A COMPARATIVE STUDY TO ASSESS THE KNOWLEDGE ON SELECTED ASPECTS OF ENVIRONMENTAL SANITATION AMONG SCHOOL GOING CHILDREN IN THE SELECTED RURAL & URBAN SCHOOL

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Abstract:
A descriptive study was undertaken to assess and compare the knowledge on selected aspects of environmental sanitation among rural and urban school going children. The study also aimed in finding association between rural and urban school going children's knowledge and selected aspect of environmental sanitation. The conceptual framework was based on Modified J W Kenney's model (source J W. Kenny system model, WHO SEARO technical publication 1985). Descriptive research design and comparative survey approach was adopted for the study. The validity of the developed tools was established through seven experts. Reliability was established by split half formula followed by Spearman Brown Prophesy formula, were r = 0.86. Pilot study was conducted at Basudevpur High school and Rasapunja High School, South 24 Parganas and the study was found to be feasible. The main study was conducted at BarishaPurbapara High School and SamaliBholanath High School. The population selected for the study comprised of school going children of V and VI standard. Sixty samples were selected from each school by Simple Random Sampling using Random table method. The mean knowledge scores of the Rural and Urban school going children were 17.75 and 17.55 respectively. The findings showed that there were no significant difference between knowledge score of rural and urban school going children on selected aspect of environmental sanitation and no association were existing between knowledge level and selected demographic variables- age, gender, standard of education and exposure to health related information. The study has its implications in the field of Nursing Practice, Nursing Administration, Nursing Education and Nursing Research.

Keywords: Knowledge, Environmental Sanitation, School going children, Rural and Urban area

INTRODUCTION:

"The supreme reality of our time is the vulnerability of our planet" **Jhon F Kennedy**

BACKGROUND OF THE STUDY: Every day we face some new problem & also learn some new techniques to keep ourselves safe & to protect others who are vulnerable. The vulnerability is not always under control of ourselves & often we are vulnerable because of our unsafe environment. History of mankind says that we have tried to keep our environment safe for our own survival. The term environment implies all the external factors- living &nonliving, material & non material objects which surround us. The key to human health lies largely in his environment.

Environmental sanitation[1] is defined by WHO as "control of all those factors in man's physical environment which exercise a deleterious effect on his physical development, health & survival". It includes control of housing, food, water, refuse & excreta, waste water, air, soil vectors, insects & rodents etc. Environmental sanitation is one of the essential measures of health care service to promote health of people. Globally 2.4 billion people live under highly unsanitary conditions and have such poor hygiene behaviour that exposes them to risks of incidence and spread of infectious diseases as reported **by WHO**[2].

UNICEF & WHO[3] has described in a joint report of Water and Sanitation Programme that most Indians still do not have access to modern sanitation: rural sanitation coverage was estimated to have reached only 21% by 2008. There continue to be a number of innovative efforts to improve sanitation including

the community led Total Sanitation Campaign and the monetary rewards under the Nirmal Gram Puraskar.

NEED OF THE STUDY:

Ministry of Statistics and Programme Implementation department[4] of India reported that India with 1.27 billion people is the second most populous country in the world. The figures showed that India represents almost 17.31% of the world's population, which means one out of six people on this planet, live in India. Among the population children are near about 35%. They are the vulnerable group to acquire disease as they are very much exploratory in nature & also exposed to environment.

Mondal BC[5]**& Mete J** conducted a comparative study on environmental awareness among secondary school students in relation to gender and residential background in West Bengal. A self-made situation based questionnaire was used to collect the data from 1000 students, selected by stratified random sampling from the five districts of West Bengal namely Purulia, Birbhum, Burdwan, Jalpaiguri and Hooghly. The collected data had been treated with suitable statistical techniques like two way ANOVA, t-test. The results indicate that urban boys have higher environmental awareness than that of its rural counterpart. However, no significant difference upon environmental awareness was found for boys and girls student.

The above study findings indicated that poor environmental sanitation is a global public health issue. Like other developing countries, in India also environmental sanitation is not up to the mark. Awareness on environmental sanitation is still lacking among people including school going children. Awareness on environmental sanitation is varying among school going children. Hence the investigator has planned to conduct study to assess and compare the knowledge of rural and urban school going children on selected
Aspects of environmental sanitation.

OBJECTIVES OF THE STUDY

1. To assess the knowledge of rural school going children on selected aspects of environmental sanitation as measured by structured interview schedule.
2. To assess the knowledge of urban school going children on selected aspects of environmental sanitation as measured by structured interview schedule.
3. To compare the knowledge on selected aspects of environmental sanitation among the school going children of selected rural & urban school.
4. To find the association between existing knowledge level of rural school going & selected variables: age, sex, standard of education, exposure to health related information.
5. To find the association between existing knowledge level of urban school going children & the selected variables: age, sex, standard of education, exposure to health related information.

VARIABLES

RESEARCH VARIABLE- Knowledge on selected aspects of environmental sanitation.
SELECTED VARIABLE- Age, gender, standard of education, exposure to health related information.

ASSUMPTIONS: The investigator assumes that

1. The school going children have some awareness on environmental sanitation.
2. The children will be free to respond to questions on environment sanitation.
3. School going children acquire knowledge from various sources.

CONCEPTUAL FRAMEWORK: conceptual framework based on modified J.W. KENNY'S open system model

METHODS AND MATERIAL

RESEARCH APPROACH

Survey approach was used for the present study as it is widely used and best suited for the comparative type of research.

RESEARCH DESIGN

Comparative survey research design is used for the present study. This design is used to compare knowledge between two groups of school going children in rural and urban area.

RESEARCH SETTING

The main study was conducted in Samali B J Nath High School Up as rural school. It has 1200 students. BarishaPurba Para High School was selected as urban school. It has 860 students. Both the schools are Bengali medium and under West Bengal Board of Secondary education.

POPULATION OF THE STUDY

The population selected for the study was school going children of Samali B J Nath High School Up and BarishaPurba Para High School, Bengali medium school. The school going children selected for the study were of 5th and 6th standard. In Samali B J Nath High School total students of 5th & 6th standard were 200. In BarishaPurba Para High School total 5th & 6th standard students were 360.

SAMPLE: The sample size for the study was 120, 60 from rural Bengali medium school & 60 from urban Bengali medium school.

SAMPLING TECHNIQUE: Random sampling technique was used for the selection of the samples. Same number of samples was selected from standard V and standard VI with the help of random table for both the schools.

Inclusion criteria

- Students who spoke & understood Bengali.
- Students who were studying in Bengali medium schools.
- Students who were studying in class V and VI.

Exclusion criteria

- Students who were absent on that day of data collection.
- Students who were mentally challenged.
- Students who were seriously physically ill.

METHOD OF DATA COLLECTION

Tool-1 Demographic Proforma

The tool was prepared to gather background information regarding subject's information such as age, gender, standard of education & previous exposure to health related information by using semi structured interview schedule.

Tool-2 Structured Knowledge Interview Schedule on selected aspects of Environmental Sanitation

A blue print was developed based on the content of selected areas of environmental sanitation. The interview schedule was consisted of thirty (30) structured multiple choice questions on selected areas of environmental sanitation- Definition & Purpose of Environmental sanitation, Food sanitation, Water sanitation, Air sanitation, Housing. Each item had four alternative responses. A score of one (1) was given for correct answer & there was no negative marking for wrong answer. The maximum possible score was thirty (30) & lowest possible score was zero (0).

ITEM ANALYSIS

Item analysis of knowledge questionnaire was done to find out the difficulty index and discriminating index. Out of thirty (30) items all had difficulty index 30-70 percent; all the questions were good. The item number 1, 2,4,8,13,14 & 29 had discriminating index 0.25; it denotes these questions were good. All other items had discriminating index 0.375 – 0.75; it denotes these questions are excellent. Therefore no item was deleted.

RELIABILITY OF THE TOOL

For the knowledge questionnaire the reliability was computed by using Split-half techniques and correlation was computed using Spearman Brown prophecy formula. The reliability co-efficient was 0.86 for knowledge questionnaire. That indicated the tool was reliable.

PROCEDURE FOR DATA COLLECTION

The main study was conducted on 120 samples, 60 from rural school and 60 from urban school using simple random sampling technique from standard V and standard VI. Formal administrative permission was taken from the Principal and Ethics committee of B.M. Birla College of Nursing, Kolkata, Samali B J Nat High School and BarishaPurba Para High School, South 24 Parganas, West Bengal. An informed consent was obtained from each participant. Research was conducted for 4(5th, 6th, 7th and 8th January 2015) days, 2 days in rural school and 2 days in urban school and each day interview was conducted on 30 participants using tool-I and tool-II. Data were collected in a separate room, interviewing the participants one after another.

RESULTS:

Section-I- Sample characteristics

- In rural and urban school, most of the children (R-58.33% and U-55%) were male in gender.
- In rural and urban school respectively 25% and 38.33% of children were within the age group of 9-10 years, 68.33% and 61.67% within the age group of 11-12 years. Only 6.67% children from rural school were within the age group of 13-14 years.
- Equal number of samples was taken from standard V and standard VI.
- Most of the rural school going children 42(70%) had exposure to health related information sometimes; only a few number of them 4(6.66%) had regular. Most of the urban school going children 37(61.66%) had sometimes exposure to health related information and 16(26.66%) school going children had regular exposure. More number of 14(23.3%) rural school going children had no exposure to health related information as compared to urban school going children 7(11.7%).

Section-II- Assessment of the knowledge of rural school going children on selected aspects of environmental sanitation.

- The mean, median and standard deviation of the knowledge score of rural school going children was 17.75, 19.5 and 4.70 respectively.
- The mean, median and standard deviation of the knowledge score of urban school going children was 17.55, 17.5 and 5.67.
- In order to find the difference between the two mean knowledge score of rural and urban school going children, unpaired 't' test was computed and obtained the 't' value (0.488) was found to be non-significant (t_{118}= 1.9803, $p< 0.05$. There was no significant difference between knowledge score of rural and urban school going children on selected aspects of environmental sanitation.

Section-III- Association of the existing knowledge level of rural and urban school going children with the selected variables: To determine the association of the existing knowledge level on selected aspects of environmental sanitation of rural and urban school going children with the selected variable chi-square was computed. The study findings showed that there was no significant association at 0.05 level of significance of knowledge levels of the school going children with selected variables.

LIMITATION

- The study was only V – VI standards school going children; selected Bengali medium Samali BJ Nath High School and BarishaPurba Para High school of South 24 Parganas. Therefore the exact representation of the population cannot be ensured and generalization is limited to the population under study.
- Sample size was small which limits the generalization to larger population with similar characteristics.
- The investigator did not go through the records to confirm the age of the children. The ages given by the students were accepted at face value.

RECOMMENDATIONS

- A similar study may be replicated on a larger sample. Evaluative studies can be done on knowledge on environmental sanitation among rural or urban children. Evaluative study can be done on the attitude on environmental sanitation.
- Comparative study can be done on practice of environmental sanitation among rural and urban school going children.
- Correlational study can be done on knowledge and practice on environmental sanitation.
- Similar study can also be undertaken on a sample at college and university level.
- Study can be replicated with other age group i.e. young adult.

CONCLUSIONS: The following conclusion can be drawn based on the study that

- The school going children from both rural and urban area have average knowledge on selected aspects of environmental sanitation.
- There was no significant difference of knowledge on selected aspects of environmental sanitation among rural and urban school going children.
- There were no significant association of knowledge level with the selected variables.

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