

A Study to Evaluate the Effectiveness of Structured Teaching Programme on Knowledge regarding Prevention of Malaria among Students of Senior Secondary School Kota

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Abstract: ***Background:** Communicable diseases are life threatening diseases and affect the individual, family and community. Among the many communicable diseases, Malaria is a protozoan disease, which has demonstrated devastating impact in almost whole of India. Malaria is very common disease in community. Malaria is the disease responsible for very high mortality and morbidity. It is related to breeding of mosquitoes, malaria is caused by sporozoan of the genus plasmodium and it transmitted to man by species of infective female anopheles mosquitoes called vectors or carriers. **Methods:** The study followed an evaluative research approach with one group pre test post test design to evaluate the effectiveness of STP on knowledge regarding factors causing psychosocial problems among adolescence in selected senior secondary school in kota. Purposive sampling technique was used to select sixty senior secondary school adolescents as the study sample. A structured teaching programme was prepared based on review of literatures and expert's suggestions. The tools were validated by experts. The pilot study was conducted in Bharat senior secondary school among 10 senior secondary school adolescents. The reliability of the tool was established by Spearman's split half technique with $r=0.96$. The main study was conducted in Govt vocational senior secondary school. Pre test was administered to the sample for 40 minutes which was followed by structured teaching programme for 45 minutes. On the 7th day post test was conducted to the same sample using the same tool. Data gathered was analyzed using descriptive and inferential statistics in terms of frequency, percentage, mean, standard deviation, paired' test and Chi square test. **Results:** The existing knowledge of senior secondary school adolescents revealed that there was a lack of knowledge in all aspects of knowledge regarding prevention of malaria among students of senior secondary school Overall post test mean knowledge score (16.53% & SD of 2.57 %) was higher when compared with pre test knowledge score (8.07% and SD 3.02%). The statistical paired 't' test implies that difference in pre test and post test knowledge found statistically significant at 5% level indicating the effectiveness of structured teaching programme. There was no significant association between pre test knowledge score and selected demographic variables. **Conclusion:** The major findings revealed that STP on knowledge regarding factors causing psychosocial problems among adolescence enhanced the knowledge of senior secondary school student regarding prevention of malaria among students of senior secondary school.*

Keywords: Adolescence, Malaria, STP

1. Introduction

Communicable diseases are the deadly diseases, which affect the common population today. Among the many communicable diseases, Malaria is a protozoan disease, which has demonstrated devastating impact in almost whole of India. . Among many health problems, Malaria is one of the common diseases in community. Malaria is the disease responsible for very high mortality and morbidity. Malaria is related to breeding of mosquitoes, caused by sporozoan of the genus. plasmodium and transmitted to man by species of infective female anopheles mosquitoes called vectors or carriers (Basavanthappa BT.1998).1

At present, about 100 countries in the world are considered Malarious, almost half of which are in Sub - Saharan Africa, The Incidence of Malaria was in the mid 1950s more than 2.4 billion of the world's population are still at risk. The Incidence of Malaria worldwide is estimated to be 300 - 500 million clinical cases in every year, Malaria is thought to kill between 1.1 and 2.7 million people worldwide in each year. Malaria also contributes indirectly to illness and death from respiratory infections, diarrhoeal diseases and malnutrition (Park k.2004) 2.

The survey was done by Malaria institute of India in endemic areas and estimated 75 million cases in 1947. Hence in order to reduce the Malaria cases, the national Government has taken several measures to improve the health of the people, through various international agencies like WHO, UNICEF and also foreign agencies like USAID have been technical and material assistance for the implication of the health programs.38, 39, 40. The government was launched National Malaria Control programme in 1953, after that the incidence of Malaria cases came down from 75 million to 2 million cases. In 1958 National Malaria Control programme converted into National Malaria Eradication programme because the incidence of Malaria cases raised due to some reasons and after that National Malaria Eradication programme became Modified plan of operation was commenced in 1977. Hence the urban and rural community population needs awareness about the Malaria disease and its prevention.

2. Methods

Study design, setting, sampling and tools

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to

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combine relevance to the research purpose with economy in procedure. A one group pre test, post test pre experimental design is relatively straight forward research design in which there is a treatment group without a control group. All subjects were given pre test, received the treatment and were given a post test. After considering the entire factors related to the selected problem, the investigator has selected one group pre test, post test pre experimental design for testing the effectiveness of structured teaching programme on knowledge regarding prevention of malaria among students of senior secondary school Kota.

Setting refers to the physical locations and conditions in which data collection has taken place. The present study was conducted in two selected schools in kota. The selected schools were Bharat Senior Secondary School Nayapura Kota and Govt. Vocational Senior Secondary School Kota.

Sampling technique is a process of setting a portion of the population to obtain data regarding a problem. Purposive sampling refers to as judgmental sampling, is a type of non-probability sampling in which subjects are selected because they are identified as knowledgeable regarding the subject under the study. The present study followed purposive sampling for the selection of sample. 60 senior secondary school students were selected from Govt. Vocational Senior Secondary School Kota. Pilot study was conducted among 10 adolescents students from Bharat Senior Secondary School Nayapura Kota.

Method of data collection includes development of tool, testing validity and reliability and data collection procedure.

Structured questionnaires are those questionnaires in which there are definite, concrete and predetermined questions. Based on review of literatures and expert's suggestions a structured knowledge questionnaire was developed with the intention to assess the knowledge level of senior secondary school student regarding prevention of malaria. It consisted of two parts.

Part 1: Socio - Demographic Variables

Part 2: Structured Knowledge Questionnaire

Data Collection Procedure

Investigator took formal administrative permission from the schools which were selected for the study. The researcher after obtaining the consent from the participants collected the data.

Plan for Data Analysis

Data Analysis means a critical examination of the assembled and grouped data for studying the characteristics of the object under study and for determining the patterns of relationships among the variables relating to it.

Descriptive statistics: Statistics that allows the researcher to organize the data in ways that give meaning and facilitate insight.

Inferential statistics: Statistics designed to allow inference from a sample statistics to a population parameter.

In this study plan for data analysis includes both descriptive and inferential statistics. The analysis was planned on the basis of objectives and hypotheses.

Data will be analyzed using descriptive and inferential statistics. Frequencies and percentage are used to analyze the demographic features of adolescents. Mean standard deviation and mean percentage will be used to describe the knowledge of the senior secondary school student regarding prevention of malaria. The level of knowledge is grouped in to three categories inadequate (score 0 - 10), moderate (score 11 - 20) and adequate (score 21 - 30). One group pre test (x) and post test (y) design will be used to evaluate (y - x) the effectiveness of STP. Further statistical significance of the STP will be analyzed by paired 't' test. The Chi - Square test is used to find the association between selected demographic variables and post test knowledge score.

3. Results

Percentage distribution of socio - demographic variables of student from selected senior secondary school in kota. This section deals with distribution of participants according to the demographic characteristics. Socio - demographic data selected for analysis in this study were: age, gender, occupation of mother, occupation of mother, types of family, family income per month, previous knowledge of psychosocial problem,. Data was analyzed using descriptive statistics and summarized in terms of frequency and percentages. (Table - 1)

Frequency and percentage distribution of the respondents according to age shows that 63.3% of respondents were in the age group of 15 - 17 years, 36.7% of respondents were in age group of 12 - 14years. It was inferred that majority of senior secondary school students were in the age group of 15 - 17years. (Table - 2)

The percentage distribution of pre test knowledge level of prevention of malaria among student Reveals the distribution of overall respondent knowledge level regarding prevention of malaria among student before structured teaching programme From the above table shows that 58.3% of respondents have inadequate knowledge level; and 41.7% of the respondents have moderate knowledge level prevention of malaria among senior secondary school student before structured teaching programme. It was inferred that overall there is a need for structured teaching programme to enhance knowledge level regarding prevention of malaria among senior secondary school student. (Table - 3)

Post - test level of knowledge regarding prevention of malaria among senior secondary school student The distribution of overall respondent knowledge level regarding prevention of malaria among senior secondary school student after structured teaching programme. From the above table shows that 65% of the respondents have moderate knowledge level, 33.3% of the respondents have adequate knowledge and 1.7% has inadequate knowledge level regarding prevention of malaria among senior secondary school student after structured teaching programme. It was inferred that overall the structured teaching programme was very effective to enhance

knowledge level regarding prevention of malaria among senior secondary school student. (Table - 4)

Area wise effectiveness of structured teaching programme by comparing the pre test and post test knowledge score of prevention of malaria among senior secondary school student depicts Mean, Standard deviation of aspect wise knowledge of senior secondary school adolescents in pre - test and post - test. senior secondary student obtained the highest mean in knowledge regarding prevention of malaria among senior secondary school student in post - test 13.12 plus or minus 2.043) when compared with pre - test (6.53 plus or minus 2.383). The overall mean score was 16.53 plus or minus 2.561 in post - test for senior secondary school student which was higher than the overall mean score 8.07 plus or minus 2.570 in pre - test. Thus it indicates that there is an enhancement of knowledge (16.53) among senior secondary school student regarding prevention of malaria among senior secondary school student. (Table - 5)

Overall difference between pre test and post test knowledge score of student Reveals that the overall improvement in mean score was 8.47 and SD is 3.02 with paired 't' value 21.70. The mean post - test knowledge score was significantly higher than the mean pre - test knowledge scores of senior secondary school student. Thus, the research hypothesis was accepted. (Table - 6)

Data shows the association between pre - test knowledge scores on prevention of malaria among senior secondary school student and selected socio - demographic variables. Describe the Calculated χ^2 value is 0.083, p - value is 0.7732 at 0.05 level of significance. Hence, research hypothesis is rejected. It shows that there is no significant association between the age of senior secondary school adolescents and post - test knowledge score regarding prevention of malaria among senior secondary school student. (Table - 7)

Association between previous knowledge of prevention of malaria among student and pre test knowledge level Calculated χ^2 value is 2.222, p - value is 0.1360 at 0.05 level of significance. Hence, research hypothesis is rejected. It shows that there is no significant association between the previous knowledge regarding psychosocial problems and post - test knowledge score regarding prevention of malaria among senior secondary school student. (Table - 8)

4. Discussion

The present study was conducted to evaluate the effectiveness of structured teaching programme on prevention of malaria among students of senior secondary school Kota. . In order to achieve the objectives of the study, one group pre - test and post design with pre - experimental design was adopted. The sample comprised of 60 senior secondary school students. The data were collected from them before and after the administration of structured teaching programme by using a structured questionnaire. The findings of the study are discussed under the following sections:

Section 1: Socio - Demographic Characteristics of the Sample:

Findings revealed that the highest percentage of the senior secondary school students were in the age group of 15 - 17 years, 53.3% were male, 61.7% of their father's and mother's were govt. employee, 90% of them were from nuclear family, 76.7% had a family income of above 5000, 65% were from urban area and finally 75% were not having previous knowledge.

Section 2: Objectives of the Study

Objective 1: To assess the pretest knowledge regarding prevention of malaria among students of senior secondary school.

Objective 2: To assess the post test knowledge score regarding prevention of malaria among students of senior secondary school Kota.

Objective 3: To evaluate the effectiveness of structured teaching programme regarding prevention of malaria among students of senior secondary school.

Objective 4: To associate the pre - test knowledge score with selected demographic variables.

5. Conclusion

The aim of the study to evaluate the effectiveness of structured teaching programme on knowledge regarding prevention of malaria among students of senior secondary school Kota. . The following conclusions were drawn from the result of the study. Findings revealed that highest percentage of the senior secondary school students were in the age group of 15-17 years, 53.3% were male, 61.7% of their father's and mother's were government employee, 90% of them were from nuclear family, 76.7% had a family income of above 5, 000, finally 75% were not having previous knowledge. The socio - demographic factors show that there is no significant association between the pre - test level of knowledge and socio - demographic variables. The senior secondary school student were from Govt vocational senior. secondary school, Nayapura overall there is a need for structured teaching programme to enhance knowledge regarding factors causing psychosocial problems among adolescence. The study finding reveals that there was highly significant enhancement in knowledge level regarding prevention of malaria among students of senior secondary school student after conducting structured teaching programme among senior secondary school student.

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Table 1: N=60

Serial no.	Demographic variable	Frequency	Percentage
1	Age	13 - 15 year	22 36.7
		15 - 17 year	38 63.3
		17 - 19 year	00 00
2.	Gender	Male	32 53.3
		Female	28 47.7
3.	Occupation of father	Govt. employee	37 61.7
		Private employee	11 18.3
		Self business	6 10
		unemployed	6 10
4.	Occupation of mother	Govt. employee	37 61.7
		Private employee	9 15
		Self business	4 6.7
		unemployed	10 16.6
5.	Types of family	Joint family	6 10
		Nuclear	54 90
		Extended family	00 00
6.	Family income per month	Below 5000	00 00
		5001 - 20000	14 23.3
		20001 - 35000	46 76.7
		Above 35000	00 00
7.	Religion	Hindu	45 75
		Muslim	10 16.66
		Cristain	03 5
		others	02 3.34

8.	Domicile	Urban	39	65
		Semi - urban	12	20
		Rural	9	15
9	Previous knowledge regarding prevention of malaria	Yes	15	25
		No	45	75

Table 2 (N=60)

Knowledge level	Percentage	Types
1 - 10	0 - 33.33%	Inadequate
11 - 20	33.34—66.66%	Moderate
21 - 30	66.67—100%	Adequate

Table 3 (N=60)

	Frequency	Percentage
Inadequate	35	58.3%
Moderate	25	41.7%
Adequate	00	00%
Total	60	100%

Table 04 (N=60)

	Frequency	Percentage
Adequate	20	33.3%
Moderate	39	65%
Inadequate	1	1.7%
Total	60	100%

Table 5 (N=60)

S No.	Different Sections of Knowledge	Pre - Test		Post - Test		Effectiveness	
		Mean	SD	Mean	SD	Mean	SD
1.	Knowledge regarding meaning of prevention of malaria	0.78	0.739	1.40	.643	0.62	0.096
2.	Knowledge regarding factors causing malaria among student	6.53	2.383	13.12	2.043	6.59	0.34
3.	Knowledge regarding prevention and treatment of malaria	0.75	0.628	2.02	.011	1.27	0.617
Over All		8.07	2.570	16.53	2.561	8.46	0.009

Table 6

	Mean	Std. Deviation	Mean Difference	SD of difference	Percent Gain	T- Value	df	p value	Table Value
Over all pre – test Knowledge	8.07	2.570	8.47	3.02	32.58	21.70	59.00	.000	1.67
Over all post test knowledge	16.53	2.561	8.51	3.20	33.45	21.8	600	.00	1.77

Table 7 (N=60)

S. No.	Age	Post test		Total	D. F.	Calculated χ^2 value	P value	Association
		≤Median	>Median					
1	13 - 15 years	13	9	22	1	0.083	0.7732	NS
2	15 - 17 years	21	17	38				
3	17 - 19 years	0	0	0				

*Level of significance at P < 0.05 NS= not significant

Table 8 (N=60)

S. No.	Previous Knowledge	Post test		Total	D. F.	Calculated χ^2 value	P value	Association
		≤Median	>Median					
1	Yes	10	5	15	1	2.222	0.136	NS
2	No	25	20	45				

*Level of significance at P < 0.05 NS= not significant