

# Effectiveness of IEC Package on Level of Knowledge and Attitude Regarding Safe Water and Environmental Sanitation among School Students in Selected Schools at Vallur

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**Abstract:** Sanitation refers to public health conditions related to clean drinking water and adequate treatment and disposal of human excreta and sewage. Environmental sanitation aims to protect human health by providing a clean environment that will stop the transmission of disease. The Human Right to Water and Sanitation was recognized by the United Nations (UN) General Assembly in 2010. The estimate in 2017 that 4.5 billion people currently do not have safely managed sanitation. The objective of level of knowledge and attitude on safe water and environmental sanitation among school students. As per quasi experimental research design, pretest and posttest was conducted using convenient sampling technique among 60 samples in experimental group and 60 samples in control group. The result shows in post-test after IEC package of school students were gained 33.4% and 1.75% knowledge score in experimental and control group, 21.8% and 3.70% attitude score in experimental and control group and the mean difference were 2.18 and 0.37 using paired 't' test. Hence the Information Education and Communication was effective in improving knowledge and attitude of the school students on safe water and environmental sanitation.

**Keywords:** Environmental Sanitation, Safe water, School Students

## 1. Introduction

Safe drinking water, sanitation and good hygiene are fundamental to health, survival and development. Yet, 1.1 billion people in the world lack access to improved water supplies and 2.6 billion people lack adequate sanitation<sup>(1)</sup>. Unsafe water, inadequate sanitation, and insufficient hygiene practices account for an estimated 9.1 percent of the global burden of disease and 6.3 percent of all deaths, according to the World Health Organization<sup>(2)</sup>.

World population in 2015 - 7.2 billion. People without improved sanitation in 2015 - 1.8 billion<sup>(3)</sup>. The degree the world falls short of meeting the sanitation target in 2015 - 564 million<sup>(4)</sup>. 211 million people gained access to improved sanitation in India between 2011 - 2015. India is the home to 594 million people defecating in the open; over 50% of the population. 88% of the population of 1.2 billion has access to drinking water from improved sources in 2015, as compared to 68% in 2010. Only a quarter the total population in India has drinking water on their premise. Women, who have to collect the drinking water, are vulnerable to a number of unsafe practices. 67% of Indian households do not treat their drinking water, even though it could be chemically or bacterially contaminated.<sup>(5)</sup> In Tamil Nadu, 68% have safe drinking water and sanitation and 54% of people defecating in open air<sup>(6)</sup>. In Chennai, about 70% of population is having latrines in their homes. But most of them are not using them. In rural areas, 52% of people are defecating in open air and only 50% they are getting good water<sup>(7)</sup>.

Health education is an important step in achieving the goal of "health for all". In India the public health problems usually arise from social, cultural and economic conditions of the people that lead to poor environmental conditions,

faulty pattern of life-style, poor living conditions, ignorance, poverty and miss-believes<sup>(8)</sup>. Most of these health problems can be prevented by educating the people about healthful living, sanitation, hygiene and proper nutrition<sup>(9)</sup>

A number of studies have been made on environmental sanitation, sanitary habits and personal hygiene of different tribal populations, by various authors<sup>(10)</sup>. The present study deals with some aspects of safe water and environmental sanitation among the school students, and includes information regarding source of safe drinking water, personal hygiene, food sanitation and waste disposal.

*Jerry E. Sibiyana and Jabulani Ray Gumbo (2015)* assessed the knowledge, attitude and practices (KAP) of learners on issues related to water, sanitation and hygiene in selected schools in Vhembe District, South Africa. The methodology relied on a questionnaire, an inspection of sanitary facilities and discussion with the school authorities. The data was analyzed using the Statistical Package for Social Science. The study revealed that the level of knowledge about waterborne diseases was relatively high ( $76.7 \pm 1.75\%$ ), but knowledge on transmission routes was inadequate. The majority of the respondents had no knowledge when it comes to water-based diseases and their prevention ( $78.4 \pm 1.71\%$ ). The attitude and practice on hygiene was also found to be high ( $91.40 \pm 1.16\%$ ). Some schools from the urban area had proper hand washing facilities, but there was no soap available<sup>(11)</sup>.

*Adedotun ADEOLU Timothy, (2014)*, conducted a study to assess the knowledge, attitude and practices of Secondary school students towards waste management in Ibadan, Nigeria. Using a structured, self-administered questionnaire, eight schools were randomly sampled from which fifty students were selected from each school. A total of four

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hundred students were surveyed Findings revealed the level of knowledge, attitude and practice of waste management was relatively moderate in secondary schools in Ibadan<sup>(12)</sup>.

**Objectives**

- To assess the knowledge and attitude regarding safe water and environmental sanitation among school students in selected schools, Vallur.
- To evaluate the effectiveness of IEC on knowledge and attitude regarding safe water and environmental sanitation among school students in selected schools at, Vallur.

**2. Materials and Methods**

Quasi experimental research design was adopted by the investigator to assess the effectiveness of IEC Package on level of knowledge and attitude regarding safe water and environmental sanitation among school students The study was conducted at Vallur, TamilNadu. The samples who met the inclusion criteria were selected by using convenience sampling technique. Inclusion criteria for sample selection are students with age group of 14 to 18 years. Sixty samples in experimental group and sixty samples in control group were selected for the study, each day six samples were selected and they were comfortably seated. Data was collected using structured questionnaire to assess demographic profile and the knowledge and attitude regarding safe water and environmental sanitation. The project has been approved by the ethics committee of the institution. Informed consent was obtained from the participants before initiating the study

**3. Results**

**Section I**

Equal number of students (15) were selected from all the class ie from 7<sup>th</sup>,8<sup>th</sup>,9<sup>th</sup> and 10<sup>th</sup> in experimental group and control group . (48.3%) students were male in experimental group 28(46.7%) of male students from the control group, 31(51.7%) of female students were there in experimental group 32 (53.3%) of female students belongs to the and control group. 22(36.7%) and 28(46.7%) had separate toilet in their home, 8(13.3%) and 10(16.7%) had combined toilet in their home and 30(50%) and 22(36%) had no toilet in their home in both experimental group and control group.

**Section II**

Before **Information Education and communication**, in experimental group, 56.7% of the students are having inadequate level of knowledge score and 43.3% of them having moderate level of knowledge score and none of them are having adequate level of knowledge score.

In control group, 61.7% of the students are having inadequate level of knowledge score and 33.3% of them having moderate level of knowledge score and none of them are having adequate level of knowledge score.

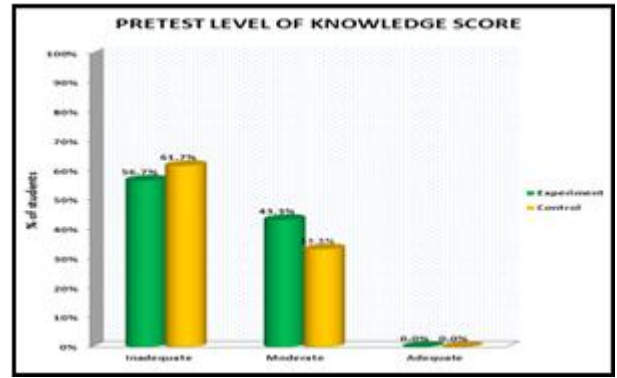


Figure 1: Pretest level of knowledge score

Before **IEC**, in experimental group, 33.3% of the students are having poor level of attitude score and 51.7% of them having moderate level of attitude score and 15% of them are having good level of attitude score.

In control group, 36.7% of the students are having poor level of attitude score and 45.0% of them having moderate level of attitude score and 18.3% of them are having good level of attitude score.

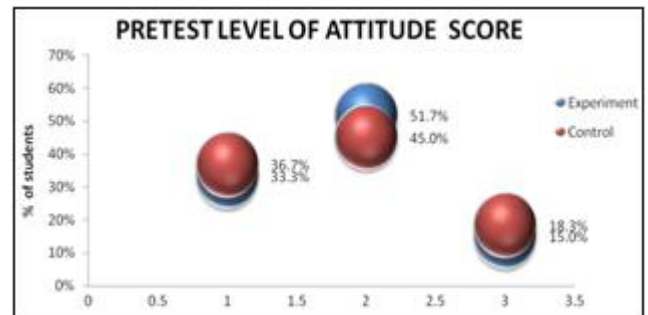


Figure 2: Pretest level of attitude score

After **Information Education and communication**, in experimental none of the students were having inadequate level of knowledge score and 18.3% of them having moderate level of knowledge score and none of them were having adequate level of knowledge score.

In control group, 55.0% of the students were having inadequate level of knowledge score and 45.0% of them having moderate level of knowledge score and none of them were having adequate level of knowledge score.

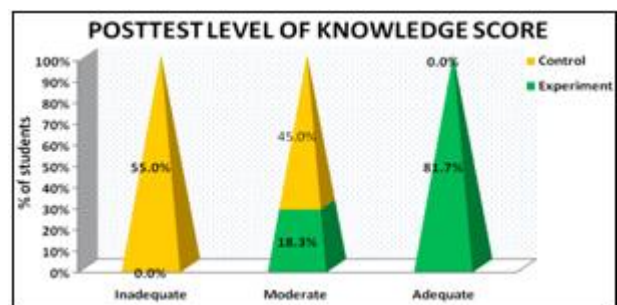


Figure 3: Posttest level of knowledge score

After **IEC**, in experimental group, none of the students are having poor level of attitude score and 15.0% of them having moderate level of attitude score and 85% of them are having good level of attitude score.

In control group, 30.0% of the students are having poor level of attitude score and 51.7% of them having moderate level of attitude score and 18.3% of them are having good level of attitude score.

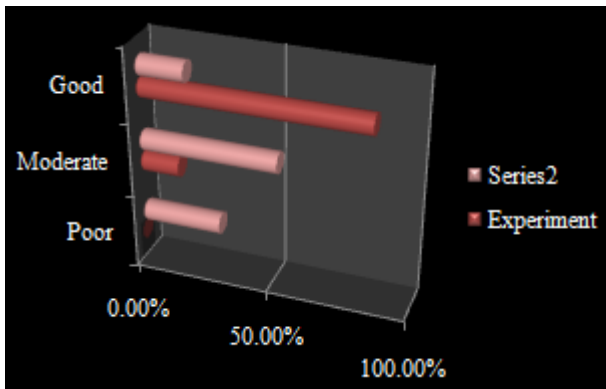


Figure 4: Posttest level of attitude score

Experimental group gained 33.4% knowledge score whereas control group gained only 1.75% knowledge score. Experimental group gained 21.8% attitude score whereas control group gained only 3.70% attitude score.

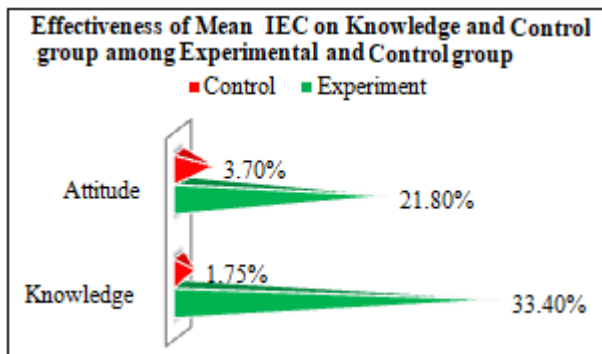


Figure 5: Effectiveness of Mean IEC on Knowledge and Control group among Experimental and Control group

#### 4. Discussion

The present study depicts that In experimental group, 56.7% of the students were having inadequate level of knowledge score and 43.3% of them having moderate level of knowledge score and none of them were having adequate level of knowledge score. In control group, 61.7% of the students were having inadequate level of knowledge score and 33.3% of them having moderate level of knowledge score and none of them were having adequate level of knowledge score. In experimental group, none of the students were having poor level of attitude score and 15.0% of them having moderate level of attitude score and 85% of them were having good level of attitude score. In control group, 30.0% of the students were having poor level of attitude score and 51.7% of them having moderate level of attitude score and 18.3% of them are having good level of attitude score. The effectiveness of IEC on knowledge and attitude regarding safe water and environmental sanitation among school students that depicts Experimental group gained 33.4% knowledge score whereas control group gained only 1.75% knowledge score. Experimental group gained 21.8% attitude score whereas control group gained only 3.70% attitude score.

#### 5. Conclusion

The study findings suggest that educating the students about the safe water and environmental sanitation can promote their knowledge and attitude

#### 6. Acknowledgement

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#### 7. Conflict of Interest

The authors declare no conflict of interests.

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