

ORIGINAL RESEARCH ARTICLE

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A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE REGARDING PREVENTION AND CONTROL OF DENGUE FEVER AMONG 1ST YEAR B. SC. NURSING STUDENTS IN A SELECTED COLLEGE OF NURSING AT MANGALORE

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ABSTRACT

Background of the study: The aim of the present study is to assess the effectiveness of planned teaching programme on knowledge regarding prevention and control of Dengue fever. Dengue fever is most important arthropod-borne viral infection of humans. Dengue Fever is an acute febrile disease caused by infection of Dengue virus which is transmitted by the female Aedes mosquito and it is called break bone fever or dandy fever.

Objectives of the study:

- To assess the knowledge level of 1st year B. Sc. nursing students regarding prevention and control of Dengue Fever by using a structured knowledge questionnaire.
- To evaluate the effectiveness of PTP on prevention and control of Dengue Fever among 1st year B. Sc. nursing students in term of gain in mean post-test knowledge score.

Methods: A simple Quasi experimental one group pre-test post-test design is used for the study with 30 samples. After the 7th day of intervention post-test has conducted and the collected data was analysed using descriptive and inferential statistics.

Result: Evaluation of the effectiveness of planned teaching programme on knowledge regarding prevention and control of Dengue shows that The mean post-test knowledge score obtained by the subject ($x_2=17.16$) were higher than the mean pre-test knowledge score ($x_1=11.13$). The calculated 't' value ($t_{29}=9.57$) was found to be significant ($t_{29}=2.04$).

Interpretation and conclusion: Findings of the study showed that the knowledge score of the students' nurses regarding prevention and control of Dengue Fever were less before the introduction of PTP. The PTP facilitated them to gain more knowledge about prevention and control of Dengue Fever which was evident in post-test knowledge scores. Hence it can be concluded that PTP was an effective strategy for providing information and to improve knowledge of student nurses regarding prevention and control of Dengue Fever.

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INTRODUCTION

From time memorial with the spring of newer life, clustering of ample innovation in the emerging scientific field we have witnessed the drastic turnover of medical advancement in the prevention of various diseases; most noted are those of killer disease.

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A shift of focus is largely placed on those most prevalent, namely, Dengue, Malaria, Filariasis etc. Among communicable disease, Dengue Fever is nowadays the most common health concern of the world and it is significant to address this issue because it is a rapidly growing vector borne disease¹. The possible causes of Dengue Fever worldwide are rapid urbanisation, population growth, and international air travel to the endemic countries. The occurrence persist to rise mostly for the reason because of the effects of globalisation, unsuccessful planning for urbanization, and a shortage of vector control and climate change.

Incubation period of Dengue Fever is 3-12 days. Fever is the most common symptoms along with headache myalgia, arthralgia, leukopenia, and rash. The disease can be controlled through prevention. Primary prevention is protection from mosquito bite, insecticide and mosquito repellent are some effective domestic method to avoid vector. Awareness about the disease prevention will help people to avoid getting the disease⁴. According to WHO report of 2009, it is estimated that 50-100 million Dengue Fever cases and 26000 deaths are reported annually and 2.5 billion people or 40 percent of the world population is at risk of Dengue Fever, and the mortality rate is increasing. Dengue exerts a huge burden on population, health systems and economy as well. During multinational survey in 2007 Dengue was found to be the second most common disease after Malaria⁴.

MATERIALS AND METHODS

Operational definitions

Effectiveness: In this study effectiveness refers to the extent to which the planned teaching programme has achieved the desired effect in improving the knowledge of 1st year B. Sc. nursing students regarding prevention and control of Dengue Fever as evidenced by gain in mean post-test knowledge score.

Planned teaching programme: In this study planned teaching programme refers to the systematically developed teaching programme on Dengue Fever designed for educating 1st year B. Sc. nursing students with the help of AV aids. It includes definition, aetiology, clinical features, diagnosis, medical management, complications, prevention, and control of Dengue Fever.

Knowledge: In this study knowledge refers to the correct response obtained from 1st year B. Sc. nursing student regarding Dengue Fever as measured by structured knowledge questionnaire.

Dengue Fever: Dengue Fever is a debilitating viral disease of the tropics transmitted by mosquitoes that causes sudden fever and acute pain in the joints.

Students: In this study student refers to persons who are studying 1st year B. Sc. nursing and undergoing training in a selected college of nursing at Mangalore.

Research design: The researcher approach adapted for the study was pre-experimental, using one group pre-test, post-test design (one group exposed to the pre-test and the same after administration of structured teaching programme post-test).

- The research design used in the present study is quasi experimental one group pre-test post-test design.

Group	Pre-test	Intervention	Post-test
1 st year B. Sc. nursing students	O ₁	X	O ₂

Figure 1. Quasi experimental one group pre-test post-test design

- O₁: Administration of structured knowledge questionnaire on Dengue to assess the pre-test knowledge level of the student nurses.
- X: Administration of planned teaching programme to student nurses regarding Dengue Fever.

- O₂: Administration of structured knowledge questionnaire to assess the post-test knowledge on the 7th day.

Variables

Two types of variables were identified in this study.

Dependent variables: Knowledge levels of 1st year B. Sc. students regarding prevention and control of Dengue Fever.

Independent variables: Planned teaching programme on prevention and control of Dengue Fever.

Sampling technique: In this study a simple random sampling technique is used with 30 samples

Data collection process: The data collection date, time and place were confirmed after discussing with the principal and 1st year B. Sc. nursing class coordinator. A sample of 30 was selected by using simple random sampling method. A structured knowledge questionnaire administered to assess the pre-test knowledge level and the planned teaching programme was given on the same day. Post-test was conducted on the 7th day with the same structured knowledge questionnaire.

RESULTS

The mean post-test knowledge score (17.16) was higher than the mean pre-test knowledge score (11.13). The computed 't' value ($t_{29}=9.57$; $P<0.05$) showed a significant difference suggesting that the PTP was effective in increasing the knowledge of the students regarding prevention and control of Dengue Fever.

Knowledge level regarding prevention and control of Dengue Fever: Knowledge level regarding prevention and control of Dengue Fever was assessed using a structured knowledge questionnaire and was analyzed by using descriptive statistics, which is represented in Table I and Figure 3. Data in Figure 1 and Table 1 shows that in post-test most of the subjects (56.67%) had good knowledge score ranging between 17-24, whereas in the pre-test majority of the subjects (90%) had average knowledge ranging between 9-16. In the pre-test 10% subjects had poor knowledge score ranging between 1-8, but in the post-test none of the subjects had scored poor knowledge. The data in Table 2 and Figure 1 shows that mean percentage knowledge score of pre-test was highest (49.33%) in the area of definition, etiology, risk factors, types and least (21.0%) in the area of pathophysiology, signs and symptoms and diagnostic evaluation. In post-test mean percentage knowledge score was highest (70.0%) in the area of prevention, control, management and complications and least (46.67%) in the area of pathophysiology, signs and symptoms and diagnostic evaluation. Data regarding pre-test and post-test knowledge score was analysed in terms of descriptive and inferential statistics. In order to find out the significance of difference between the pre-test and post-test knowledge score regarding prevention and control of Dengue Fever paired 't' test was used and the data is presented in Table 4. Data in Table 4, shows that the mean post-test knowledge score (17.16) was significantly higher than the mean pre-test knowledge score (11.13). The computed 't' value ($t_{29}=9.57$) was higher than the table value ($t_{29}=2.04$) at $P<0.05$ level of significant. Hence the null hypothesis H_{01} was rejected and the research hypothesis was accepted.

Table 1. Distribution of subjects according to the grading of pre-test and post-test knowledge level scores

Grading of knowledge score	Range of score	n=30			
		Pre-test		Post-test	
		Frequency	Percentage	Frequency	Percentage
Poor	1-8	3	10.00	-	-
Average	9-16	27	90.00	13	43.33
Good	17-24	-	-	17	56.67

Maximum score=24

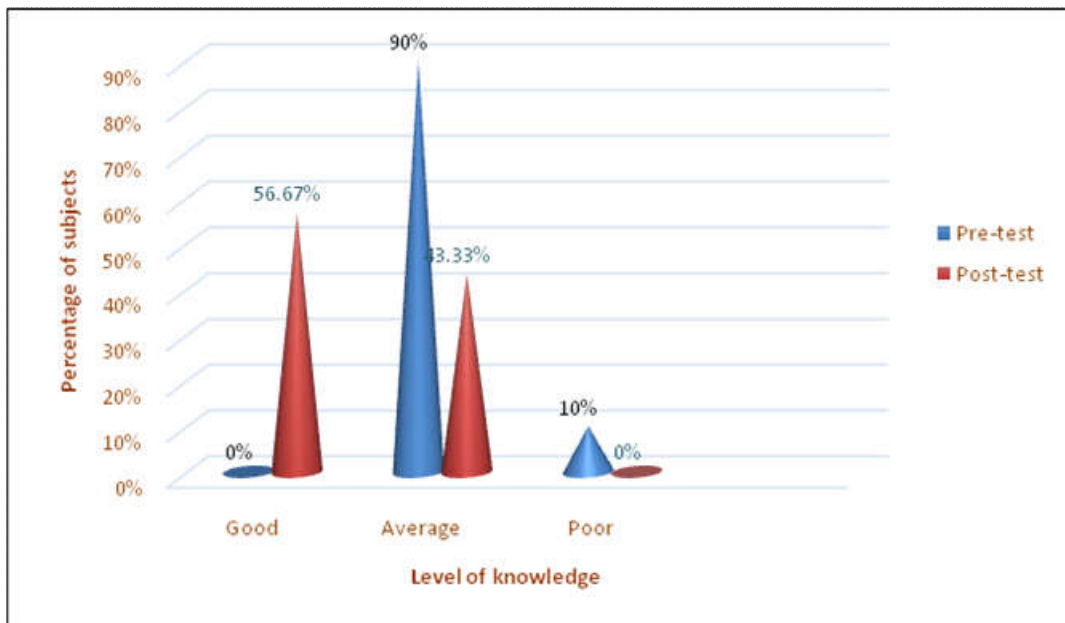


Figure 1. Conical diagram representing the distribution of subjects according to the level of knowledge

Table 2. Area wise mean, mean percentage of pre-test and post-test knowledge score of 1st year B. Sc. Nursing Students regarding prevention and control of Dengue Fever

Area	n=30			
	Pre-test		Post-test	
	Mean	Percentage	Mean	Percentage
Definition, etiology, risk factor, types	4.93	49.33	5.70	57.00
Pathophysiology, signs and symptoms, diagnostic evaluation	2.10	21.00	4.66	46.67
Prevention and control, management, complication	4.23	42.33	7.00	70.00

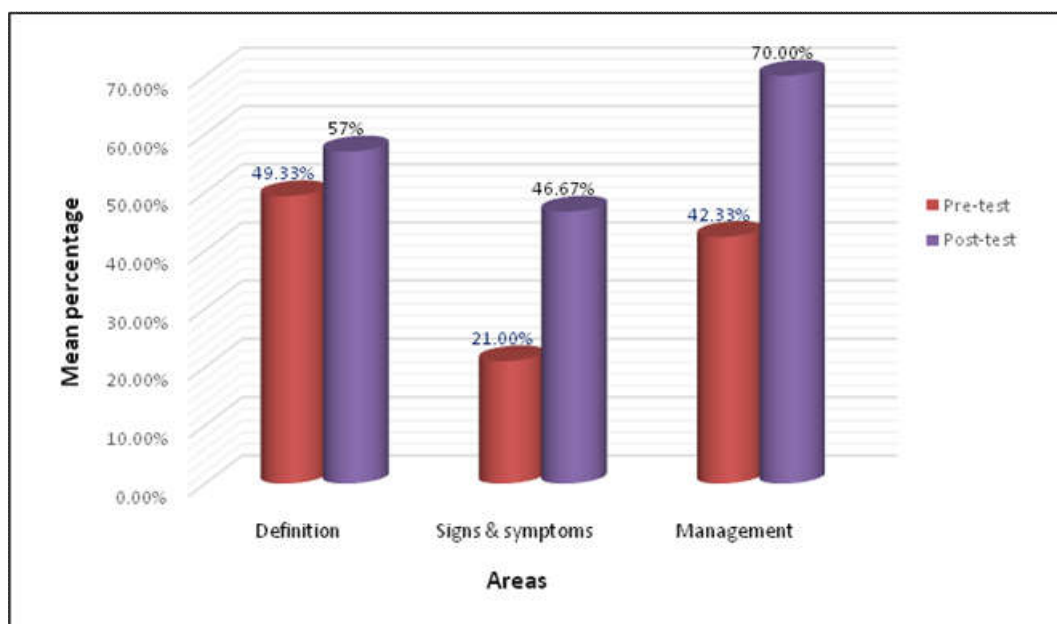


Figure 2. Cylindrical diagram representing area wise mean percentage of pre-test and post-test level of knowledge scores

Table 3. Mean, median and SD of pre-test and post-test knowledge score of 1st year B. Sc. nursing students regarding prevention and control of Dengue Fever

n=30			
Knowledge level	Mean	Median	SD
Pre-test	11.13	15.5	2.59
Post-test	17.16	15.5	2.37

Table 4. Mean, mean difference, SD difference and 't' value of pre-test and post-test knowledge score regarding prevention and control of Dengue Fever

n=30				
Knowledge score	Mean	Mean difference	SD	't' value
Pre-test	11.13	6.03	0.22	9.57
Post-test	17.60			

$t_{29} = 2.04, p < 0.05$

DISCUSSION

Knowledge level regarding prevention and control of Dengue Fever

The mean post-test knowledge scores ($x_2 = 17.16$) was higher than the mean pre-test knowledge scores ($x_1 = 11.13$) suggesting the PTP helped in improving the knowledge of 1st year B. Sc. nursing students regarding prevention and control of Dengue Fever. Similarly a study conducted to assess the knowledge regarding Dengue Fever among nursing students of Dayananda College of Nursing, Ludhiana. The mean pre-test knowledge score for B. Sc. nursing students was 11.47 ± 3.87 and for the GNM it was 8.65 ± 2.72 . In the post-test mean knowledge score for B. Sc. students was 20.4 ± 3.4 and 18.1 ± 3.45 for GNM students. It indicated the PTP was effective in improving the knowledge of Nursing Students regarding Dengue Fever.

Effectiveness of PTP in terms of gain in post test knowledge score

The finding of the study showed significant increase in post-test knowledge and the computed 't' value ($t_{29} = 9.57$) was found to be significant (table value: $t_{29} = 2.05$). These findings were consistent with another study conducted to assess the effectiveness of PTP on knowledge and prevention of Dengue Fever among housewives in Sreekaryam Panchayat. It was evident that 56% of the housewives had poor and 44% had average score regarding practice. The overall post test knowledge score (17.16 ± 2.37) was significantly higher than overall mean pre-test score (11.13 ± 2.59) and the paired 't' value ($t_{29} = 9.57$) was found significant and suggested that the teaching was effective.

Recommendations

- A study could be replicated of large sample, thereby findings could be generalized.
- A comparative study could be conducted in different settings to find out the effectiveness of PTP.
- An experimental study could be replicated with a control group.
- Sample can be selected from other nursing institutions.
- A follow-up study of PTP could be carried out to find out the effectiveness in terms of retention of knowledge.

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