

Enhancing Knowledge: Food and Water Borne Infections through Structured Educational Strategies

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Abstract

Background: Food and water borne illnesses are rapidly growing public health problem worldwide. Transmission via the food and waterborne route is a common mode of spread of a wide range of organisms. These infections can be prevented by healthy practices.

Objectives: Are to assess the pretest knowledge regarding food and water borne infections among children studying in selected primary school at Rudrapur, to evaluate the effectiveness of structured educational strategies on food and water borne infections among children, to associate the knowledge level with socio demographic variables.

Methods: Pre experimental One group pretest posttest design was adopted in this study. Non probability purposive sampling was used to select 60 children in selected primary school at Rudrapur. Data was collected and analysed by using descriptive and inferential statistics.

Result: This study revealed that pretest knowledge score was 49.06%, posttest knowledge score 93.15% after education, children gained 44.09% more knowledge regarding food and water borne Infections.

Conclusion: This study proved that, after intervention primary school children have a remarkable increase in the knowledge regarding food and water borne infections. Thus, for the future outlook there is a need to improve knowledge of children by conducting teaching and demonstration programmes.

Keywords: Food and water borne infections; Educational strategies; Knowledge; Children.

INTRODUCTION

Water and food are essential to life. Food and water-borne infections such as cholera,

typhoid, dysentery, and Shigellosis cause millions of illnesses and thousands of deaths every year. The germs that cause 66% of food-borne illnesses are the source of the issues. The main food illnesses caused by bacteria are staphylococcal food poisoning, salmonellosis, botulism, and E. coli infections. Safe water and food are public health requirement. It is possible to stop the spread of water-borne infections by making sure that there is enough access to clean, disinfected water, disposing of waste properly, etc. Increase in food borne infection has been linked with the lack of knowledge of food borne infection.

The purpose of this study was to evaluate the local food handlers in Ogun's Ijebu-Ode Local Government Area's understanding of the FBI

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and FSP. For the study, 473 local food handlers both those handling snacks and those handling cooked food were enlisted. After collecting data on knowledge and practice using the interviewer administered questionnaire, a score index was produced. SPSS version 15 was used to analyze the data. Chi square, correlations, percentages, and frequencies were all calculated. The majority of responders (66.4%) were female, and 17.0% of food handlers had no formal education, according to the data. 41.6% or so of food handlers did not know enough FBI. Only 7.6% respondents had adequate knowledge. Also, 31.5% respondents had poor FSP. The knowledge of FBI among food handlers is adequate, but this does not translate into practice.¹

In the Kingdom of Saudi Arabia, food poisoning linked to microbiological pathogens accounts for millions of cases of foodborne illness. The incidence of foodborne infections may be lowered by raising public awareness about foodborne microorganisms. The current cross-sectional study examines university students' (n=399) knowledge of five main microbial pathogens—Salmonella, Campylobacter, Staphylococcus, Listeria, and Escherichia coli across four major Saudi Arabian cities. Several logistic regression models were employed to forecast the factors associated with insufficient knowledge. Just 34.5% of the 399 survey participants were aware of the aforementioned foodborne diseases. Pathogen-specific variations in awareness seemed to be associated with factors such as age, sex, education level, and area of study. Those in computer sciences were found to know less about foodborne pathogens than those in the health sciences (OR: 2.85; 95% CI: 1.36-5.99). According to our research, students' lack of knowledge of microbial pathogens is related to their subject of study. Good foodborne hazard education initiatives could raise students' knowledge of microbiological pathogens.²

Prevention of food and water borne disease involves healthy life style. It may reduce developing health problems in children. It becomes the Nurse's responsibility to stress out the importance of prevention of food and water borne diseases and urgency of receiving medical advice.

Need for the study

World Health Organization (2014) stated that 58% of burden or 8,42,000 deaths per year is attributed to a lack of safe drinking water supply, sanitation and hygiene.³ Also suggested that preventive keys for safe foods, keeping the food clean, using safe water

and raw materials.⁴ In India 37.7 million people are affected by water borne infections annually. 7.5 Percent of total deaths and 9.4 percent of total disability adjusted life years in India contributed by unsafe and poor sanitation facilities.⁵

A study to investigate the role of contributing factors in school food borne infection outbreaks. The result showed that the importance of effective safety education programs that focus on the prevention of foodborne disease from food safety errors.⁶ Study to examine the incidence of water borne disease to shed a light on putative interactions between diseases. Microscopy and rapid diagnostic tests conducted to examine stool samples of 254 children. This study concluded that a great burden of giardiasis was revealed with high intensity infections associated egg-plant schistosomiasis with anemia.⁷ In order to prevent food and water borne diseases in developing countries, many steps are taken. This includes washing hands frequently, drinking boiling water etc. These small-scale actions are helpful to reduce the risk of infection. Food and water borne infections are commonly found in school children. These are prevented by healthy practices. The children can practice these in their day-to-day life.

Statement of the problem

Effectiveness of structure educational strategies on Knowledge regarding food and water borne infections among children in selected school at Rudrapur.

OBJECTIVES

1. To assess the pretest knowledge regarding food and water borne infections among children studying in selected school at Rudrapur.
2. To evaluate the effectiveness of structure educational strategies on food and water borne infections among children.
3. To associate the knowledge level with selected socio demographic variables.

Hypothesis

H₁: The mean post-test knowledge score on food and water borne infections will be significantly more than the mean pre-test knowledge score.

H₂: There will be significant association between the pre-test knowledge scores of children on food

and water borne infections with selected socio demographic variables.

Assumption

- The knowledge of the subject varies with individuals which may also be influenced by the various factors.
- Primary school children may have inadequate knowledge about food and water borne infections.
- Structured teaching strategies may improve the knowledge on food and water borne infections.

Delimitations

1. Primary school children studying in selected schools at Rudrapur.
2. A sample of 60 primary school children.

Sample selection criteria

Inclusion Criteria

1. Children who are willing to participate in the study.
2. Children who can read/write or understand Hindi.
3. Who are available at the time of data

collection

Exclusion Criteria

1. Children who are not willing to participate in the study.
2. Children those who have already been known about food and water borne infections.

METHODOLOGY

The research approach used in study was quantitative approach. The investigator adopted a pre-experiment alone group pre-test, post-test design. The study was conducted among children in Model School Rudrapur. The sample size of the study was 60 children. Non probability convenient sampling technique was used. Demographic variables were assessed using a self-administered structured questionnaire developed by the investigator. Self-administered questionnaire was used to assess the Knowledge. It consists of 30 multiple choices related to junk food among students. It took 15-20 minutes to collect the data from each sample. The collected data was organized and tabulated for analysis.

RESULTS

Table 1: Frequency and percentage distribution of knowledge among the children

Level of knowledge	Pre-test		Post-test	
	Frequency	Percentage	Frequency	Percentage
Poor knowledge	3	5	0	0
Average knowledge	21	35	5	8
Good knowledge	31	52	15	25
Excellent knowledge	5	8	40	67

N=60

The above table 1 showed the Frequency and percentage distribution of knowledge level among children about food and water borne infections and the finding revealed that after teaching

15(25%) of students had good knowledge, 40(67%) had excellent knowledge and 5(8%) of them had average knowledge.

Table 2: Comparison of knowledge score

	Max score	Mean score	Mean difference in knowledge with 95% confidence interval	Percentage difference in knowledge with 95% Confidence interval
Pre-test	30	17.15	5.55 (22.70-17.15)	44.09% (49.06%-93.15%)
Post-test	30	22.70		

Table 3: Association of the level of knowledge regarding food and water borne infections among the children with their demographic variables

Demographic variables	Poor		Average		Good		Excellent		Chi-Square Value
	N	%	N	%	N	%	N	%	
<i>Age</i>									
11 years	0	0	6	10	5	8.33	1	1.67	x ² =3.06, P=0.52, DF=9, NS
12 years	2	3.33	9	15	10	16.67	0	0	
13 years	1	1.67	3	5	14	23.33	1	1.67	
14 years	0	0	3	5	2	2.33	3	5	
<i>Gender</i>									
Male	2	3.33	16	26.67	17	28.33	4	6.67	x ² =3.06, P=0.38, DF=3, NS
Female	1	1.67	5	8.33	14	23.33	1	1.67	
<i>Type of family</i>									
Nuclear	12	20	12	20	5	8.33	0	0	
Joint	7	11.6	5	8.3	1	1.67	0	0	
Extended	9	6	4	6.6	3	5	4	6.66	
<i>Previous knowledge</i>									
Yes	0	0	0	0	0	0	5	0	
No	3		21		31				

The above table shows that the association of level of knowledge on food and water borne infections among children with their demographic variable. The findings revealed that none of the demographic variable had not shown statistically significant association with level of knowledge.

Discussion

Findings of the first objective of the study was to assess the Knowledge regarding food and water borne infections among revealed children that 3(5%) of children had poor knowledge, 21(35%) had average knowledge and 31(51.7%) of them had good knowledge.

The second objective of the study was to evaluate the effectiveness of structure educational strategies on food and water borne infections among children. This study results showed that after teaching 15(25%) of students had good knowledge, 40(67%) had excellent knowledge and 5(8%) of them had average knowledge. The research to evaluate children awareness of food- and water-borne illnesses and how to prevent them at a chosen school in Pilkhuwa, District Hapur, Uttar Pradesh, lends credence to this investigation. The approach used was stratified random sampling with a descriptive design. A sample of sixty children, aged between ten and fifteen, were included in the study, which was carried out at the St. Xavier school in the village of Khera, Pilkhuwa. The Self Structured Knowledge Questionnaire and demographic proforma were

the instruments utilized to gather the data. Two types of statistics were used to analyze the collected data: inferential and descriptive. According to the study, 23.33 percent of students had sufficient awareness of food and water-borne illnesses and how to prevent them, while 76.67% of students had moderate understanding.⁸

The third objective was to associate the level of knowledge on junk food among adolescents selected demographic variables. The study the findings revealed that any demographic variables had not shown statistically significant association with level of knowledge.

CONCLUSION & SUMMARY

The study concluded that knowledge level of children on food and water borne diseases was improved after effective teaching strategies. It is mandatory to create awareness among the students about these and to promote healthy eating habits for their healthy future and disease-free life.

Recommendations

- ❖ Similar study can be conducted with the more samples.
- ❖ The study can be conducted as a true experimental design and as comparative study with other IEC materials.

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REFERENCES

1. A.G.M Camplell (1998) The text book of paediatrics, 5th edition, published by Churchill Livingstone.
2. IAP (2003) The text book of pediatrics, 16th edition published by Jaypee Brothers.
3. Davi Maharajan J (2006) methods in biostatistics, 6th edition, published by Jaypee Brothers.
4. Oladoyinbo et al. Knowledge of food borne infection and food safety practices among local food handlers in Ijebu-Ode Local Government Area of Ogun State. Journal of Public Health and Epidemiology. September 2015.7(9):268-273. DOI:10.5897/JPHE2015.0758
5. AL-Mohaithef, Mohammed, Awareness of Foodborne Pathogens among Students: A Cross-Sectional Study in the Kingdom of Saudi Arabia, International Journal of Food Science, 2021, 9971748, 6 pages, 2021. <https://doi.org/10.1155/2021/9971748>
6. "Burden of disease and cost-effectiveness estimates". World Health Organisation. Retrieved April5, 2014.
7. World Health Organisation. Prevention of food borne disease: the five keys to safer food. 2012.
8. Somu Bosu. Unsafe water stunting growth of Indian children: report. Feb 2018. Available from :<http://www.downtoearth.org.in/news/unsafe-water-stunting-growth-of-indian-children-reprot-40391>
9. Margaret Venuto and Kristin Garcia. Analyses of the contributing factors associated with foodborne Outbreaks in school settings (2000-2010) Journal of Environmental Health. March 2015. Volume 77. Number 7. Available from : <http://fns-prod.azureedge.net/sites/default/files/FS-JEH-2015-Analyses-of-Contributing-factors-Associated-with-FBO-in-school-settings.pdf>.
10. AI-Shehri H, Stanton MC, Lacourse JE. An extensive burden of giardiasis associated with intestinal schistosomiasis and anaemia in school children on the shoreline of Lake Albert, Uganda. Trans R Soc Trop Med Hyg. 2016 Dec;110(10):597-603. Epub 2016 Nov 17. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/27864517>.
11. Ms. Sameeksha. A study to assess the knowledge regarding food and water borne diseases and their prevention among students of a selected school at pilkhuwa, dist. Hapur (u.p.)paripex - indian journal of research. Volume-7 | Issue-7 | July-2018. Page 59,60.

