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## Original Research Article

## Pre-experimental study to see the effectiveness of teaching module regarding prevention of Chikungunya fever amongst the students

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## ABSTRACT

**Introduction:** Chikungunya is one of the common infectious diseases which is caused by mosquito (Aedes aegypti) bite. It is also called yellow fever.**Objective:** To assess the effectiveness of teaching module regarding prevention of Chikungunya fever.**Materials and Methods:** Pre and post test was conducted after implementation of teaching module regarding prevention of Chikungunya. Sample of the study was 60 students**Result:** there was huge difference in knowledge of the students after post test like in pre test revealed that 90% students had average knowledge whereas post test revealed 80% students had good.**Conclusion:** Teaching module regarding Chikungunya was highly effective© This is an open access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

## 1. Introduction

Mosquitoes are the non-arthropod flies and the member of nematode flies. Mosquitoes are a vector agent for a number of infectious diseases.<sup>1,2</sup> One of the common infectious diseases is caused by mosquito bite and it is more prevalent in the world named as Chikungunya.<sup>3</sup> The main clinical manifestations of this disease is stooped appearance, joint pain and fever. Its incubation period is 3-12 days. It is diagnosed by blood test, serological test and ELISA.<sup>4</sup> Chikungunya can be treated symptomatically.

Analgesic and NSAIDs medication may be used to reduce the pain and swelling. There is no approved vaccine for this virus.<sup>5</sup> Thus prevention depends upon prevention of mosquito bites which transmit it.<sup>6</sup> People can prevent mosquitoes by wearing clothing that covers the skin, using mosquito net, application of insect repellent.

## 2. Objective

To find out effectiveness of teaching module on knowledge of students regarding Chikungunya fever.

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## 3. Materials and Methods

A pre-experimental study was carried out to assess the effectiveness of teaching module on knowledge regarding prevention of Chikungunya fever amongst the students of 9<sup>th</sup> standard in selected schools of Ludhiana, Punjab. The study was conducted after getting ethical clearance from the ethical committee. Data was collected in the month of February-March 2017. The sample of the study was 60 students of 9<sup>th</sup> standard. Tool was divided into three parts demographic variables i.e. Age, Religion, Habitat, Education of Father, Education of Mother. Secondly Structured questionnaire with 20 items, and teaching module regarding prevention of Chikungunya fever which was given after pre-test. Purposive sampling technique was used in the study. Analysis of data was done to assess the pre-test and post-test knowledge score of the students. To find out association between pre and post-test knowledge scores with selected socio-demographic variables. The data was analysed by calculation of the score in terms of mean, standard deviation (SD), frequency, percentage, paired 't' test and 'ANOVA' test.

**Table 1:** Socio-demographic profile of the students N=60

S. No	Characteristics	Frequency (%)
	<b>Age</b>	
1.	a. 13-14 years	25(41.67%)
	b. 15-16 years	35(58.33%)
	<b>Religion</b>	
	a. Hindu	12(20%)
4.	b. Muslim	-
	c. Sikh	46(76.67%)
	d. Christian	-
	e. other	2(3.33%)
	<b>Habitat</b>	
3.	a. Rural	56(93.33%)
	b. Urban	04(6.67%)
	<b>Education of Father</b>	
	a. Illiterate	04(6.67%)
4.	b. Primary Education	10(16.66%)
	c. Matriculation	18(30%)
	d. Secondary Education	21(35%)
	e. Graduation & Above	07(11.67%)
	<b>Education of Mother</b>	
	a. Illiterate	10(16.66%)
5.	b. Primary Education	16(26.67%)
	c. Matriculation	16(26.67%)
	d. Secondary Education	13(21.67%)
	e. Graduation & Above	05(8.33%)
	<b>Source of Information</b>	
6.	a. T.V or Radio	19(31.67%)
	b. Friends/Family	08(13.33%)
	c. Newspaper & Magazine	21(35%)
	d. Internet	12(20%)

Majority (58.33%) of 9<sup>th</sup> standard students were in the age group of 15-16 years, followed by (41.67%) in the age group of 13-14 years. Majority (76.67%) of 9<sup>th</sup> standard students were from Sikh religion, followed by (20.00%) from the Hindu and least (3.33%) were from the other religions.

As per residential area majority of the students (93.33%) were from rural area followed by (6.67%) lives in urban area.

In terms of educational status of father majority of respondents (35.00%) had secondary education, followed by (30.00%) have matriculation, followed by (16.66%) have primary education, followed by (11.67%) have graduation or above, followed by (6.67%) illiterate.

In terms of educational status of mother majority of respondents (26.67%) had primary education and matriculation followed by (21.67%) have secondary education, followed by (16.66%) illiterate, followed by (8.33%) have graduation or above education.

Maximum number (35.00%) of had information from newspaper and magazine, followed by (31.67%) from T.V or Radio, followed by (20.00%) from internet, followed by (13.33%) from the friends/family.

**Table 2:** Pre-test knowledge score of the study subjects Pre-test N=60

Criterion measure	Score	N(%)
Good	14-20	2(3.33%)
Average	7-13	55(91.67%)
Poor	0-6	3(5%)

The above table reveals that maximum number of students 91% had average knowledge, 5% had poor knowledge and 3% had good knowledge regarding prevention of Chikungunya fever.

**Table 3:** Post-test knowledge score the study Post-test, N=60

Criterion Measure	Score	Frequency
Good	14-20	49(81.67%)
Average	7-13	11(18.33%)
Poor	0-6	-

Table 3 Reveals that in post-test maximum 81% of students gained good knowledge and 18% had average knowledge regarding prevention of Chikungunya fever.

Thus it shows that there was increase in the knowledge of students regarding prevention of Chikungunya fever.

The above table shows the effectiveness of pre-test and post-test mean score among students regarding prevention of Chikungunya fever. Pre-test mean score was 9.71, however post- test mean score was 15.20. The difference between the Pre-test and Post-test mean score was statistically significant at P=0.05 level.

Hence, it shows that structured teaching programme was effective to increase the level of knowledge among students regarding prevention of Chikungunya fever.

Majority of the respondents (58.33%) were in the age group of 15-16 years followed by (41.67%) in the age group of 13-14 years.

The majority of the respondents (76.67%) were from Sikh religion followed by (20%) from the Hindu and least (3.33%) were from the other religions.

The majority of respondents in pre-test score were (91.67%) in 7-13 i.e. average, in 0-6 (5%) poor and (3.33%) in 14-20 i.e good. Whereas, in post test score the majority of the respondents were (81.67%) in 14-20 score i.e good and (18.33%) in 7-13 score i.e average and no one were scoring 0-6 i.e Poor. It concludes that post-test knowledge score is higher than pre-test knowledge score. Therefore, the structured teaching programme was effective in enhancing the knowledge of senior secondary schools students of 9<sup>th</sup> standard. Majority of the students (58.33%) were in the age group of 15-16 years followed by (41.67%) in the age group of 13-14 years. Majority of the students (76.67%) were from Sikh religion followed by (20%) from the Hindu and least (3.33%) were from the other religions.

As per residential area majority of the respondents (93.33%) live in rural area followed by (6.67%) lives in

**Table 4:** Pretest and post-test knowledge score of the study subjects. N=60

Group	N	Mean	SD	df	't'
Pre-Test	60	9.71	±2.30	118	14.17
Post-Test	60	15.20	±1.91	118	14.17

**Table 5:** Association between pre and post-test knowledge scores

Characteristics	Frequency	Pre -Test		Post -Test		df
		Mean±SD	Test value	Mean±SD	Test value	
<b>Age</b>						
13-14 years	25	9.68 ± 2.52	0.10 <sup>NS</sup>	15.08±1.77	0.40 <sup>NS</sup>	58
15-16 years	35	9.74 ± 2.17		15.28±2.00		
<b>Religion</b>						
Hindu	12	8.75±1.86		14.16±1.69		2
Sikh	46	10.28±2.51	F=2.99*	15.52±1.85	F=2.98*	57
Other	02	7.50±0.17		14.00 ± 2.82		
<b>Habitat</b>						
Rural	56	9.85±2.33	1.33 <sup>NS</sup>	15.35±1.83	1.33 <sup>NS</sup>	58
Urban	04	8.25±2.06		13.00±1.82		
<b>Education of Father</b>						
Illiterate	04	6.75±0.50		14.25±1.50		
Primary Education	10	9.20±2.39		15.60±1.90		4
Matriculation	18	10.66±2.22	F=3.56*	15.50±1.72	F=0.52 <sup>NS</sup>	55
Secondary Education	21	9.33±2.08		15.00±1.81		
Graduation & Above	07	11.00±2.64		15.00±2.88		
<b>Education of Mother</b>						
Illiterate	10	7.30±0.67		13.90±1.66		
Primary Education	16	10.25±2.23		15.68±2.24		4
Matriculation	16	10.25±2.62		15.87±1.54		55
Secondary Education	13	9.69±1.79	F=4.79*	15.15±1.90	F=2.09*	
Graduation & Above	05	11.40±1.81		14.80±1.48		
<b>Source of Information</b>						
T.V or Radio	19	9.94±2.41		15.15±1.77		
Friends/Family	08	10.2±3.22		15.12±1.45		3
Newspaper & Magazine	21	9.23±2.02	F=0.46 <sup>NS</sup>	15.23±2.22	F=0.02 <sup>NS</sup>	56
Internet	12	9.91±2.06		15.33±1.96		

urban area. In terms of educational status of father majority of respondents (35%) have secondary education, followed by (30%) have matriculation, followed by (16.66%) have primary education, followed by (11.67%) have graduation or above, followed by (6.67%) illiterate. In terms of educational status of mother majority of respondents (26.67%) have primary education and matriculation followed by (21.67%) have secondary education, followed by (16.66%) illiterate, followed by (8.33%) have graduation or above education. Maximum number of students (35%) had information from newspaper and magazine followed by (31.67%) from T.V or Radio, followed by (20%) from internet, followed by (13.33%) from the friends/family.

In this group the majority of the students score in pre-test were (91.67%) in 7-13 average, (5%) in 0-6 poor and (3.33%) in 14-20 good knowledge score. Whereas in post-test score reveals that maximum (81.67%) in 14-20 good knowledge and (18.33%) in 7-13 average and no one were in scoring 0-6 poor. It concludes that post-test

knowledge score is higher than pre-test knowledge score. Therefore, the structured teaching programme was effective in enhancing the the knowledge of 9<sup>th</sup> standard students, Ludhiana, Punjab.

In comparison pre and post test mean knowledge score, Pre-test mean score was 9.71, however post-test mean score was 15.20. The difference between the Pre-test and Post-test mean technique score was statistically significant at P=0.05 level. Hence, it shows that structured teaching programme was effective to increase the level of knowledge among students regarding prevention of Chikungunya fever.

As per association with demographic variables pre-test mean knowledge score was 9.74 obtained from subjects in age group 15-16 years followed by 9.68 from age group 13-14 years. In the post test highest mean knowledge score was 15.28 of subjects in age group 15-16 years followed by 15.08 in age group 13-14 years. The highest 10.28 pretest mean knowledge score was obtained from students of Sikh religion followed by 8.75 from the Hindu, followed by 7.50

from other religions. In post- test highest 15.52 post-test mean knowledge score was obtained from students of Sikh religion followed by 14.16 from the Hindu, followed by 14 from other religions.

The highest 9.85 pretest mean knowledge score was obtained from the students of rural area followed by 8.25 from urban area. In post-test highest 15.35 mean knowledge score was obtained from the students of rural area followed by 13 from urban area.

In term of educational status of father highest pre-test mean knowledge score of 10.66 matriculation, followed by 11 have graduation or above, followed by 9.33 have secondary education, followed by 9.20 have primary education, followed by 6.75 are illiterate. In post-test mean knowledge score the highest 15.60 primary education, followed by 15.50 matriculation, followed by 15 secondary education & graduation or above Followed by 14.25 illiterate.

In term of educational status of mother highest pretest mean knowledge score 11.40 of graduation or above followed by 10.25 have primary education and matriculation, followed by 9.69 have secondary education, followed by 7.30 are illiterate. In post-test mean knowledge score 15.87 of matriculation, followed by 15.68 of primary education, followed by 15.15 secondary education, followed by 14.80 graduation or above, followed by 13.90 illiterate.

The highest pre-test mean knowledge score 10.12 had information from friends/family, followed by 9.94 from T.V or Radio, followed by 9.91 from internet, followed by 9.23 from newspaper & magazine. In post-test highest mean technique score 15.33 had information from internet, followed by 15.23 from newspaper & magazine, followed by 15.15 from T.V or radio, followed by 15.12 from the friends/family.

#### 4. Conclusion

The majority of respondents in pre-test score were (91.67%) in 7-13 i.e. average, in 0-6 (5%) poor and (3.33%) in 14-20 i.e. good. Whereas, in post test score the majority of

the respondents were (81.67%) in 14-20 score i.e. good and (18.33%) in 7-13 score i.e. average and no one were scoring 0-6 i.e. Poor. It concludes that post-test knowledge score is higher than pre-test knowledge score. Therefore, the structured teaching programme was effective in enhancing the knowledge regarding prevention of Chikungunya fever among the students of 9<sup>th</sup> standard.

#### 5. Conflicts of Interest

All contributing authors declare no conflicts of interest.

#### 6. Source of Funding

None.

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