

# Knowledge and Practice of People regarding Prevention of Dengue in Madhyabindu Municipality, Nawalparasi, Nepal

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## ABSTRACT

**Introduction:** Dengue is one of the growing problems in Nepal, affecting the health of the citizens for the past few years. This disease is caused by the dengue virus which is transmitted to a person by an infected mosquito vector. The objective of the study was to assess the knowledge and practice for prevention of Dengue among people in Madhyabindu Municipality, Nawalparasi, Nepal.

**Methods:** A descriptive, cross-sectional study was conducted among 328 adults from all wards of Madhyabindu Municipality, Nawalparasi (East). Ethical approval for the conduction of the study was taken from the and written consent was obtained from the participants. Data collection in the wards of the municipality was done by using a convenient sampling method. And then, the selection of respondents in the villages of wards was done with a convenient sampling method. The collected data was entered and analyzed in SPSS.

**Results:** The study found out that out of 328 respondents, the majority of data collection was done from the age group 18-30 years (40.2%). The findings had shown that around 60% of the respondents had poor knowledge on dengue however more than 50% had performed good preventive practices.

**Conclusions:** Based on the findings of the study, it is concluded that more than half of the respondents had poor knowledge on dengue, but more than half had performed good preventive practices for the dengue.

**Keywords:** *Dengue fever; Dengue virus; Knowledge; Practice; Prevention.*

## INTRODUCTION

Dengue is a disease that is caused by the dengue virus transmitted by the bite of an infected mosquito of the *Aedes* species causing fever, muscle and joint pain, exhaustion, swollen lymph nodes, and rashes.<sup>1</sup> According to the World Health Organization, dengue is a rapidly spreading, pandemic-prone viral disease in many parts of the world.<sup>2</sup>

This year, Nepal marked its biggest dengue outbreak to date. From the week beginning August 8 to August 26, there has been an increase in instances across the nation. A total of 28,109 confirmed and suspected dengue cases, along with 38 confirmed dengue-related deaths, have been reported between January and September 28, 2022.<sup>3</sup>

Since there are still few pertinent studies on the people's knowledge, attitudes, and practices related to DENV transmission and DF prevention in Nepal, it prompted us to conduct the present study.<sup>4</sup>

## METHODS

A descriptive cross-sectional study was conducted among 328 respondents from all wards of Madhyabindu Municipality, Nawalparasi (East), Nepal after obtaining ethical approval from the college and then from the municipality. The study period of the research was 6 months from February to July of 2022. Informed consent was taken from each of the respondents.

Those who were of age above 18 years and below 61 years old, were interviewed.

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**Sample Size**

Sample size was determined based on the finding from the previous study where, good level of knowledge and practice regarding dengue fever was found i.e. 73.3%.<sup>2</sup>

$$\text{Sample size (n)} = z^2pd/d^2$$

Where,

d = maximum allowable deviation or error (5%)

p = 0.733

q = 1 - 0.733 = 0.267

z = 1.96 at 95% level of confidence

$$n = (1.96)^2 * 0.733 * 0.267 / (0.05)^2 = 196$$

n = 300.7

n= approx. 300

Therefore, the calculated size of the sample (n) for the study was 300. Taking a non-response rate of 10%, the total sample size was 328.

The sampling technique was a convenient sampling. At first the district was selected conveniently and so the district was also selected purposely. And the municipality was also selected conveniently. The respondents from all wards again were selected conveniently.

**Data collection tools and techniques**

A semi-structured questionnaire was used as the tool for collecting data, consisting 3 study variables;

Socio-demographic factors, Geographic factors and Personal factors.

A face-to-face interview with the respondents was done after taking written informed consent of the respondent. During the interview, easily understandable language was used.

After the data collection SPSS software was used to analyze the findings.

All the knowledge and practices were measured from mean score having 2 categories

**Knowledge**

Poor Knowledge: Below 2.78

Good Knowledge: 2.78 and more than 2.78

**Practices**

Poor Practice: Below 2.51

Good Practice: 2.51 and more than 2.51

**RESULTS**

Analyzing the overall knowledge of the respondents, the majority i.e., 60.3% (181) had poor knowledge on dengue while remaining 39.7% (119) had good knowledge.

Although the knowledge of most of the respondents was poor, more than half i.e., 52% (156) of respondents had performed good preventive practices, while 48% (i.e., 144) of them had poor preventive practices.

**Table 1. Knowledge and Preventive practices of respondents (n=328)**

Characteristics	n(%)
<b>Knowledge</b>	
Poor Knowledge	181(60.3)
Good knowledge	119(39.7)
<b>Preventive practices</b>	
Poor practice	144(48)
Good practice	156(52)

The age of respondents ranged from 18 to 60 years. Most of the respondents were female (68.3%). The population that lived in that area mostly followed Hinduism (96.3%). The highest response frequency of respondents was from Tharu (42.4%). Most of the respondents were married (84.8%) and they had completed their education to primary and secondary level. Most of the respondents were involved in agriculture (65.5%). Majority of the respondent's family (77.1%) had monthly income less than thirty thousand.

**Table 2. Demographic characteristics of respondents (n=328)**

Characteristics	Frequency/Percentage (n=328)
<b>Age</b>	
18 to 30 years	132(40.2)
31 to 40 years	94(28.7)
41 to 50 years	49(14.9)
51 to 60 years	53(15.2)
<b>Sex</b>	
Male	104(31.7)
Female	224(68.3)
<b>Religion</b>	
Hindu	316(96.3)
Buddhist	12(3.7)
<b>Ethnicity/Caste</b>	
Chhetri	26(7.9)
Brahmin	53(16.2)
Magar	57(17.4)
Tharu	139(42.4)
Newar	8(2.4)
Kumal	25(7.6)
Others	20(6.1)
<b>Marital status</b>	
Married	278(84.8)
Unmarried	50(15.2)
<b>Education of the respondents</b>	
Illiterate	36(11.0)
Can read and write	69(21.0)

Characteristics	Frequency/Percentage (n=328)
Primary	76(23.2)
Secondary	77(23.5)
Higher secondary	57(17.4)
Bachelor	12(3.7)
Above bachelor	1(0.3)
<b>Occupation of the respondents</b>	
Agriculture	215(65.5)
Business	49(14.9)
Teaching	8(2.4)
Foreign employee	56(17.1)
<b>Family income</b>	
Less than 30 thousand	253(77.1)
More than 30 thousand	75(22.9)

## DISCUSSION

This study was conducted to assess the knowledge and practices for the prevention of dengue fever in the community of Madhyabindu Municipality. The study reveals that out of 328 respondents, most of the data collection was done from the age group 18-30 years (40.2%) and remaining from 31-40 years (28.7%), 41-50 years (14.9%) and 51-60 years (15.2%).

Most of the respondents were Tharu females in the study who had completed their education to primary and secondary levels. Agriculture was the occupation that most of the people do with monthly earnings less than thirty thousand. The study reported that among 328 respondents 91.5% had heard about dengue and 8.5% have not heard about dengue. Among those who have heard about dengue, the majority had known about it through radio/television (40.5%) and from family/friends (32%) and others from textbooks and social media. A similar study was conducted in rural communities in the Kuala, Kangsar district where out of 200 respondents only one had never heard of dengue and the rest of the others had heard through radio/tv, friends/relatives, and other sources.<sup>5</sup>

From the study, knowledge on dengue of the respondents was 60% poor and 40% good. In which 73% think that dengue is transmissible, 10% think it is not transmissible and 17% don't know whether it is transmissible or not. In contrast, another study in which, among the 156 patients aged 15 years or over, 118 (76%) were reported to know the disease dengue.<sup>6</sup> Of these, 92% knew that mosquitoes were involved in the transmission of dengue and 43% mentioned that those vectors were active during the daytime. Almost all the patients with knowledge of dengue mentioned fever as a disease symptom.<sup>6</sup>

Similarly, poor knowledge about the dengue were found identical among both the present study and referred study.<sup>7</sup>

## CONCLUSIONS

The study followed a descriptive type of research method to assess the knowledge and practices for the prevention of dengue fever in community people. Based on the findings of the study, it is concluded that more than half of the respondents had poor knowledge on dengue, but more than half had performed good dengue preventive practices. It is of note that Dengue related awareness programs are in need in the municipality focusing on Behaviour Change Communication (BCC).

## ACKNOWLEDGEMENT

Not applicable

## CONFLICT OF INTEREST

None

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