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A study to evaluate the effectiveness of self- instructional module on knowledge regarding first aid management of snake bite among selected PU college students at Ankola, Uttara Kannada District, Karnataka

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Abstract

Snake bites are a common occurrence that can significantly impact individual's physical well-being and quality of life. Effective management of snake bites can involve wearing protective footwear, avoiding areas where snakes live, and not handling snakes. "A study to evaluate the effectiveness of self-instructional module on knowledge regarding first aid management of snake bite among selected PU college students at Ankola, Uttara Kannada District, Karnataka". Fifty samples were selected by purposive sampling method. Data was collected by structured questionnaire which is designed to assess the knowledge regarding first aid management of snake bite. The data collected was using both descriptive and inferential statistics. The findings revealed that mean knowledge score was 6.44 in Ankola, Uttara Kannada.

Keywords: Assess, effectiveness, knowledge, self-instructional module, snake bite, first aid, evaluate

Introduction

Snake bites can cause a variety of disabilities ranging from skin and soft tissue injury that causes scarring, to deeper muscle, connective tissue and vascular necrosis and gangrene leading to substantial loss of limb use or even amputation. Poor wound healing can lead to disfiguring contracture and permanent loss of function. Spitting cobras can spray venom into the eyes causing conjunctivitis, corneal ulceration and erosion and, ultimately, blindness. Some toxins in snake venoms can cause effects that indirectly damage the normal function of the kidneys, resulting in a need for long-term haemodialysis or even kidney transplantation. All of these types of injury require prolonged hospital treatment and extensive rehabilitation.

In India, most of the people are affected by snake bite and India accounts for almost half of the total number of animal deaths in the world. We must take all the possible precautions to prevent the snake bite. The states with highest number of snake bite are Maharashtra, West Bengal, Kerala, Andhra Pradesh and Tamil Nadu. Most common bites are seen in lower extremities. The majority of snake bite takes place in males of age 11 to 50 years and mostly it takes place in evening and midnight. Across the globe, more than 400,000 a snake bite occur each year with 5% mortality rate. Children between 1 and 9 years of age are the most likely victims. Dry bites are bites by poisonous snakes but without venom deposition. In Southeast Asian countries cobras, Russell viper, pit viper, and kraits are common poisonous snakes. There are total of 50 species of poisonous snakes in India. And the report says that 20,000 snake bites and 15,000 deaths occur annually in India due to main 5 species. Snake bite is often faced by rural population in tropical and subtropical countries with heavy rainfall and humid climate. There are three major families of venomous snakes. They are; Elapidae, Viperidae, and Hydrophidae (WHO). There are some measures which a person must follow to prevent snake bite.

Methodology

Problem Statement: “A study to evaluate the effectiveness of self-instructional module on knowledge regarding first aid management of snake bite among selected PU college students at Ankola, Uttara Kannada District, Karnataka”.

Objectives of the study

- To evaluate the effectiveness of self-instructional module by comparing the pre-test and post-test knowledge scores regarding first aid management of snake bite among selected PU college students at Ankola.
- To find the association between knowledge scores regarding first aid management of snake bite with selected demographic variables.
- To assess the knowledge first aid management of snake bite among selected PU college students at Ankola.

Research methodology is a way of explaining how a researcher intends to carry out the research. It is a logical, systematic plan to resolve a research problem. A methodology details a researcher's approach to be research to ensure reliable, valid result that address their aims and objectives. It encompasses what data they are going to collect and where from, as well as how it's being collected and analyzed.

The chapter deals with the methodology adapted for the present study it includes;

Research approach

“The research approach is a plan and procedure that consist of the steps of broad assumptions to detailed methods of data collection, analysis and interpretation”.

The approach choice of the research depends on the purpose of the study. Quantitative approach was felt to be appropriate for the study undertaken, since it is aimed at evaluate the effectiveness of self-instructional module by comparing the pre-test and post-test knowledge scores regarding first aid management of snake bite among selected PU college students at Ankola.

Research design

Research design is the frame work of research methods and techniques chosen by researcher to conduct a study. The research allow researcher to sharpen the research method suitable for the subject matter and setup their studies for success. Research design is a blue print of scientific study. It includes research methodologies, tool and techniques to conduct the research.

A One group pre-test post-test design is used to obtain information from the PU students regarding first aid management of snake bite.

Setting of the study

The setting of the research study refers to the physical, social and experimental content in which the research is conducted.

The setting for the present study includes selected PU college of Uttara Kannada District. It was selected conveniently for its geographical approximately and better co-operation from college and authority.

Research variables

A research variable can defined as qualities, attributes,

properties or characteristics that are observed or measured in a natural setting without manipulate and establish cause and effect relationship in descriptive, exploratory, comparative, and qualitative research studies.

Research variable under the study

Demographic Variables: Age, sex, education, occupation, income, source of knowledge.

Dependent Variable: A dependent variables is one whose value varies in response to the change in the value of independent variable.

Research Variables: Knowledge and first aid regarding snake bite.

In this study dependent variable is PU college students.

Independent Variable: An independent variable is a condition in a research study that causes an effect on dependent variable.

Population

A population is the complete set group individual, whether that group comprises a nation or a group of people with common characteristics. Population is divided in to two group; target population and accessible population.

In this study population comprises all the PU college students of selected colleges of Uttara Kannada District.

Target population: The target population is the entire population or group, that a researcher is interested in researching and analyzing.

In this study population comprises all the PU college students of selected colleges of Uttara Kannada District.

Accessible population: It is the aggregate of the cases that confirm to the designate criteria and are also accessible as subjected for the study.

In this study population comprises all the PU college students of selected colleges of Uttara Kannada District.

(Nursing Research and Statistics, by Suresh K Sharma population, sample and sampling page no: 251-3rd edition.)

Samples

A sample is a group of people who have been selected from larger population to provide data to researcher. In this study, sample consists of 50 PU college students of selected colleges of Uttara Kannada District.

Sampling technique

Sampling technique is the process of studying the population by gathering the information and analyzing the data. In this study, purposive sampling method used is, which a type of non-probability sampling.

Sampling criteria

The researcher specifies the characteristics of the population under study by detailing inclusive criteria in the study. Inclusion criteria are characteristics that the prospective subjects must have if they are to be included in the study. Exclusion criteria are those characteristics that disqualify prospective subject from inclusion in the study.

Inclusion criteria

The study sample include PU college students who are,

- Available during the data collection.
- Willing to participate in the study.

- Able to read and understand Kannada.

Exclusion criteria

In the present study excludes PU college students from the study, who are,

- Not willing to participate in the study
- Not available during the data collection

Materials

Based on the research problem and objectives of the study, the following steps were undertaken to develop tool, The following steps were carried out for preparing the tool.

Step 1: Review of Literature.

Step 2: Structured Questionnaire based on experts opinion.

Description tool

Section I: Socio demographic data for PU college students
The section of tool consist of 6 items developed for obtaining information about the background factors such as age, gender, education, religion, previous knowledge and source of information of PU college student in selected colleges of Uttara Kannada Karnataka.

Section II: Knowledge questionnaire for PU college students.

Structured questionnaire contains 26 MCQ's, which is developed to find out the knowledge regarding snake bite among PU college student in selected colleges of Uttara Kannada Karnataka.

Section III: Attitude questionnaire for PU college students:
Attitude questionnaire contains 18 Yes/No questions, which is developed to find out the attitude regarding snake bite among PU college student in selected colleges of Uttara Kannada Karnataka.

Data collection procedure

A prior written permission was taken from ethical committee from college to conduct the respective study. The study was conducted from August to October. As per plan, the sample size was selected is 50 in number i.e. 50 PU

college students. A required explanation was given to subject before filling the tool. After self-introduction, nature of the study, objectives of the study and researchers purpose to conduct the study was explained to the PU college student in selected colleges of Uttara Kannada District, Karnataka to obtain maximum co-operation. Nearly 10-15 minute was taken by each sample to answer the structured questionnaire.

Plan for Data Analysis

Data analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. The data obtained were entered into a master sheet and analyzed using both descriptive and inferential statistics based on objectives and hypothesis of study. The data will be presented in figures and tables.

Results & Discussion

The analyzed data was organized and presented under following sections.

Section A: Findings related to Demographic data of PU College students in selected colleges in Ankola, Uttara Kannada District.

Section B: Analysis interpretation of the findings to effectiveness of self-instructional module on knowledge regarding first aid management of snake bite among PU College students in selected colleges.

Section C: Association between knowledge scores on self-instructional module on knowledge regarding first aid management of snake bite among selected PU college students and selected demographic variables.

Section D: Effectiveness of self-instructional module on knowledge regarding first aid management of snake bite among selected PU college students by "t" tes

Section A: Findings related to Demographic data of PU College students

Table 1: Findings related to Demographic data of PU College students in selected colleges in Ankola, Uttara Kannada District. N=50

Sl. No.	Demographic data	Frequency	Percentage (%)
1.	Age [In year]		
	16-18 years	50	100%
	19-20 years	-	-
2.	Gender		
	Male	31	62%
	Female	19	38%
3.	Religion		
	Hindu	43	86%
	Muslim	7	14%
	Christian	-	-
	If any other	-	-
4.	Previous Knowledge		
	Yes	25	50%
	No	25	50%
5.	Source of information (If yes)		
	Newspaper	07	28%
	Journal	01	4%
	Internet	15	60%
	Real Experience	2	8%

Section B: Analysis interpretation of the findings to effectiveness of self-instructional module on knowledge regarding first aid management of snake bite among PU College students in selected colleges.

Table 2: Distribution of mean, median, mode, standard deviation of pre-test knowledge scores on self-instructional module on knowledge regarding first aid management of snake bite among PU College students in selected colleges n=50

Sl. No.	Mean	Median	Mode	Standard deviation
1.	11.74	12.5	13	1.86

Table 2 represents the distribution of pre-test knowledge

Table 4: Frequency and percentage distribution of Pre-Test knowledge scores of sample regarding self-instructional module on knowledge regarding first aid management of snake bite among PU College students in selected colleges.

Sl. No.	Level of knowledge	Score Range	Frequency	Percentage
1.	Good	15-22	2	4%
2.	Average	8-14	45	90%
3.	Poor	1-7	3	6%

Table 4 reveals that samples 2 (4%) had good knowledge, 45 (90%) had average knowledge and 3 (6%) had poor knowledge.

Table 5: Frequency and percentage distribution of Post-Test knowledge scores of sample regarding self-instructional module on knowledge regarding first aid management of snake bite among PU College students in selected colleges

Sl. No.	Level of Knowledge	Score Range	Frequency	Percentage
1.	Good	15-22	49	98%
2.	Average	8-14	01	2%
3.	Poor	1-7	00	0%

scores. The knowledge was distributed with the mean of 11.74, median 12.5, mode 13, standard deviation 1.86.

Table 3: Distribution of mean, median, mode, standard deviation of post-test knowledge scores on self-instructional module on knowledge regarding first aid management of snake bite among PU College students in selected colleges n=50

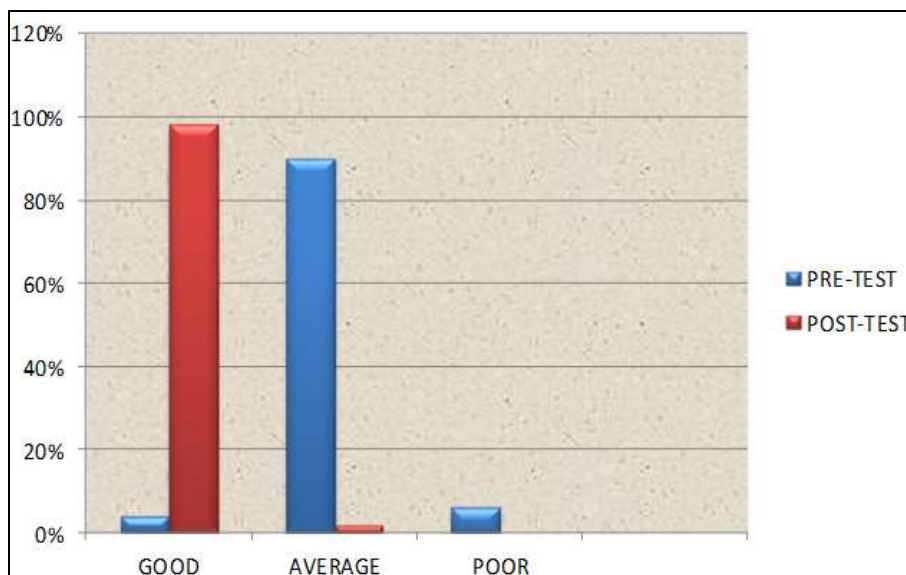
Sl. No.	Mean	Median	Mode	Standard deviation
1.	18.18	18.5	18	1.34

Table 3 represents the distribution of post-test knowledge scores. The knowledge was distributed with the mean of 18.18, median 18.5, mode 18, standard deviation 1.34.

Table 5 reveals that samples 49(98%) had good knowledge, 1 (02%) had average knowledge and didn't have poor knowledge.

Hence the hypothesis is H₁: There will be a significant difference between pre-test and post-test knowledge score regarding first aid management among the PU College students.

Frequency and percentage distribution showing that difference between pre-test and post-test knowledge scores regarding self-instructional module on knowledge regarding first aid management of snake bite among selected PU college students in selected collages.



Section C: Association between knowledge scores on self-instructional module on knowledge regarding first aid

management of snake bite among selected PU college students and selected demographic variables.

Table 6: Association between pre-test knowledge scores on self-instructional module on knowledge regarding first aid management of snake bite among selected PU college students and selected demographic variables

Sl. No.	Demographic variables	Chi Square Value	DF	Table Value	Significance
1.	Age	0	2	5.99	NS
2.	Gender	0.14	2	5.99	NS
3.	Religion	2.65	6	12.59	NS
4.	Previous Knowledge	0.35	2	5.99	NS
5.	Source	4.25	6	12.59	NS

H₂: There will be no significant association between pre-test knowledge score with the selected demographic variables among PU college students. The finding of table 6 reveals that the variable age, gender,

religion, previous knowledge, source of information among PU college students are not dependent to each other the chi square value is less than the chi square table value. So therefore H₂ is rejected.

Table 7: Association between post-test knowledge scores on self-instructional module on knowledge regarding first aid management of snake bite among selected PU college students and selected demographic variables

Sl. No.	Demographic Variables	Chi Square value	Df	Table Value	Significance
1.	Age	0	2	5.99	NS
2.	Gender	1.66	2	5.99	NS
3.	Religion	0.16	6	12.59	NS
4.	Previous Knowledge	2.03	2	5.99	NS
5.	Source	0	6	12.59	NS

H₂: There will be no significant association between post-test knowledge score with the selected demographic variables among PU college students. The finding of table 6 reveals that the variable age, gender, religion, previous knowledge, source of information among PU college students are not dependent to each other the chi

square value is less than the chi square table value. So therefore H₂ is rejected.

Section-D: Effectiveness of self-instructional module on knowledge regarding first aid management of snake bite among selected PU college students by “t” test.

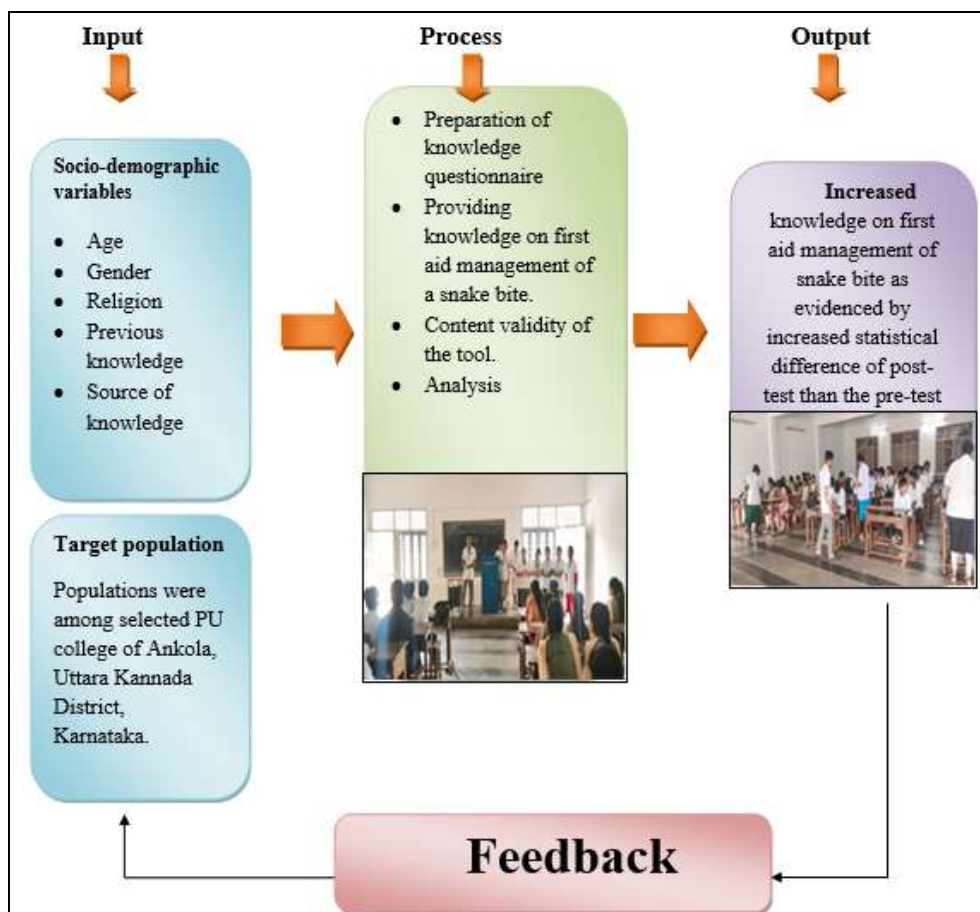
Table 8: Mean, standard deviation, degree of freedom and ‘t’ value of pre-test and post-test knowledge scores of samples

Parameters	Mean	Difference of mean	SED	‘t’ cal	‘t’ table	DF
Pre-test	11.74	6.44	0.34	21.67	1.671	49
Post-test	18.18					

The data and table show that mean post- test knowledge scores of the sample is significantly higher than the mean pre-test knowledge scores that ‘t’ table value ‘t’= 1.671 and the calculated value ‘t’= 21.67, p< 0.05 which shows that calculated value is greater than the table value. Hence there is significant gain in knowledge among selected

PU college students in Ankola, Uttara Kannada district. So H₁ is accepted.

Conceptual framework
Conceptual framework based upon modified luding von betalanfey general system theory



Equations

$$\bar{X} = \frac{\sum X}{n}$$

1. Mean:

$$2. \text{ Median: } M = \left[\frac{n+1}{2} \right]^{th}$$

$$3. \text{ Standard deviation: } SD = \sqrt{\frac{\sum X^2}{n} - \left[\frac{\sum X}{n} \right]^2}$$

$$4. \text{ Standard error: } SE = \sqrt{\frac{(SD_1)^2}{n_1} + \frac{(SD_2)^2}{n_2}}$$

$$5. \text{ 't' calculated value: } t = \frac{\sum d}{\sqrt{\frac{n(\sum d^2) - (\sum d)^2}{n-1}}}$$

$$6. \text{ Degrees of freedom: } Df = n - 1$$

Conclusions

The present study under taken to assess the effectiveness of Self-instructional module on knowledge regarding first aid management of snake bite among selected PU college students at Ankola, Uttara Kannada District, Karnataka”.

The following conclusion was based on the findings. The result was described by using descriptive and inferential statistics.

- The study indicates that all samples 50 (100%) belongs to the age group 16-18 years.
- 25 (50%) have previous knowledge regarding snake bite and 25 (50%) didn't have previous knowledge regarding snake bite.
- The source of information out of 25 maximum samples 15 (60%) found information from Internet. Most samples 7 (28%) found information from newspaper. Some of samples 2 (8%) found information from real experience. Least of samples 1 (4%) found information from Journals.
- The paired 't' test established at 0.05 level of significance revealed that mean post-test knowledge of the sample is significantly higher than their mean pre-test knowledge which shows that calculated value is greater than the table value. Hence the research hypothesis is accepted indicating that there was significant gain in knowledge regarding snake bite through self-instructional module.
- The Chi Square established at 0.05 level of no significance denotes the association between the knowledge and demographic variables like Age, Gender, Religion, Previous knowledge regarding Snake bite, Source of information. However the calculated value for Age (0), Gender (0.14), Religion (2.65), and previous knowledge regarding Snake bite (0.35), Source of information (4.25) were less than the tabulated values hence there was no significant association found with these demographic variables.

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Conflict of Interest

Not available

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Not available

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