

The Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding Prevention of Water Borne Disease among School Children in Selected School of Guntur, A. P.

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Abstract: ***Objectives of the Study:** To assess the pretest and post - test level of knowledge regarding prevention of water borne diseases among the school children in experimental and control group. **Materials and Methods:** A quantitative research approach of quasi experimental design was used. 30 experimental and 30 samples for control group was selected by non - probability convenient Sampling Technique. Pre - test was conducted for both groups by using structured questionnaire and Video Assisted teaching programme on Knowledge regarding prevention of waterborne disease among school children in selected school of Guntur was given to the experimental group. After that Post - test was done. The collected data was analysed by using both descriptive and inferential statistical method. **Results:** The study results shows that the video assisted teaching was effective, gaining knowledge regarding water borne disease and its prevention among school children there was a significant difference between the post test scores ($t=1.987$, $p=0.00$, $p<0.05$) experimental group respectively. There is a significant association between the post - test level of knowledge regarding water borne disease and its prevention among the school children with selected demographic variables such as age, class, fathers' education, fathers' occupation, mothers' education, mothers' occupation, type of family, family income, dietary pattern, drinking water facility, type of drainage system, type of latrine, area of residence. **Conclusion:** This study shows the improvement in children knowledge regarding the water borne disease and its prevention of water borne disease among school children.*

Keywords: Quasi Experimental, video assisted teaching, knowledge, prevention of water borne disease, school children, school

1. Introduction

Today 85% of India's population is covered by water infrastructure, said the report, from India's planning commission, a top policy making body. The report also cautioned that failure in epidemiological surveillance is leading public health authorities to record only a small fraction of cases of waterborne diseases. The report, which was sponsored by the World Health Organization and UNICEF, said that improvements in hygiene behaviour are not likely unless sanitation coverage improves dramatically. Without an adequate water supply children cannot wash often enough and so contract eye infections and skin conditions such as scabies occur. Just 30% of waste water from India's cities is treated before disposal. The rest flows into rivers, lakes, and groundwater, it said. Public health experts also say that the actual quality of water varies widely. "Quality assurance checks are lacking in cities and rural areas. What's passed off as drinking water often leaves much to be desired," said Dr Chandrakant Pandav, a specialist in community medicine at the All - India Institute of Medical Sciences. The Sustainable Development Goal, 2017 aimed to ensure

availability and sustainable management of water and sanitation for all by 2030. However globally 780 million people live without access to safe water and approximately 2.5 billion people in the developing world lived without access to adequate sanitation. Polluted water and poor sanitation practices expose individuals to health risks. Emerging water - borne pathogens constitute a significant health hazard in both developed and developing nations as they can spread rapidly and affect large sections of the population. Water - borne diseases are transmitted through contaminated drinking water with pathogen microorganisms such as protozoa, virus, bacteria, and intestinal parasites. According to the projection of Global Burden Disease report, the burden of water borne disease was the second highest reason for mortality in 1990 however, it was lower down in ninth most important reason for mortality in 2020. Further, the WHO (2015) reported that about 6.3 per cent of deaths occur due to unsafe water, inadequate sanitation, and poor hygiene. Adequate, safe, and accessible water supplies as well as satisfactory sanitation are most required to have secure health status. According to WHO (2015), nearly 4 percent of the global disease burden could be prevented by improving water supply, sanitation, and hygiene.

Reported Cases and Deaths by Water - Borne Diseases in India

Disease	2014		2015		2016		2017	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Cholera	844	5	913	4	718	3	385	3
Acute Diarrhoeal Diseases	11748631	1137	12913606	1353	14166574	1555	9230572	840
Typhoid	1736687	425	1937413	452	2215805	511	1493050	286
Viral Hepatitis	138554	400	140861	435	145970	451	98086	283

2. Materials and Methods

A quasi - experimental design was used to assess the effectiveness of video assisted teaching regarding the knowledge on prevention of water borne disease among school children in selected setting of Guntur.60 students were selected by simple random sampling technique among which 30 were in the experimental group and 30 in the control group. The data was collected structured questionnaire and data analysis was descriptive and inferential statistics.

Table 4.1: frequency and percentage distribution of school children according to their demographic variables.

s. no	Demographic variables	Experimental group		Control group	
		no. of children	%	no. of children	%
1	Age of children				
	a) 10 - 11 years	0	0%	0	0%
	b) 12 - 13 years	10	33%	10	33%
	c) 14 - 15 years	20	67%	20	67%
2	Class of studying				
	a) 5 - 7 class	0	0%	0	0%
	b) 7 - 8 class	9	30%	10	33.40%
	c) 9 - 10 class	21	70%	20	67%
3	Fathers' education				
	a) illiterate	0	0%	0	0%
	b) 1 - 10 th class	9	30%	20	67%
	c) 10 - 12 th class	5	17%	10	33.40%
	d) Degree/diploma	16	53%	0	0%
4	Fathers' occupation				
	a) unemployed	4	13%	0	0%
	b) private job	7	23%	10	33%
	c) business	10	33%	20	66.60%
	d) government job	9	30%	0	0%
5	Mothers' education				
	a) illiterate	1	3%	0	0%
	b) 1 - 10 th class	11	37%	10	33%
	c) 10 - 12 th class	6	20%	10	33%
	d) Degree/diploma	12	40%	10	33%
6	Mothers' occupation				
	a) unemployed	16	53%	30	100%
	b) private job	6	20%	0	0%
	c) business	8	27%	0	0%
	d) government job	0	0%	0	0%
7	Type of family				
	a) nuclear family	20	67%	30	100%
	b) Joint/extended family	8	27%	0	0%
	c) Single parent family	2	7%	0	0%
8	Monthly family income				
	a) <Rs.2390	4	13%	0	0%
	b) Rs.11837 - 17755	6	30%	10	33%
	c) Rs.177556 - 23673	10	33%	20	67%
	d) Rs.23673 - 47347	10	33%	0	0%
9	Dietary pattern				
	a) Vegetarian	3	10%	10	33%
	b) Non - vegetarian	3	10%	0	0%
	c) Mixed	24	80%	20	67%
10	Drinking water facility				
	a) Well water	3	10%	0	0%
	b) Corporation tap water	3	10%	10	33%
	c) Bore well water	7	23%	10	33%
	d) Commercially available can	16	53%	10	33%

	e) others	1	3%	0	0%
11	Type of drainage system				
	a) Closed drainage	25	83%	20	67%
	b) Open drainage	5	17%	10	33%
12	Type of latrine facilities				
	a) Open field defecation	0	0%	0	0%
	b) Common latrine	8	27%	10	33%
	c) Separate latrine	22	73%	20	67%
13	Area of residence				
	a) Urban	17	57%	30	100%
	b) Rural	13	43%	0	0%

Table 4.1: Represents the frequency and percentage distribution of school children to their demographic variables

In experimental group majority are 20 students who belongs to the 14 - 15 age group (i. e, 67%), 10 students belong to the 12 - 13age group (i. e 33%). In control group majority of students are 20 who belongs to the age group of 14 - 15 years (i. e, 66%), and 10 students belongs to the age group of 12 - 13years (i. e, 33%).

Fig.4.1 (a) considering the age of children in experimental group. Majority are 20 students (i. e, 66%) who belongs to the 14 - 15 age group and 10 students belongs to the 12 - 13 age group (i. e., 33%). In control group majority of children are 20 (i. e, 66%) who belongs to the age group of 14 - 15 years and 10 (i. e, 33%) of students belong to the age group of 12 - 13 years.

With regard to the class of studying in experimental group majority of the students representing the 9 - 10th class who were 21 students (i. e, 70%) and 9 students representing the 7 - 8th class (i. e, 30%). in control group majority of students are 20 i. e, (66.6%) who belongs to the 9 - 10th class and 10 students belong to 7 - 8th class (i. e, 33.4%).

With regard to the fathers education in experimental group 16 of them (i. e, 53%) acquired degree/diploma, 9 of them (i. e, 30%) studied 1 - 10th class and 5 of them (i. e, 17%) pursued +2 (i. e, 10 - 12th class). in control group majority is 20 of them who pursued 1 - 10th class (i. e, 66.6%), and 10 of them (i. e, 33.40%) pursued 10 - 12th class.

Regard to the fathers occupation in experimental group majority 10 of them are working as the business people (i. e, 33.3%), 9 of them working in government sector (i. e, 30%), 7 of them are working in private sector (i. e, 23%), and 4 of them (i. e, 13%) are unemployed. in control group majority of them are 20 (i. e, 66.6%) who are into business sector and 10 of them (i. e, 33.3%) are into private sector jobs.

Regard to the mother's education in experimental group majority 12 mothers (i. e, 40%) are acquired degree/diploma, 11 of them (i. e, 37%) are 1 - 10th class, 6 of them (i. e, 20%) have completed their10 - 12th class and, 1 of them (i. e, 3%) was found as illiterate. In control group 10 of the them (i. e, 33%) are educated till 1 - 10th class, 10 of them (i. e, 33%) are educated till 10 - 12th class, and 10 of them (i. e, 33%) are educated till degree /diploma.

Regard to the mother's occupation in experimental group 16 of them (i. e, 53%) are unemployed, 8 of them (i. e, 27%) are

working in business field, and 6 of them (i. e, 20%) are working in private sector. In control group majority 30 of the mothers (i. e, 100%) are unemployed.

Regard to the type of the family in experimental group majority 20 (i. e, 67%) are under nuclear family, 8 of them (i. e, 27%) are under joint /extended family, and 2 of them (i. e, 7%) are under single parent family. In control group 30 of them (i. e, 100%) are under nuclear family.

Regard to the monthly family income in experimental group majority 10 family's income (i. e, 33%) is under the range of Rs/- 23673 - 47347, 10 families (i. e, 33%) are under Rs/ - 17756 - 23673, 6 of the families (i. e., 30%) are under Rs/ - 11837 - 17755, 4 of the families (i. e, 13%) are under the <Rs/ - 2390. In control group majority of the 20 families (i. e, 67%) under the range of Rs/ - 17756 - 23673, and 10 of the families (i. e, 33%) are under the range of Rs/ - 11837 - 17755.

Regard to the dietary pattern in experimental majority was 24 (i. e, 80%) of mixed diet, 3 of them (i. e, 10%) are vegetarian, and 3 of them (i. e, 10%) are non - vegetarian. In control group 20 of them (i. e, 67%) of mixed diet and 10 of them (i. e., 33%) are vegetarian.

Regarding to the drinking water facility in experimental majority is 16 (i. e, 53%) of them are using commercially available can water, 7 of them (i. e, 23%) were using the borewell water, 3 of them (i. e, 10%) are using well water, 3 of them (i. e, 10%) using corporation tap water and 1 of them (i. e., 3%) are using the other sources of water. In control group 10 (i. e, 33%) were using corporation tap water, 10 (i. e, 33%) were using bore well water, and 10 (i. e., 33%) were using commercially available can.

Regard to the type of drainage system in experimental group 25 of them (i. e., 83%) were having closed drainage system and 5 of them (i. e, 17%) were having open drainage system. In control group 20 of them (i. e, 67%) were having closed drainage system, and 10 of them (i. e, 33%) were having open drainage system.

Regard to the type of latrine facilities in experimental group majority of them is 22 are using the separate latrine (i. e., 73%) and 8 people were using common latrine (i. e., 27%). In control group 20 people were using separate latrine (i. e, 67%) and 10 people were using common latrine (i. e, 33%).

Regard to the area of residence in experimental group 17 were residing in urban area (i. e, 57%) and 13 were residing in rural area (i. e, 43%). In control group 30 were residing in urban area (i. e, 100%).

Table 4.2: Pretest and post - test level of knowledge on water borne diseases and its prevention in experimental group

Level of knowledge	Pretest		Post test	
	N	%	N	%
Inadequate	9	30%	0	0%
Moderately adequate	21	70%	14	46.7%
Adequate	0	0%	16	53.4%

In experimental group pretest level of knowledge of the 9 children (i. e, 30%), moderately adequate in 21 children (i. e,

70%) and adequacy are (0%). In post - test is (0%), inadequacy seen and its 14 children having moderately adequate knowledge (i. e, 46.7%), 16 children are having adequate knowledge (i. e, 53.4%) on prevention of water borne diseases.

Level of Knowledge in Experimental Group

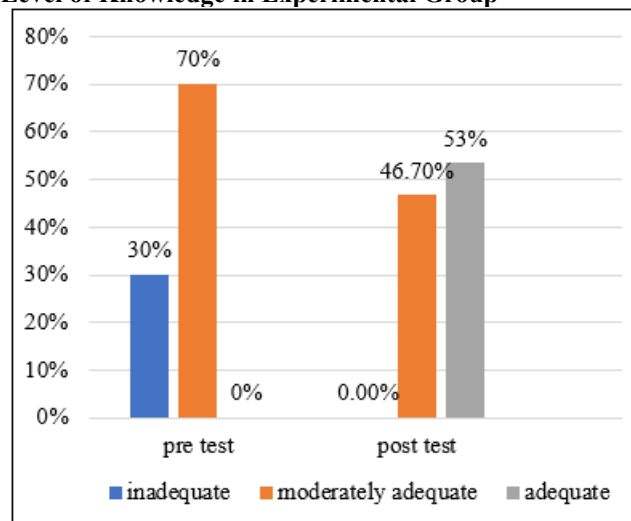


Table 4.4: a) mean, standard deviation, and paired 't' value of pretest and post - test level of knowledge regarding the prevention of water borne disease among the school children in experimental group.

S. No.		Experimental Group		Paired t test
		Mean	SD	
1.	Pretest	25.13	3.35	t=1.987; Df=29 P=0.00; S
2.	Post test	1.90	0.66	

In experimental group the pretest mean score was 25.13 with standard deviation of 3.35 and post - test mean score was 1.90 with standard deviation of 0.66. The calculated "t" test value was 1.987 which is statistically significant at the level of p<0.05.

Table 4.4: b) mean, standard deviation, and paired 't' value of pretest and post - test level of knowledge regarding the prevention of water borne disease among the school children in control group.

S. no.	Criteria	Control Group		Paired t test
		Mean	SD	
1.	Pretest	21.33	0.47	T=39.874; Df=29 P=0.92; NS
2.	Post test	25.13	0.698	

In control group the pretest mean score is 21.33 with standard deviation of 0.47 and post - test mean score was 25.13 with standard deviation of 0.698. the calculated "t" value was 39.874 which is statistically insignificant at the level of p>0.05.

3. Conclusion

After the data analysis and experience of the research this study this study leads to a conclusion drawn from the study concluded that video assisted teaching programme can be used to increase knowledge and awareness about the prevention of water borne disease among school children.

4. Recommendations

- The study can be repeated on the large - scale sample to validate and for better generalization of the findings.
- Descriptive study can be conducted to assess knowledge, attitude and practice of children regarding water hygiene, personal hygiene, sterilization of bottles used for children and environmental hygiene.
- Comparative study may be conducted to find out the similarities or differences between the knowledge and practices of urban and rural schools.

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