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Effectiveness of an information booklet on food and waterborne diseases and their prevention to upper primary school students at Gwalior (M.P.)

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Abstract

Background and objectives: Globally, WHO estimates that each year, 1.8 million people die from diarrhoeal diseases. A special session on children for the United Nations General Assembly (2002) reported that nearly 55,000 children die every day from diseases caused by contaminated food and water.

Each year diarrhoea kills 5,00,000 Indian children. Infected water causes an estimated 80% of diseases in India, according to WHO, making poor sanitation and inadequate sewage disposal the nation's biggest public health problem.

The information booklet is one of the effective teaching strategies which can be used for teaching the school children as they are the most vulnerable group of the society. Hence the study was undertaken on the effectiveness of information booklet for upper primary school children. The objectives of the study were

1. To determine the knowledge of students regarding food and waterborne diseases and their prevention.
2. To evaluate the effectiveness of the information booklet in terms of gain in knowledge score.

Methods: An evaluatory approach with one-group pre-test – post-test design was used on 120 school children drawn from stratified random sampling. The pre-test was conducted to determine their knowledge regarding food and waterborne diseases and their prevention by a structured knowledge questionnaire. The information booklet was given for further reference and learning. The post-test was conducted on the eighth day using the same structured knowledge questionnaire.

Results: The collected data were analysed using descriptive and inferential statistics. There was highly significant difference ($t_{119} = 59.72$, $P<0.05$) between the mean post-test ($x_2 = 36.633$) and mean pre-test ($x_1 = 17.958$) knowledge score. The area-wise mean knowledge score of the pre-test was maximum (12.4417) in the area of 'prevention of food and waterborne diseases' and minimum (0.3833) in the area of 'causes of food and waterborne diseases' whereas the area-wise mean knowledge score of post-test was maximum (19.3750) in the area of 'prevention of food and waterborne diseases' and minimum (2.4333) in the area of 'causes of food and waterborne diseases.'

There was significant association between the gain in knowledge score and selected variables like age ($\chi^2 = 9.797$, $P<0.05$), class ($\chi^2 = 14.729$, $P<0.005$) and number of family members ($\chi^2 = 7.625$, $P<0.05$).

Interpretation and conclusion: The information booklet on food and waterborne diseases and their prevention has helped the students in attaining more information which was evident in post-test knowledge score.

Keywords: Effectiveness, upper primary students, food and waterborne diseases, information booklet

Introduction

Children constitute a large section of the population of India and school children are an important group because they often form a high proportion. It is a great challenge to the nation to provide health, education and food to the children below 15 years who are dependent, unproductive section comprising of 38% of the total population of the country (Census, 1991). "Children are the wealth of tomorrow. Take care of them if you wish to have a strong India, ever ready to meet various challenges" said Jawaharlal Nehru.

Extensive surveys carried out in different parts of our country showed that mortality and morbidity rates of children in India are the highest in the world, largely attributed to malnutrition and infectious diseases. These problems have close relationship with the sociodemographic and ecological factors like poverty, illiteracy, and poor personal and environmental hygiene. Children are at special risk due to their activities like play and lack of importance to personal hygiene.

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Need for the study

Water is a finite resource that supports daily human life, is required for food production and is necessary for waste removal. Water quality has declined under the strains of increasing population and pollution.

Millions of people, most of whom are children, in developing countries, die of basic hygiene-related diseases every year. A government report said that poor water quality and lack of adequate disposal of human, animal and household waste are the contributing factors to food and waterborne diseases.

Objectives of the study were

1. To determine the knowledge of students regarding food and waterborne diseases and their prevention.
2. To evaluate the effectiveness of the information booklet in terms of gain in knowledge score.

Hypothesis

H_1: The mean post-test knowledge score of students will be significantly higher than the mean pre-test knowledge score at 0.05 level of significance.

Delimitations

1. The study is restricted to the students of Class V, VI, and VII of a selected school of Gwalior only.
2. Assessment of knowledge of students will be done only through a structured knowledge questionnaire.

Research Methodology

Research design: Pre-experimental, one-group pre-test – post-test design (O_1 X O_2) design used to identify the effectiveness of the information booklet on food and waterborne diseases, and their prevention.

Research setting: This study was conducted in a Private English medium school of Gwalior city. The school had a total strength of 600 and a total of 151 in Class V, VI and VII (48 in Class V, 50 in Class VI and 53 in Class VII) of which 40 children from each class who met the inclusion criteria were selected.

Sample: The total sample size was 120. In this study the sample comprised of 40 students each from Class V, VI and VII.

Sample Technique: In this study stratified random sampling technique was used.

Results

The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among the data groups. The analysis of data in a general way involves a number of closely related operations which are performed with the purpose of summarizing the collected data and organising these in such a manner that they answer the research question [1].

The collected data were analysed using descriptive and inferential statistics. There was highly significant difference ($t_{119} = 59.72$, $P<0.05$) between the mean post-test ($x_2 = 36.633$) and mean pre-test ($x_1 = 17.958$) knowledge score. The area-wise mean knowledge score of the pre-test was maximum (12.4417) in the area of 'prevention of food and waterborne diseases' and minimum (0.3833) in the area of

'causes of food and waterborne diseases' whereas the area-wise mean knowledge score of post-test was maximum (19.3750) in the area of 'prevention of food and waterborne diseases' and minimum (2.4333) in the area of 'causes of food and waterborne diseases.'

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Table 1: Frequency and cumulative frequency distribution of pre and post-test knowledge score of students on food and waterborne diseases and their prevention N = 120

Knowledge score	Pre-test			Post-test		
	F	%	CF	F	%	CF
13 – 15	35	29.2	35	-	-	
16 – 18	44	36.7	79	-	-	
19 – 21	32	26.6	111	-	-	
22 – 24	6	5.0	117	-	-	
25 – 27	3	2.5	120	-	-	
28 – 30	-	-	-	-	-	
31 – 33	-	-	-	-	-	
34 – 36	-	-	-	54	45.0	54
37 – 39	-	-	-	66	55.0	120

Maximum score = 39

Data in Table 01: shows the students' knowledge score. Among the subjects 36.7% scored from 16 – 18 where as 29.2% of the students scored between 13 – 15 in the pre-test. The maximum score gain in the pre-test was 27. However, in the post-test 55% of the respondents scored between 37 – 39. The maximum score gained in the post-test was 39 and none scored less than 34.

Discussion of the findings: In the present study subjects were in the age group of 10 to 13 years. In other research studies too, samples were in the similar age group. This indicated that school children are the best group to provide health education and information to promote their health as well as to promote the health of the nation.

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