

## ORIGINAL ARTICLE

## KNOWLEDGE REGARDING DENGUE AMONG THE NURSING STUDENTS OF SELECTED NURSING COLLEGE AT BIRGUNJ

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**ABSTRACT**

**Introduction:** Dengue is a mosquito-borne viral disease that has rapidly spread in all regions of WHO in recent years. Dengue is widespread throughout the tropics, with local variations in risk influenced by rainfall, temperature and unplanned rapid urbanization. The aim of the study is to assess the knowledge regarding dengue among the nursing students of selected nursing college at Birgunj. The results of the study will help identify the status of knowledge and requirement of training to the nurses in this particular disease.

**Materials and methods:** This is a descriptive cross-sectional research design conducted in National Medical College Nursing Campus, Birgunj. In this study, study population are the nursing students studying PCL nursing in National Medical College Nursing Campus. The total sample size is 98 using total enumerative sampling technique for sample selection. Formal Ethical clearance letter was taken from the research committee of National Medical College, Institutional Review Committee (IRC) and formal consent was also taken from all the participants. Data was organized in order for editing, classifying, coding and tabulating the information.

**Results:** A total of 98 participants were involved in this study. The maximum number of participant was of 19 years and majority of them belonged to Bhramin/Chhtri ethnicity. The maximum number of participants belonged to PCL nursing 1st year (n=34, 35%) followed by PCL Nursing 2nd Year and 3rd year (n=32, 32.5%) each. Similarly, majority of the study participants were unmarried (n=86, 88%). The results revealed no association between the respondents knowledge scores with age (p=0.15); educational qualifications (p=0.87); duration of experience (p=0.58). The findings of the study suggests that majority of the participants were aware about the cause and spread of dengue fever. The majority of participants were known to have a good knowledge on the signs and symptoms in dengue fever; however only 66% of the participants were knowing about the first case of the dengue fever.

**Conclusion:** The study gives a conclusion that the formal teaching learning activities focusing on the different aspects of dengue fever needs to be implemented in the courses of the nursing students. The training regarding the same should be mainstay part of the dengue fever knowledge.

**Keywords:** Dengue Fever, Nursing Students, PCL Nursing, Rapid Urbanization

**INTRODUCTION**

Dengue is a mosquito-borne viral disease that has rapidly spread in all regions of WHO in recent years. Dengue virus is transmitted by female mosquitoes mainly of the species *Aedes aegypti* and, to a lesser extent, *Ae. albopictus*. This mosquito also transmits chikungunya, yellow fever and Zika infection. Dengue is widespread throughout the tropics, with local variations in risk influenced by rainfall, temperature and unplanned rapid urbanization.<sup>1</sup>

Dengue is an acute infectious disease that is characterized by headache, severe joint pain and a rash that is caused by a single – stranded RNA virus of the genus *Flavivirus* (species *Dengue virus*) transmitted by mosquito of the genus *Aedes* - also called breakbone fever, dandy fever, dengue fever.<sup>2</sup>

Dengue virus (DENV) occurs in tropical and subtropical regions worldwide and is the most common and widespread arboviral infection of humans. DENV

infections typically result in tens of millions of clinical cases of dengue disease yearly, causing an enormous health, social and economic burden, mostly in low- and middle-income countries. Until recently, dengue disease was generally classified as dengue fever (DF), dengue hemorrhagic fever (DHF) or dengue shock syndrome (DSS). However, in 2009, The World Health Organization (WHO) revised the guidelines for dengue disease classification. Cases of clinical infection are now classified as mild, moderate or severe dengue disease. Mild or moderate dengue disease are considered non-life-threatening whereas severe dengue disease (associated with severe plasma leakage, severe bleeding, or organ failure) is considered a life-threatening condition (previously referred to as DHF and/or DSS).<sup>3</sup>

The incidence of dengue has grown dramatically around the world in recent decades. A vast majority of cases are asymptomatic and hence the actual numbers of dengue cases are underreported and many cases are misclassified. One estimate indicates 390 million dengue infections per year (95% credible interval 284–528 million), of which 96 million (67–136 million) manifest clinically (with any severity of disease). The number of cases reported increased from 2.2 million in 2010 to over 3.34 million in 2016.<sup>1</sup>

The estimates shows that there are between 50 and 100 million cases of dengue fever and about 500000 cases of dengue hemorrhagic fever each year leading to hospitalization.<sup>4,5</sup> the exact clear report regarding the first case of dengue in not clear but sporadic cases were reported in foreigners visiting Nepal in the late 90s and the year 2004.<sup>6</sup>

The favorable season for dengue is expected during monsoon and post monsoon season and major outbreaks are documented with high morbidity at this particular timeframe. With increase in the number of dengue cases in the country, it has been an emerging health problem. A study noted that dengue has particular expansion in western and far western terai region of Nepal limited to the middle terai region affecting the older population mainly.<sup>7</sup>

In reference to the diagnosing tool for dengue infection, a study reflects the serological markers can be used to diagnose early as well as late dengue cases and its outbreaks.<sup>8</sup> Having the adequate knowledge regarding the dengue fever among all the health professional, especially the nurses will obviously help in providing the health education to the general public, thus reducing the occurrence of dengue cases. Limited study has been conducted regarding the knowledge of dengue among the nursing students in Nepal. The results of the study will help identify the status of knowledge and requirement of

training to the nurses in this particular disease.

## MATERIALS AND METHODS

This is a descriptive cross-sectional research design conducted in National Medical College Nursing Campus, Birgunj. In this study, study population are the nursing students studying PCL nursing in National Medical College Nursing Campus. The total sample size is 98 using total enumerative sampling technique (Census method) for sample selection.

Inclusion criteria includes: Students studying in PCL nursing (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year)

Exclusion criteria includes: Students not available during data collection

Semi structured knowledge questionnaires was prepared according to the objectives of the study. The tool was developed by reviewing related literature and by consulting the subject expertise in the field.

The content validity of the research instrument was ascertained by research advisors, a group of professionals from National Medical College Nursing Campus including other faculty members and subject experts. The reliability of tool was determined by pre-testing it in 10 samples (10% of total sample). The reliability will be tested by using Split half method.

Formal Ethical clearance letter was taken from the research committee of National Medical College, Institutional Review Committee (NMC-IRC-406/075/076). Human dignity and principle of justice was maintained. Informed verbal consent was taken from each respondent. Privacy and confidentiality of all the respondents was maintained.

Data was organized in order for editing, classifying, coding and tabulating the information. The collected data was coded and entered in Epi Data version 3.1 and will be analyzed by using Statistical Package for Social Science (SPSS) 20 version in descriptive statistics (frequency, percentage, mean, mean percentage and standard deviation) and inferential statistics (chi square test). In the inferential statistics, to find the significant association Chi square test was used at 0.05 level of significance and 95% confidence interval.

## RESULTS

The total number of participants in this study was 98 with the lowest age of 16 years and highest age of 30 years. Median (IQR) age of the respondent was 19 years. The figure 1 shows the number of participants as per the age distributions with highest number of participants of age 19 years (n=31, 32%) followed by 18 years (n=21, 22%).

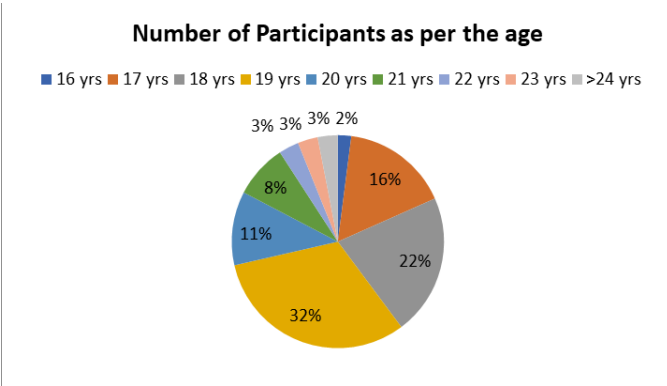


Figure 1: Number of participants as per their age

The maximum number of participants were from Bhramin/Chhetri group and the least number of participants were from Muslim as shown in figure 2.

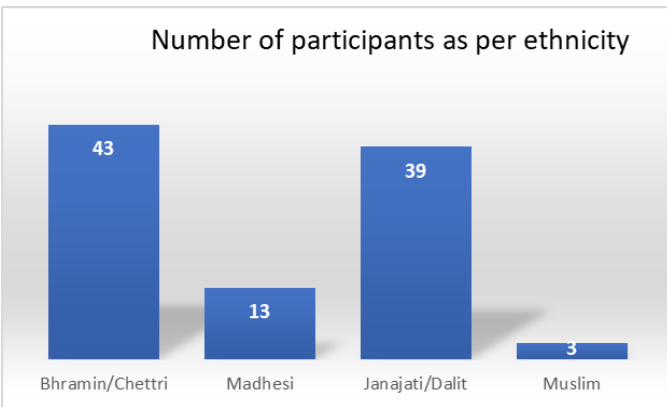


Figure 2: Number of participants as per ethnicity

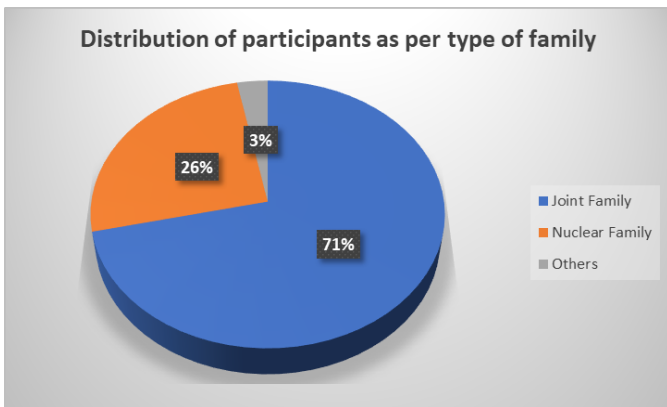


Figure 3: Distribution of participants as per their family type

The maximum number of participants belonged to PCL nursing 1<sup>st</sup> year (n=34, 35%) followed by PCL Nursing 2<sup>nd</sup> Year and 3<sup>rd</sup> year (n=32, 32.5%) each. Similarly, majority of the study participants were unmarried (n=86, 88%) as shown in figure 4.

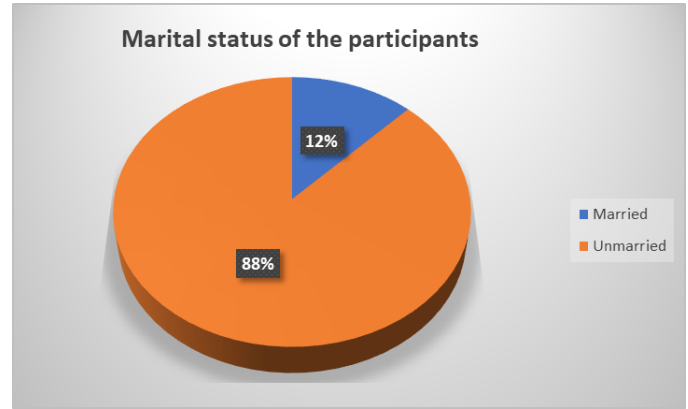


Figure 4: Distribution of participants as per the marital status

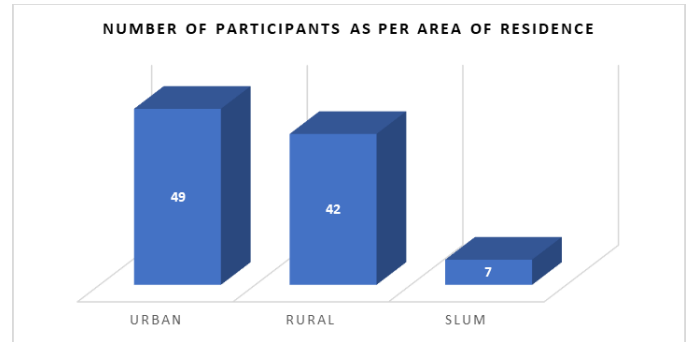


Figure 5: Distribution of participants as per the area of residence

The results revealed no association between the respondents knowledge scores with age (p=0.15); educational qualifications (p=0.87); duration of experience (p=0.58).

Table 1: Responses of participants to the statement regarding knowledge of dengue

Q. No	Questions	Number of respondents answered correctly	Percentage of respondents answered correctly (%)
1	Dengue is caused by	82	83.5
2	Dengue causing mosquito is	75	76.5
3	When was first dengue case seen in Nepal?	65	66.3
4	In which time dengue virus is commonly active?	85	86.5
5	Risk factor of developing Dengue is	87	88.5
6	Where dengue did breed?	87	88.5
7	Dengue has which type of fever	90	92
8	Incubation period of dengue is	65	66
9	The sign and symptom of Dengue	85	87

10	Symptoms usually lasts for----- after incubation period	80	81.5
11	What changes is seen in Blood pressure in severe Dengue?	50	51
12	Severe dengue is a potentially deadly complication due to	69	70
13	Warning sign of dengue fever includes	82	83.5
14	Dengue can be diagnosed by	88	90
15	Dengue is treated by	55	56
16	Best home remedies for dengue fever is?	75	76.5
17	If hemorrhagic dengue not treated it can lead to	80	81.5
18	Indoor protective measure to avoid dengue	79	80.5
19	Outdoor protective measure to avoid dengue	75	76.5
20	Main preventive measures of dengue is	82	83.5

Total number of respondent: 98

## DISCUSSION

A total of 98 participants were involved in this study. The maximum number of participant was of 19 years and majority of them belonged to Bhramin/Chhteri ethnicity followed by Janajati/Dalit. The findings of the study suggests that majority of the participants were aware about the cause and spread of dengue fever. The majority of participants were known to have a good knowledge on the signs and symptoms in dengue fever; however only 66% of the participants were knowing about the first case of the dengue fever. A study in 2010 reported that in Chitwan district alone, where the study was conducted, 24 people have died due dengue.<sup>9</sup> The participants have also a sound knowledge regarding the diagnosing tool of dengue fever. However, the knowledge regarding the treatment idea was low among the participants.

The participating nursing students had a quite adequate knowledge regarding the indoor and outdoor protective measures of the dengue infection. Majority of the students have the knowledge about the preventive measures of the dengue fever. The limitation of the study is the small sample size, so further such studies to be carried out with larger number of the participants.

## CONCLUSIONS

The study gives a conclusion that the formal teaching learning activities focusing on the different aspects of dengue fever needs to be implemented in the courses of the nursing students. The training regarding the same should be mainstay part of the dengue fever knowledge. Nursing education programs should be instituted so as to generate the efficient nursing professional that will eventually help in minimizing the case burden of

the dengue fever through appropriate public health education.

FUNDING: Not any

CONFLICT OF INTEREST: No

## REFERENCES

1. WHO. (2019). Dengue and severe dengue. Retrieved from, <https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue>
2. Merriam-Webster's online dictionary. Dengue. Retrieved from, <https://www.merriam-webster.com/dictionary/dengue>
3. WHO. Dengue Control. Retrieved from, <https://www.who.int/denguecontrol/epidemiology/en/>
4. Dengue and Severe dengue. World health Organization, 2012. Available at <http://www.who.int/mediacentre/factsheets/fs117/en/>
5. Prasittisuk C, Andjaparidze AG, Kumar V. Current Status of Dengue/Dengue Haemorrhagic Fever in WHO South-East Asia Region. *Dengue Bulletin* 1998; 22: 1-107.
6. Shah Y, Katuwal A, Pun R, et al. Dengue in Western terai region of Nepal. *J Nepal Health Res Counc.* 2012 May; 10(21):152-5.
7. Pun R, Pant KP, Bhatta DR, et al. Acute dengue infection in the western terai region of Nepal. *JNMA J Nepal Med Assoc.* 2011;51(181):11-4.
8. Huang HL, Chiu TY, Huang KC et al. Travel related mosquito-transmitted disease questionnaire survey among health professionals in Taiwan. *J Travel Med.* 2011;18(1):34-8
9. Sharma SP. Dengue outbreak affects more than 7000 people in Nepal. *BMJ* 2010; 341:c5496.