of water (8). Future nation development depends upon today's adolescent knowledge level. Water is an important source and where it gets limited, in future if there is a third world war it will be regarding water scarcity. A water secure world reduces poverty, advances education, and increases living standards. It is a world where there is an improved quality of life for all (9).

Hence this study aimed to assess the effectiveness of structural teaching program on knowledge regarding water conservation method among college students. In order to know the level of knowledge on the water conservation methods, because they are the future buds who is responsible to save the water for the future generation, in order to sustain the life in the earth.

Materials And Method

An evaluative approach was used to determine the effectiveness of structured teaching programme on knowledge regarding water

conservation methods among the students of selected colleges at Mangaluru, Karanataka, India.

Approval of ethical clearance obtained from the A.J Institute of Medical science and research centre, Mangaluru.

By using simple random sampling from the selected colleges of mangaluru 120 students, who are aged between 17 years to 21 years were selected as a sample for this study. Data was collected through demographic Performa and Structured knowledge questionnaire regarding water conservation method after obtaining written consent from the participant. study was conducted during February/ March 2021.

A Structured teaching program was given using power point presentation given after pre- test and then set of post-test questionnaire was given after 7 days. The data was analyzed on the basis of objectives and the assumption of the study by using SPSS- 21 software

RESULT

Demographic distribution of samples showed that, majority (90.83%) of the sample belonged to the age group of 19-21 years, 9.16% belonged to the age group of 17-19 years. In relation to gender, 56.66% of the sample were females and remaining (43.33%) were males. Majority samples belongs to Hindu religion (66.66%) and (20.83%) belongs to Christian religion and remaining 12.5% belongs to Muslim religion. Majority (56.66%) of the college students are from nuclear family, 30.83% are from joint family. Majority i.e. 40% of college students are resides in urban area, 35% are in rural area and rest of the students (25%) are in semi urban area. Most of the samples i.e., 54.16% are using well water, 26.66% uses bore well water, 16.66% uses municipality water as a source of water.

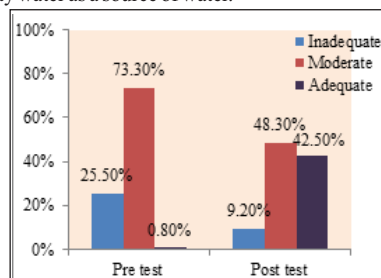


Fig 1: Distribution Of Pre-test And Post-test Knowledge Scores Of The College Students On Water Conservation Methods.

Fig 1 shows that, in pre-test majority i.e., 73.3% of samples had moderate, 25.5% had inadequate knowledge and only 0.8% had adequate knowledge regarding water conservation methods. Where as in post-test majority of the samples that is 48.3% had moderate knowledge, 42.5% had adequate knowledge and only 9.2% had inadequate knowledge regarding water conservation methods.

Table 1: Mean, Standard Deviation, Mean Deviation, Paired "t" Test Values. n=120

Sl. no	Variables	Chi square value	df	P value	Remark
1.	Age in years				
	b)17-19	4.528*	1	0.033	There is association
	c)19-21				
2.	Gender				
	a) male	0.168	1	0.682	No association
	b) female				
3.	Religion				
	a) Hindu	2.462	2	0.292	No association
	b) Christian				
	c) Muslim				
4.	Types of family				
	a) Nuclear Family	5.828	1	0.016	There is association
	b) Joint Family				
5.	Area of residence				
	a) Urban	1.649	2	0.438	No association
	b) Semi				
	c)Rural				
6.	Place of residence				
	a) paying guest	0.949	3	0.814	No association
	b) Hostel				
	c)Own house				
	d)Rent house				
7.	Source of water use at resident area				
	a) Well water	3.839	2	0.147	No association
	b) Bore well water				
	c) Municipality water supply				

*Significant, $t_{(119)} = 1.66$ at $p \leq 0.05$ significance level

Table 1 shows that the mean pre-test knowledge score was 7.88 ± 2.48 and in post-test 12.17 ± 3.87 . The mean difference of post-test and pre-test was 4.29 which was showing marked increase in mean score. The computed paired 't' test value is 9.84 which is more than that table ($t_{(119)} = 1.66$ at $p \leq 0.05$ significance level) value. Which shows significant difference between pre-test and post-test level of knowledge regarding water conservation methods and structured teaching programme was effective in significant increasing the knowledge of college students.

Table 2: Chi Square- Association With Pre-test Knowledge Score And Selected Demographic Variables. N=120

	Mean	SD	Mean difference	Paired t test	Remark
Pre test	7.88	2.482	4.292	9.846*	Significant
Post test	12.17	3.879			

*Significance, $X^2(1,2,3) = 3.84, 5.99, 7.81$ at $p \leq 0.05$ significance level

The above table shows that, computed chi square value of age in years, type of family with pre-test knowledge score was 4.52, 5.82 respectively, which was more than the table value ($X^2(1) = 3.84$ at $p \leq 0.05$ significance level). Hence result found significant association with pre-test knowledge score and age in year, type of family. In other area of demographic variables found that there is no significance association.

DISCUSSION

Demographic distribution of samples showed that, majority (90.83%) belongs to the age group of 19-21 years and 56.66% were females. Maximum number of samples belongs to Hindu religion (66.66%), 56.66% staying in nuclear family and 30.83% are from joint family. Majority i.e. 40% of college students are resides in urban area and

54.16% are using well water. Parth Agrawal (2017) conducted survey to assess the knowledge, attitude and practices about water conservation in Gwalior. Maximum participants in study were male (65%), belonging to 31-40 years of age group (60%), 54% were 12th pass and 30% were housewives (10).

Knowledge score of samples showed that, majority 73.3% of samples had moderate, 25.5% had inadequate knowledge in pre-test. Where as in post-test majority of the samples that is 48.3% had moderate knowledge, 42.5% had adequate knowledge regarding water conservation methods. Which showed marked increase in knowledge level. The mean knowledge score in pre-test computed was 7.88 ± 2.48 and in post-test 12.17 ± 3.87 , which showed marked increase (4.29) in mean value. The calculated paired 't' test value was 9.84, which showed significant difference between pre-test and post-test level of knowledge regarding on water conservation methods and structured teaching programme was effective in significant increasing the knowledge of college students.

Dean AJ, Fielding KS, Newton FJ (2016) conducted survey study among 5172 of Australian adults on knowledge impact of household activities on waterways, the urban water cycles and water management. Participants correctly answered a mean of 8.0 questions Range (0-15). Based on population weighted data, the mean number of questions correctly answered was 7.76 ($SD=3.99$; Range 0-15, 7.76 is equivalent to a score of 52%). Less than one in five respondents scored 80% or above ($n=970$), and only 1.4% of respondents ($n=74$) answered all items correctly (11).

Result also found that there is significant association with pre-test knowledge score and age in year, type of family ($4.52, 5.82$. $X^2(1) = 3.84$ at $p \leq 0.05$ significance level).

CONCLUSIONS

This study showed that the structured teaching programme was effective in increasing the knowledge regarding water conservation methods among college students. This study was limited to only a small group of sample and study highly recommend that, there is requirement of large group mobilization towards water conservation methods. Further study can be conducted through mass communication in assessment of awareness practice and attitude of different group of people in the communities regarding water conservation and its importance.

REFERENCES:

- [1] Kumari Mamta and Singh Jagdeep.2016. Water conservation: strategies and solution. International journal of Advanced Research and Reviews. 4(1), 75-79.
- [2] Bharucha E. Text book of environmental studies for undergraduate courses. Hyderabad: University Press; 2005.
- [3] Balasubramanian, A. 2011. Water Conservation Practices. 10.13140/RG.2.2.13771.03365. Tavel, P. 2007 Modeling and Simulation Design. AK Peters Ltd.
- [4] Dominic M, Devi, V. 2018. Knowledge on water conservation as a part of ecological balance among the household: narrative review [internet].
- [5] Schewe J, Heinke J, Gerten D, Haddeland I, Arnell N, Clark D et al. 2021. Multimodel assessment of water scarcity under climate change.
- [6] Agrawal parth.2017. Knowledge, attitude, and practices about water conservation in Gwalior: a questionnaire-based survey. International journal of current research, 9(08), pp. 56809-56810.
- [7] Rajiv k. 2019. Composite water management index NITI Aayog august 2019
- [8] Dean J, Feilding S A, Kelly, Newton J F. 2016. Community Knowledge about Water: Who Has Better Knowledge and Is This Associated with Water-Related Behaviors and Support for Water-Related Policies.
- [9] Aftreen N, Naheed V, Bilal A. 2019. Research Paper A study on the awareness of water conservation among students and their perception of water related risks in Kashmir. International Journal of Global Science Research ER, 6, pp. 896-908
- [10] Parth Agrawal, 2017. Knowledge, attitude, and practices about water conservation in Gwalior: A questionnaire-based survey, International Journal of Current Research, 9, (08), 56809-56810.
- [11] Dean AJ, Fielding KS, Newton FJ .2016. Community Knowledge about Water: Who Has Better Knowledge and Is This Associated with Water-Related Behaviors and Support for Water-Related Policies. 11(7): e0159063. <https://doi.org/10.1371/journal.pone.0159063>.