

## A STUDY TO ASSESS THE KNOWLEDGE ABOUT PREVENTION OF DENGUE FEVER AMONG SCHOOL GOING CHILDREN OF SPECIFIC SCHOOL OF VRINDAVAN, MATHURA, UTTAR PRADESH.

**Author's Name:** Mansi Agrawal<sup>1</sup>, Dheeraj Parashar<sup>2</sup>, Bhawna Phogat<sup>3</sup>, Raghav Sharma<sup>4</sup>, Rajpal<sup>5</sup>,  
Ankit Kumar<sup>6</sup>, Ram Pandey<sup>7</sup>

### **Affiliation:**

1. B.Sc. Nursing, School of Nursing, Sanskriti University, Mathura, India.
2. Associate Professor, School of Nursing, Sanskriti University, Mathura, India.
- 3-7. B.Sc. Nursing, School of Nursing, Sanskriti University, Mathura, India.

**Corresponding Author Name & Email Id:** Mansi Agrawal, mansiagrawal733@gmail.com

### **ABSTRACT**

*Introduction: Dengue was an emerging illness in India, where it was endemic in some areas and sometimes caused yearly epidemics. Dengue was transmitted by the bite of Aedes Aegypti mosquito vector. It was an illness that affected infants, young children, and adults, with symptoms ranging from mild fever to incapacitating high fever, with severe headache, pain behind the eyes, muscle and joint pain, rash. The illness could evolve to severe dengue, characterized by shock, respiratory distress, severe bleeding, and /or serious organ impairment. The disease had a seasonal pattern. This study aimed to bridge this knowledge gap and contribute to the development of effective dengue prevention strategies among school-going children in Mathura. Methodology: A descriptive survey research design was employed to conduct this study among 50 school going children of specific school of Vrindavan, Mathura, Uttar Pradesh. Participants were selected using a probability random sampling technique. Data collection involved a structured questionnaire that gathered socio-demographic information and measured the knowledge about prevention of dengue fever through a validated rating scale. The tool's reliability was confirmed with a Cronbach's Alpha value of 0.79, indicating acceptable internal consistency. Data analysis was carried out using descriptive statistics to calculate frequencies, percentages, mean, median, mode, and standard deviation, while inferential statistics using the Chi-square test were applied to examine associations between addiction levels and demographic factors at a significance level of 0.05. Results: The findings revealed that a majority of the students 50% exhibited poor levels of knowledge, while 48% showed average level of knowledge, and only 2% were classified as having good level of knowledge. The calculated mean score for level of knowledge was 5.6, indicating a prevalent poor engagement. However, Chi-square analysis showed no statistically significant association between the level of knowledge and demographic variables such as age, gender, family type, siblings, family type and residence. Hence, the research hypothesis H<sub>0</sub> is accepted while H<sub>1</sub> is rejected. Conclusion: The study concluded that the school-going children of the selected school in Vrindavan, Mathura, had low level of knowledge regarding the prevention of dengue fever. After analysis, it was evident that awareness regarding breeding places, use of protective measures (like mosquito nets, repellents), and community cleanliness was inadequate in some areas. This study emphasizes the need for continuous health education and community participation to prevent dengue outbreaks, especially in endemic regions.*

**Keywords:** Study, assess, knowledge, prevention, dengue fever, school going children.

## INTRODUCTION:

Dengue is an emerging public health problem in India, where it is endemic in several regions and frequently causes seasonal outbreaks. These outbreaks are associated with high morbidity and mortality, leading to significant socioeconomic burden. According to the National Centre for Vector Borne Diseases Control, India reported 63,280 dengue cases by September 30, 2022. North India has been repeatedly affected, with Uttar Pradesh reporting 2,060 confirmed cases and one death during the same period. Dengue cases have been reported from rural, semi-urban, and urban settings, highlighting widespread transmission. Effective disease surveillance and early diagnosis are essential to ensure timely case management and outbreak control.

Dengue is transmitted through the bite of infected *Aedes* mosquitoes, primarily *Aedes aegypti*. The disease affects all age groups, including infants, children, and adults. Clinical manifestations range from mild fever to severe illness characterized by high-grade fever, headache, retro-orbital pain, muscle and joint pain, and skin rash. Severe dengue may lead to complications such as shock, respiratory distress, severe bleeding, and organ failure. Dengue shows a seasonal pattern, with peak transmission occurring during warm and rainy months, particularly in the second half of the year in the northern hemisphere, including India.

Globally, dengue incidence has increased dramatically over the past two decades. The World Health Organization reported a ten-fold increase in cases between 2000 and 2019, rising from approximately 500,000 to 5.2 million cases worldwide. Although dengue transmission temporarily declined during the COVID-19 pandemic due to reduced reporting and mobility restrictions, a sharp resurgence was observed in 2023. Dengue outbreaks occur cyclically every three to four years, and reduced immunity in populations during the pandemic period may contribute to future outbreaks. Limited data on circulating dengue serotypes further complicates disease control efforts.

Urbanization, especially unplanned development, has contributed significantly to dengue transmission. Factors such as high population density, water storage practices, poor waste management, and increased human mobility create favourable conditions for mosquito breeding. Community knowledge, attitude, and practices related to dengue prevention play a crucial role in reducing transmission. Routine vector surveillance and community participation in mosquito control activities enhance public health preparedness and outbreak prevention.

Dengue is caused by four related serotypes of the dengue virus (DENV-1 to DENV-4). Infection with one serotype provides lifelong immunity against that specific virus but only short-term protection against others. Subsequent infections increase the risk of severe dengue. Viraemia typically peaks shortly before symptom onset, allowing mosquitoes to acquire and transmit the virus. Although mosquito bites are the primary mode of transmission, non-vector transmission such as blood transfusion, organ transplantation, perinatal transmission, and laboratory exposure has also been reported.

Clinical symptoms usually appear four to ten days after a mosquito bite. Common features include high fever, headache, nausea, vomiting, muscle pain, swollen lymph nodes, and rash. While most patients recover within one to two weeks, untreated dengue can lead to serious complications such as dehydration, febrile convulsions, and death. Early diagnosis and appropriate clinical management significantly reduce mortality rates.

Laboratory diagnosis includes antibody detection tests and molecular methods such as polymerase chain reaction (PCR). Antibody tests are most effective after four days of symptom onset, while molecular tests are useful during the first week of illness. Early diagnosis enables prompt treatment and helps reduce disease severity and hospital stay.

There is currently no specific antiviral treatment for dengue. Management is primarily supportive and includes adequate fluid intake, fever control using acetaminophen, and careful monitoring for warning signs. Non-steroidal anti-inflammatory drugs such as aspirin and ibuprofen are avoided due to increased bleeding risk. Severe cases require hospitalization, intravenous fluids, electrolyte management, and in some instances, blood transfusion.

Prevention remains the most effective strategy for dengue control. Key preventive measures include eliminating stagnant water sources, using mosquito repellents, installing window screens, wearing protective clothing, maintaining environmental cleanliness, and ensuring safe water storage practices. Community-level interventions such as clean-up drives and awareness campaigns further reduce mosquito breeding and transmission risk. Home-based prevention strategies, including closing doors and windows during peak mosquito activity and using mosquito nets, also play a vital role.

Dengue fever remains a major public health concern in Mathura district of Uttar Pradesh, particularly during the monsoon season. School-going children represent a vulnerable group due to frequent outdoor exposure and limited awareness about preventive measures. Additionally, children act as key agents of information transfer within families and communities. Assessing their knowledge regarding dengue prevention is essential to identify gaps and design targeted educational interventions.

This study aims to evaluate awareness levels among school-going children in Mathura and contribute to strengthening dengue prevention strategies. The findings may assist in developing school-based health education programs, improving community awareness initiatives, and supporting policymakers in implementing effective vector control measures to reduce dengue transmission in the region.

## **PROBLEM STATEMENT**

“A STUDY TO ASSESS THE KNOWLEDGE ABOUT PREVENTION OF DENGUE FEVER AMONG SCHOOL GOING CHILDREN OF SPECIFIC SCHOOL OF VRINDAVAN, MATHURA, UTTAR PRADESH.”

## OBJECTIVES

1. To assess the level of knowledge of school going children of specific school of Vrindavan, Mathura (U.P.) regarding prevention of dengue fever.
2. To find out the association between knowledge regarding prevention of dengue fever with selected demographic variables.

## METHODOLOGY

A descriptive survey research design was employed to conduct this study among 50 school going children of specific school of Vrindavan, Mathura, Uttar Pradesh. Participants were selected using a probability random sampling technique. Data collection involved a structured questionnaire that gathered socio-demographic information and measured the knowledge about prevention of dengue fever through a validated rating scale. The tool's reliability was confirmed with a Cronbach's Alpha value of 0.79, indicating acceptable internal consistency. Data analysis was carried out using descriptive statistics to calculate frequencies, percentages, mean, median, mode, and standard deviation, while inferential statistics using the Chi-square test were applied to examine associations between addiction levels and demographic factors at a significance level of 0.05.

## RESULT:

**Table 1: Socio-Demographic Variables of School going children.**

Demographical variable	Frequency	(%)
<b>Age ( in years)</b>		
13 yrs	13	26
14 yrs	15	30
15 yrs	16	32
16 yrs	6	12
<b>Gender</b>		
Male	27	54
Female	23	46
Transgender	0	0
<b>Family Type</b>		
Nuclear	18	36
Joint	32	64
<b>Siblings</b>		
Single child	3	6
1	3	6
2	18	36
3 or more than 3	26	52
<b>Residence</b>		

Urban	49	98
Rural	1	2
Smart City	0	0

**Table 2: Level of knowledge about the prevention of dengue fever among School going children.**

Level of Knowledge	Frequency	(%)
Good	1	2
Average	24	48
Poor	25	50

**Table 3: Association between knowledge regarding prevention of dengue fever with selected demographic variables.**

S. No.	Demographical Variables	df	Degree Of Social Media Addiction Chi-Square
1.	<b>Age ( in years)</b>	6	4.09 <sup>NS</sup>
	13 yrs		
	14 yrs		
	15 yrs		
	16 yrs		
2.	<b>Gender</b>	2	2.00 <sup>NS</sup>
	Male		
	Female		
	Transgender		
3.	<b>Family Type</b>	2	4.34 <sup>NS</sup>
	Nuclear		
	Joint		
4.	<b>Siblings</b>	6	2.95 <sup>NS</sup>
	Single child		
	1		
	2		
5.	<b>Residence</b>	2	1.06 <sup>NS</sup>
	Urban		
	Rural		
	Smart city		

NS= Non significant \*= Significant

**Table 4: Showed Mean, Median, Mode, S.D., Range & Mean% of level of knowledge among school going children.**

	Mean	Median	Mode	S.D.	Range	Mean %
Level of knowledge	5.6	6	5.81	2.69	5	40.67%

## RESULT

The results of a Chi-square test conducted to find association, comparison between calculated chi square and tabulated value was conducted for each demographic variables.

- The calculated chi square value for the association between age and level of knowledge was 4.09 with 6 degree of freedom. The tabulated chi square at the level of significance 0.05 was 12.592. The result was not significant (NS), suggesting no significant association between age and the level of knowledge.
- The calculated chi square value for the association between gender and level of knowledge was 2.00 with 2 degree of freedom. The tabulated chi square at the level of significance 0.05 was 5.991. The result was not significant (NS), suggesting no significant association between gender and the level of knowledge.
- The calculated chi square value for the association between family type and level of knowledge was 4.34 with 2 degree of freedom. The tabulated chi square at the level of significance 0.05 was 5.991. The result was not significant (NS), suggesting no significant association between family type and the level of knowledge.
- The calculated chi square value for the association between siblings and level of knowledge was 2.95 with 6 degree of freedom. The tabulated chi square at the level of significance 0.05 was 12.592. The result was not significant (NS), suggesting no significant association between siblings and the level of knowledge.
- The calculated chi square value for the association between residence and level of knowledge was 1.06 with 2 degree of freedom. The tabulated chi square at the level of significance 0.05 was 5.991. The result was not significant (NS), suggesting no significant association between residence and the level of degree of knowledge.

## DISCUSSION

The findings of the present study highlight the need to strengthen school-based health programs with a special focus on dengue fever prevention. Nurses play a crucial role in promoting health awareness among school-going children by conducting regular health education sessions, identifying early symptoms of

dengue, and ensuring timely referral of suspected cases. Regular surveillance of mosquito breeding sites in and around school premises and integration of preventive messages into routine school health checkups can further enhance preventive practices. Incorporating vector-borne disease prevention topics into nursing education can also help nursing students develop effective health teaching skills and prepare them to address community health challenges.

The study emphasizes the importance of nursing administration in formulating and implementing school health policies related to vector control. Adequate allocation of resources for mosquito repellents, insecticide sprays, and awareness campaigns is essential to support preventive activities. Collaboration between nursing administrators, school authorities, and local health departments can improve coordination of dengue prevention programs and ensure sustainable control measures.

From a research perspective, the findings provide baseline data for future studies and suggest the need for interventional research designs to evaluate the effectiveness of structured health education programs. Multidisciplinary research involving nursing, public health, and environmental sciences can further strengthen preventive strategies. The public health significance of the study is evident, as improved awareness and preventive practices among school children can contribute to reducing dengue transmission and support national vector control initiatives.

However, the study had certain limitations. The sample was limited to school-going children from a selected school in Vrindavan, Mathura, and included only students who were available and willing to participate during the data collection period. The age group was restricted to 13–16 years, which may limit the generalizability of the findings to other populations. The results revealed inadequate knowledge regarding mosquito breeding sites, use of protective measures, and environmental cleanliness, emphasizing the need for continuous health education, involvement of parents and teachers, and adoption of interactive teaching methods to improve knowledge retention and preventive behaviours.

## REFERENCES

1. [https://journals.lww.com/ijph/fulltext/2023/67010/dengue\\_outbreak\\_update\\_in\\_india\\_2022.33.aspx](https://journals.lww.com/ijph/fulltext/2023/67010/dengue_outbreak_update_in_india_2022.33.aspx)
2. <https://www.paho.org/en/topics/dengue>
3. <https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON498>
4. <https://ncvbdc.mohfw.gov.in/Doc/Guidelines/Guidelines-Prevention-Control-of-Dengue-in-School-2019.pdf>
5. Crowley J, Liu B, Jan H. Assessing the knowledge, attitudes, and practices (KAP) of dengue in Thailand: a systematic review and meta-analysis. *Arch Public Health*. 2025 Feb 14;83(1):38. doi: 10.1186/s13690-025-01522-6. PMID: 39953632; PMCID: PMC11827231.
6. Rathod S, Ambad R, Juneja H, Ugemuge S, Bandre G. Assessing Knowledge, Attitudes, and Practices on Dengue Fever among Patients in Central India: A Cross-Sectional Study. *J Pharm Bioallied Sci*. 2024 Dec;16(Suppl 4):S3311-S3314. doi: 10.4103/jpbs.jpbs\_789\_24. Epub 2024 Sep 11. PMID: 39926968; PMCID: PMC11805087.
7. Polit, D. F., & Beck, C. T. (2017). *Nursing Research: Generating and Assessing Evidence for Nursing Practice* (10th ed.). Wolters Kluwer Health.
8. [https://english.edutiips.com/research-design-in-research-methodology/?utm\\_source=chatgpt.com](https://english.edutiips.com/research-design-in-research-methodology/?utm_source=chatgpt.com)
9. Polit, D. F., & Beck, C. T. (2008). *Nursing Research: Generating and Assessing Evidence for Nursing Practice* (8th ed.). Philadelphia: Lippincott Williams & Wilkins.
10. [https://www.studocu.id/id/document/universitas-sriwijaya/metodologi-penelitian/research-variable/22174749?utm\\_source=chatgpt.com](https://www.studocu.id/id/document/universitas-sriwijaya/metodologi-penelitian/research-variable/22174749?utm_source=chatgpt.com)