International Journal Dental and Medical Sciences Research
Volume 5, Issue 5, Sep-Oct 2023 pp 43-52 www.ijdmsrjournal.com ISSN: 2582-6018

A Study to Assess the Nurses' Knowledge and Practice Regarding the Prevention of Dengue Feverat Shaheed Ziaur Rahman Medical College Hospital, Bogura, Bangladesh

Md. Badsha Miah[1], Md.Saiful Islam[2], Mst. Shirin Ara Khatun[3], Kaushik Kumer Paul[4],Shabicun Nahar[5], Arif Hossen[6], Md. Delower Hossin[7], Md. Mamunur Rasid[8]

1. Nursing Instructor, Bogura Nursing College,Bogura Bangladesh.
2. Senior Staff Nurse, Rajshahi Medical College Hospital Rajshahi, Bangladesh.
3. Senior Staff Nurse, Rajshahi Medical College Hospital Rajshahi, Bangladesh.
4. Senior Staff Nurse, Rajshahi Medical College Hospital Rajshahi, Bangladesh.
5. Senior Staff Nurse, Dhaka Medical College Hospital Rajshahi, Bangladesh.
6. Senior Staff Nurse, Adhunic Sador Hospital Panchagarh,Bangladesh.
7. Senior Staff Nurse, Upazila Health Complex Shibganj, Bogura Bangladesh.
8. Senior Staff Nurse, 250-Bedded Mohammad Ali Hospital, Bogura, Bangladesh.

Date of Submission: 01-09-2023 Date of Acceptance: 11-09-2023

ABSTRACT

Background: Dengue Fever, a life-threading disease, can lead to death even. Various studying has shown that mortality and morbidity rates are increasing. Nowadays, all over the world, it is becoming a significant health problem in developing countries, including Bangladesh, every year. The incidence and transmission of dengue are influenced by factors such as uncontrolled population growth, urbanization, deterioration in waste management systems, and lack of effective vector control. Having adequate knowledge can help nurses provide health education to the general public and patients, thus helping minimize dengue occurrence.

Objective: The aim was to assess the nurse's knowledge and practice of preventing dengue fever at ShaheedZiaurRahman Medical College Hospital, Bogura.

Methodology: A descriptive cross-sectional study design was used, and a 110 sample size was a purposive sampling technique followed by those who met the inclusion criteria to assess the nurse's knowledge and practice regarding the prevention of dengue fever. The study was conducted from July/2021 to December/2021. The instruments for data collection were a semi-structured questionnaire composed of three parts: Demographic variables, knowledge-based and practice-related information regarding the prevention of dengue fever.

Results: The findings revealed that the highest, 67% were within 31-40 years of age, and 59% were professional education with Diploma in Nursing. This study's main findings revealed the average (40%) low level of knowledge regarding the prevention of dengue fever.

Conclusion: It is expected that the study will better understand the nurse's knowledge regarding the prevention of dengue fever. The study also recommended improving knowledge and positive practice to prevent dengue fever. It also provides educational and motivational activities and improvement in nursing services to prevent dengue fever and its consequences. The present study concludes that a significant proportion of respondents have a low level of nurse knowledge and practice regarding the prevention of dengue fever.

Keywords: Dengue fever, Knowledge, Practice, Prevention.

I. INTRODUCTION

Dengue Fever, a life-threading disease, can lead to death even; various studying showed that the mortality and morbidity rates are increasing. Now the day is all over the world, and it is becoming a major health problem in developing countries, including Bangladesh, every year. Dengue fever is a mosquito-borne disease caused by the dengue virus. Dengue fever is one of the most important tropical diseases of humans in the world. According to the Centers for Disease Control and Prevention (CDC) in the USA, more than one-third of the world's population lives in areas with a risk of transmission of dengue and dengue infection, which is known to be a leading cause of illness and death in the tropical and

subtropical countries. The incidence and transmission of Dengue are influenced by a variety of factors, such as uncontrolled population growth, urbanization, deterioration in waste management systems, and lack of effective vector control [1]. Due to inadequate water supply, water storage practice is also regarded as a major contributor to dengue epidemics. Moreover, illiteracy, poverty, and social inequalities have been associated with poor dengue management. Since no effective vaccine is currently available to prevent Dengue, the only possible prevention mode is vector control [2]. Dengue is the most common mosquito-borne viral disease of humans that, in recent years, has become a major international health concern. Globally, 2.5 billion people live where dengue viruses can be transmitted. The geographical spread of both the mosquito vectors and the viruses has led to the global resurgence of epidemic dengue fever and the emergence of dengue hemorrhagic fever (dengue/DHF) in the past 25 years with the development of hyper endemicity in many urban centers of the tropics. Dengue haemorrhagic fever was first recognized in 1950 during epidemics in the Philippines and Thailand. Today emerging Dengue Haemorrhagic Fever cases are causing increased dengue epidemics in America in Asia, where all four dengue viruses are endemic, and death among Children is caused all over the countries [3]. As of 2006, ten of the eleventh countries in the reason (Bangladesh, India, Bhutan, Indonesia, Thailand, and Timor-Leste) reported Dengue cases. Bhutan reported the first Dengue outbreak in 2004, and the fatality rate was 3.55%.The incidence of Dengue has grown dramatically around the world in recent decades. The actual numbers of dengue cases are underreported, and many cases are misclassified. One recent estimate indicates 390 million dengue infections annually, of which 96 million manifest clinically (with any disease severity). Another study of the prevalence of Dengue estimates that 3900 million people in 128 countries are at risk of infection with the dengue virus (WHO, 2015) [4]. Bangladesh experienced a rapid rise in dengue cases in 2019 [5]. It was first documented as "Dhaka fever" in Bangladesh. In the 2019 outbreak, Dhaka alone accounted for more than half of the country's dengue cases [5]. A prior study has revealed that the widespread Dengue Fever cases in 2019 across the country were sparked by Dhaka city. The major Dengue Fever outbreak tended to be confined to this city. The pertinent dengue cases since 2000 made dengue fever a burden for the city. It has also been predicted that future major Dengue Fever outbreaks will dominate this city. Besides, climate change, population density, rapid unplanned urbanization, and neglectful behaviour toward Dengue Fever could aggravate the current condition. In light of these factors, Bangladesh's national and local governments, as well as other stakeholders and city inhabitants, must prepare and respond effectively to stem the dengue outbreak's spread [6]. Bangladesh is a land of natural catastrophic events due to its geographical location and climate change, where infectious diseases have also become prevalent. Dhaka, the capital city, serves as the focal point for all major activities in Bangladesh. It is also one of the most densely populated areas of the world. However, this megacity faces several challenges, including rapid development, migration from other parts of the country, and inadequate housing management for such a large population. It has also experienced the worst outbreaks of Dengue Fever [6]. According to the Centers for Disease Control and Prevention (CDC), USA, more than one-third of the world's population lives in areas with a risk of dengue transmission, and dengue infection is known to be a leading cause of illness and death in the tropical and subtropical countries. It is estimated 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. Over the last 10-15 years, dengue fever has become a leading cause of hospitalization and death in the South East Asia region of, the World Health Organization. Institute of Epidemiology, Disease Control and Research (IEDCR) under the Ministry of Health gives an alarming situation as the capital city has seen a rapid surge in the incidence of mosquito-borne viral infection (IEDCR, 2015). According to statistics of the Institute of Epidemiology, Disease Control and Research (IEDCR, 2015) under the Ministry of Health, gives an alarming situation as the capital city has seen a rapid surge in the incidence of mosquito-borne viral infection. According to statistics of (IEDCR) this year, 2,601 people had already suffered from dengue fever till 21st Oct.In the last two years, 375 and 1,749 cases of Dengue were reported in 2014 and 2013, respectively. However, there was no death report from Dengue in 2013 and 2014.The number of cases reported in 2015 is the highest in the last nine years (IEDCR, 2015). There is no prophylaxis or effective vaccine for Dengue Fever. Health behaviors, such as adhering to authentic knowledge, maintaining a positive attitude, and following proper procedures, may only help reduce Dengue Fever [7]. Individual and community behavioral changes and proper governmental

support for Dengue Fever can help reduce the rising dengue incidence in Dhaka and, as a result, across the country. One study performed in Dhaka, Bangladesh, where the current research was conducted, found that hospitalized patients have a high knowledge of Dengue and a favorable attitude toward dengue-prevention methods [8]. Community participation is essential at the ground level. The successful participation largely depends on peoples' knowledge, awareness, attitude, and practice towards this disease. Effective dengue prevention and control is an important concern today in Bangladesh. There is an ongoing challenge to ensure proper treatment and prevention options despite continued progress in dengue research worldwide [9]. Nurses play an important role in the health care system in institutionalized settings and community care centers. In a hospital, nurses come across various types of patients. So the nurse should have wide knowledge about all diseases, especially infectious diseases like dengue fever, one of the most important tropical diseases of humans in the world. Having adequate knowledge can help the nurses in providing health education to the general public and patients, thus helping in minimizing the occurrence of Dengue [10]. Nurses are aware of dengue fever in the area field, but they have no scientific knowledge of it. We feel find out actual knowledge of Senior Staff Nurses regarding Dengue Fever. The study aimed to assess the nurses' knowledge and practice of preventing dengue fever at ShaheedZiaurRahman Medical College Hospital, Bogura, Bangladesh.

II. METHODS & MATERIALS

A Descriptive type of cross-sectional study was conducted to assess the nurses' knowledge and practice of preventing dengue fever at ShaheedZiaurRahman Medical College Hospital, Bogura, Bangladesh, from July 2021 to December 2021. The ShaheedZiaurRahman Medical College Hospital, Bogura, was selected for this study. Because this is a tertiary-level hospital that provides all kinds of treatment facilities for patients, it is one of the most famous and popular public hospitals in north Bengal of Bangladesh. The study's target population was all nurses working at ShaheedZiaurRahman Medical College Hospital, Bogura. The sample was selected from the medicine, surgery, orthopedic, and pediatric departments and 110 nurses were selected as a sample size at ShaheedZiaurRahman Medical College Hospital, Bogura, Bangladesh.

Inclusion criteria

The sample was included purposively by using the following inclusion criteria-

1. Nurses are those who work in the selected area of the hospital.
2. Nurses who are willing to participate.
3. Respondents who are available on duty during the data collection period.

Exclusion criteria

1. Nurses who are not willing to participate.
2. Respondents who are not available during the data collection period.
3. Nurses are those who work less than six months in the selected area of the hospital.

Collected information is compiled, analyzed, and edited using the software SPSS (version 24.0) (IBM) Chicago, Illinois. At first, the research proposal was approved by the institutional ethical committee from Bogura Nursing College, Bogura. Before conducting the study, a written permission letter was issued by the Principal of Bogura Nursing College, Bogura, to facilitate approval from the Director and Nursing superintendent of ShaheedZiaurRahman Medical College Hospital, Bogura.

III. RESULT

Data were analyzed manually following the tally marks and percentages of all variables using the scientific calculator. All tables of the variables were created manually for results and then converted into tables, bar graphs, and pie charts by using the computer. All of these were included in the result sheet of the document. The relevant tables were then prepared for the final presentation. The above table shows that 26% were within ≤ 30 years of age, 67% were within 31-40 years, 6% were 41-50 years, and 1% were >50 years of age. The mean age of respondents is 33.90 years. Table 1 shows that 12% were male and 88% were female among the respondents. The above table shows that the respondents 78% were Muslim and, 22% were Hindu among the respondents and, 86% were married, 14% were unmarried. Table 1 shows that 55% were SSC, 42% were HSC, and 3% were Master's Degrees in general education among the respondents. 59% were nursing diplomas, 34% were BSc in nursing/PHN, and 7% were MSc/MPH of professional degrees the respondents (Table 1). Table 2 shows that the majority, 96% answered of knowledge on dengue fever and rest of 4% answered no; the highest 88% were responded knowledge related option of Haemorrhagic, 2% Non-haemorrhagic, 2% Septic

International Journal Dental and Medical Sciences Research
Volume 5, Issue 5, Sep-Oct 2023 pp 43-52 www.ijdmsrjournal.com ISSN: 2582-6018

shock and 8% viral fever on dengue fever; 93% were answered the option of Aedesaegypti, 6% the option Aedesalbopictus, and 1% the option of Plasmodium vivax about the knowledge on causes of dengue fever; that the 18% were answered the knowledge on incubation period of dengue fever the option of 2-7 days, 16% the option of 8-10 days, 22% the option of 10-12 days and the 44% the option of 5-7 days; the highest 92% were answered the option of Mosquito's bite, whereas the lowest 7% the option of dirty drinking water, and 1% the option of others about the knowledge on mode of spread dengue fever; 92% was answered the option of Sunrise/sunset, 5% the option of Night, and 3% the option of Don't know about the knowledge on mosquito biting time; 44% were answered the option of Yes, whereas the 56% the option of No about the knowledge on spread of dengue fever from one individual to another; the majority 81% was answered the option of Aedes mosquito, 3% the option of all types of mosquito, 13% the option of Anopheles mosquito and 3% the option of Don't know about the knowledge on carrier of Dengue fever; the majority 82% was answered the option of In clean water, 12% the option of In unclean water and 6% the option of Don't know about the knowledge on common breeding site of mosquito for Dengue fever; 59% was answered the option of High Fever, 29% the option of Vomiting and severe headache and 12% the option of Muscles and bone pain about the knowledge on symptoms of Dengue fever; 40% were answered the option of High temperature, 56% the option of Rash on the skin, 3% the option of Redness of the eye and the 1% the option of Relative bradycardia for the knowledge on signs of Dengue fever; 49% were answered the option of Tourniquet test-Positive, 45% the option of Platelet count-Low, 2% the option of White blood cell count-<4,ooo/mm3 and the 4% the option of Increased Bleeding Time, Decreased Clotting Time for the knowledge on diagnostic procedures related to dengue fever; 74% was answered the option of Use of mosquito net, 6% the option of Intact of water storage tank and 20% the option of Use of mosquito coil and anti-mosquito spray about the knowledge on preventive measures for dengue fever; 17% was answered the option of Immediately, 5% the option of After getting serious condition and 78% the option of After a few days about the knowledge on suitable for test after suffering from fever; 68% was answered the option of Yes, 24% the option of No and 8% the option of Don't Know about the knowledge on dengue fever is treatable; 54% were answered the option of Complete bed rest, 29% the option of Plenty of fluid by mouth 7% the option of Antipyretic therapy and the 10% the option of Normal water Sponging for the knowledge on management for dengue fever; 14% were answered the option of Newspaper [Local/National], 16% the option of TV [Local/National], 15% the option of Printed Media and the 55% the option of all of the above for the knowledge on sources of the information on dengue fever; 15% was answered the option of Yes, 66% the option of No and 19% the option of Don't Know about the knowledge on vaccine available for dengue fever; 2% were answered the option of In the tray under the fridge, 28% the option of In the water container, 14% the option of In the flower pot trays and the 56% the option of All of them for the knowledge on aedes mosquito usually breeds inside the house; 73% was answered the option of Massive bleeding, 11% the option of Dehydration and 16% the option of Shock about the knowledge on complications for Dengue Fever.

Table 1: Socio-demographic characteristics of participants(n=110).

Age group (years)	Frequency	Percentage
≤ 30	28	26
31-40	74	67
41-50	7	6
>50	1	1
Total	110	100
Distribution of respondents by Gender		
Male	13	12
Female	97	88
Distribution of respondents by marital status		
Married	95	86
Single	15	14
Distribution of respondents by religion		
Muslim	86	78
Hindu	24	22
Distribution of respondents by general education		

International Journal Dental and Medical Sciences Research
Volume 5, Issue 5, Sep-Oct 2023 pp 43-52 www.ijdmsrjournal.com ISSN: 2582-6018

SSC	61	55
HSC	46	42
Master's Degree	3	3
Distribution of respondents by Professional Educational status		
Diploma in Nursing	65	59
BSc in nursing/PHN	37	34
MSc/MPH	8	7

Fig 1: Distribution of respondents by the length of services (n=110).

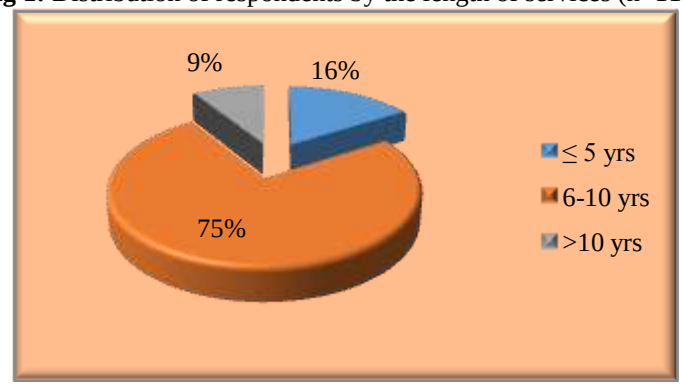

Table 2: Distribution of Knowledge on different variables (n=110).

Variables	Frequency	Percentage
Have you ever heard about Dengue fever?		
Yes	105	96
No	5	4
types of Dengue fever		
Haemorrhagic	97	88
Non-haemorrhagic	2	2
Septic shock	2	2
Viral fever	9	8
name of mosquito which causes Dengue fever		
Aedesaegypti	102	93
Aedesalbopictus	7	6
Plasmodium vivax	1	1
The incubation period of Dengue fever		
2-7 days	20	18
8-10 days	18	16
10-12 days	24	22
5-7 days	48	44
Mode of spread dengue fever		
Mosquito's bite	101	92
Dirty drinking water	8	7
Others	1	1
Most frequent mosquito-biting time		
Sunrise/sunset	101	92
Night	6	5
Don't know	3	3
All of them	75	62.50
Dengue fever can spread from one individual to another		

Yes	49	44
No	61	56
the carrier of Dengue fever		
Aedes mosquito	90	81
All types of mosquito	3	3
Anopheles mosquito	14	13
Don't know	3	3
Common breeding site of mosquitoes for Dengue fever		
In clean water	90	82
In unclean water	13	12
Don't know	7	6
Symptoms of Dengue fever		
High Fever	65	59
Vomiting and severe headache	32	29
Muscles and bone pain	13	12
signs of Dengue fever		
High temperature	44	40
Rash on the skin	62	56
Redness of the eye	3	3
Relative bradycardia	1	1
diagnostic procedures related to dengue fever		
Tourniquet test-Positive	54	49
Platelet count-Low	49	45
White blood cell count-<4,ooo/mm3	2	2
Increased Bleeding Time, Decreased Clotting Time	05	4
suitable for test after suffering from a fever		
Immediately	19	17
After getting the serious condition	5	5
After a few days	86	78
think dengue fever is treatable		
Yes	75	68
No	26	24
Don't Know	9	8
The curative management for dengue fever		
Complete bed rest	59	54
Plenty of fluid by mouth	32	29
Antipyretic therapy	08	07
Normal water Sponging	11	10
sources of the information on dengue fever that you know		
Newspaper [Local National]	15	14
TV [Local / National]	18	16
Printed Media	16	15
All of the above	61	55
vaccine available for dengue fever		
Yes	17	15
No	72	66
Don't Know	21	19
Do you think Aedes mosquito usually breeds inside the house		

International Journal Dental and Medical Sciences Research
Volume 5, Issue 5, Sep-Oct 2023 pp 43-52 www.ijdmsrjournal.com ISSN: 2582-6018

In the tray under the fridge	2	2
In the water container	31	28
In the flower pot trays	15	14
All of them	62	56
the complications of Dengue Fever		
Massive bleeding	80	73
Dehydration	12	11
Shock	18	16

Table 3: Distribution of practice for preventive measures for dengue fever (n=110).

Variables	Frequency	Percentage
Use of mosquito net	81	74
Intact water storage tank	7	6
Use of mosquito coil and anti-mosquito spray	22	20
Total	110	100.00

Table 4: Distribution of average level of knowledge regarding the prevention of dengue fever (n=110).

Variables	Frequency	Percentage
High level of knowledge	7	35
Moderate level of knowledge	5	25
Low level of knowledge	8	40
Total	20	100.00

IV. DISCUSSION

The purpose of this descriptive cross-sectional study was to assess the level of nurses' knowledge and practice regarding the prevention of dengue fever at SZMCH, Bogura. This chapter presents a summary of the study, findings in relation to those previously reported in the literature, and a discussion. In addition, the suggestions for practice and recommendations for future research will also be addressed. The present study findings revealed that the socio-demographic information was 26% were within ≤ 30 years of age, 67% were within 31-40 years, 6% were 41-50 years and 1% were >50 years of age. The mean age of respondents is 33.90 years. In relation to gender, 12% were male and 88% female; 86% were married where as 14% were unmarried; 78% were Muslim, and 22% were Hindu; 55% were SSC, 42% were HSC and 3% were Master's Degree of general education; 59% were Diploma in Nursing, 34% were BSc in nursing/PHN, and 7% were MSc/MPH of professional Degree; 16% were within ≤ 5 years of service, 75% were within 6-10 years of service, and 9% were >10 years of services age; and 54% were received special training, whereas 46% were not received any special training among the respondents in the present study. According to analysis of this study, the significant findings were focused on knowledge related information showed that the majority 96% answered of knowledge on dengue fever and rest of 4% answered no; the highest 88% were responded knowledge related option of Hemorrhagic, 2% Non-hemorrhagic, 2% Septic shock and 8% viral fever on dengue fever; 93% were answered the option of AidesAegyptus, 6% the option Aidesalbopictus, and 1% the option of Plasmodium vive about the knowledge on causes of dengue fever; that the 18% were answered the knowledge on incubation period of dengue fever the option of 2-7 days, 16% the option of 8-10 days, 22% the option of 10-12 days and the 44% the option of 5-7 days; the highest 92% were answered the option of Mosquito's bite, whereas the lowest 7% the option of dirty drinking water, and 1% the option of others about the knowledge on mode of spread dengue fever; 92% was answered the option of Sunrise/sunset, 5% the option of Night, and 3% the option of Don't know about the knowledge on mosquito biting time; 44% were answered the option of Yes, whereas the 56% the option of No about the knowledge on spread of dengue fever from one individual to another; the majority 81% was answered the option of Aedes mosquito, 3% the option of all types of mosquito, 13% the option of Anopheles mosquito and 3% the option of Don't know about the knowledge on carrier of Dengue fever; the majority 82% was answered the option of In clean water, 12% the option of In unclean water and 6% the option of Don't know about the knowledge on common breeding site of mosquito for Dengue fever; 59% was answered the option of High Fever, 29% the option of Vomiting and severe headache and 12% the option of Muscles and bone pain about the knowledge on symptoms of Dengue fever; 40% were answered the option of

High temperature, 56% the option of Rash on the skin, 3% the option of Redness of the eye and the 1% the option of Relative bradycardia for the knowledge on signs of Dengue fever; 49% were answered the option of Tourniquet test-Positive, 45% the option of Platelet count-Low, 2% the option of White blood cell count-<4,ooo/mm3 and the 4% the option of Increased Bleeding Time, Decreased Clotting Time for the knowledge on diagnostic procedures related to dengue fever; 74% was answered the option of Use of mosquito net, 6% the option of Intact of water storage tank and 20% the option of Use of mosquito coil and anti-mosquito spray about the knowledge on preventive measures for dengue fever; 17% was answered the option of Immediately, 5% the option of After getting serious condition and 78% the option of After a few days about the knowledge on suitable for test after suffering from fever; 68% was answered the option of Yes, 24% the option of No and 8% the option of Don't Know about the knowledge on dengue fever is treatable; 54% were answered the option of Complete bed rest, 29% the option of Plenty of fluid by mouth 7% the option of Antipyretic therapy and the 10% the option of Normal water Sponging for the knowledge on management for dengue fever; 14% were answered the option of Newspaper [Local National], 16% the option of TV [Local/National], 15% the option of Printed Media and the 55% the option of all of the above for the knowledge on sources of the information on dengue fever; 15% was answered the option of Yes, 66% the option of No and 19% the option of Don't Know about the knowledge on vaccine available for dengue fever; 2% were answered the option of In the tray under the fridge, 28% the option of In the water container, 14% the option of In the flower pot trays and the 56% the option of All of them for the knowledge on aedes mosquito usually breeds inside the house; 73% was answered the option of Massive bleeding, 11% the option of Dehydration and 16% the option of Shock about the knowledge on complications for Dengue Fever; A similar study of Dengue fever among 343 randomly selected residents of urban and pre-urban regions of the city in Bangladesh showed that only 21.31 % of the respondents had adequate knowledge on transmission of dengue fever [11]. A study conducted byValarmath and Parajulee(2013), findings showed that the nurses were aware of the cause and spread of dengue fever [10]. Similarly, the nurses were known to have a good knowledge on the symptoms exhibited by dengue fever and also on the epidemic on dengue that occurs in Nepal. The nurses also had a good knowledge on diagnostic tests involved in dengue fever diagnosis. However, the knowledge of nurses on more vulnerable group of population for dengue fever is quite low. It was also found that less than half of the nurses have ever gathered any information regarding dengue fever in the recent past. This showed a poor practice among nurses on updating their knowledge which is again linked to their poor knowledge and awareness regarding an important disease. Similarly, only less than one third of the nurses under study have ever received any in-service training regarding any infectious disease. This may be reason for nurses to possess a poor knowledge on dengue fever. Regarding the preventive measures on Dengue Fever Only 62% respondents told destructed discarded container, 98% of the respondents mentioned dengue fever is use of mosquito net, 86% answered Intact of water storage tank,76% indicated use of mosquito coil and anti-mosquito spray. This result consistent with other study that was carried out in Belgaum, Taluka also stated Conducted study to determine the knowledge regarding prevention among the Junior Health Workers.It was evident that maximum number of JHW'S had average knowledge about dengue prevention[12]. Moreover, the nurses' practice rated by Yes, no, and sometimes and they answered 90% were rated the option of yes, 4% the option of no whereas 6% the option of sometimes about Nurses should check the vital sign regularly to the patient and the statement of Nurse need to advice the patient to take nutritious food every day 89% were mentioned the option of Yes, 5% the option of No whereas 6% the option of sometimes. They also reacted 83% were mentioned the option of Yes, 9% the option of No whereas 8% the option of sometimes; 77% were mentioned the option of Yes, 6% the option of No whereas 17% the option of sometimes for the Always cover tightly all water containers inside and outside house; 71% were mentioned the option of Yes, 27% the option of No whereas 2% the option of sometimes for the cover household water storage containers with lids; 26% were mentioned the option of Yes, 59% the option of No whereas 15% the option of sometimes for the be change water in small indoor containers every 7 days eg. flower tubs, bollte, container pot etc; 86% were mentioned the option of Yes, 7% the option of No whereas 7% the option of sometimes for the always ask my patient to sleep with mosquito net every night; 87% were mentioned the option of Yes, 4% the option of No whereas 9% the option of sometimes for the Nurses have need to awareness about dengue fever; 80% were mentioned the option of Yes, 16% the option of No whereas 4% the option of sometimes for the Nurse can play a vital role to preventive measure of dengue fever;

72% were mentioned the option of Yes, 23% the option of No whereas 5% the option of sometimes for the Nurses should keep to closed windows and door to prevent dengue fever; 92% were mentioned the option of Yes, 2% the option of No whereas 6% the option of sometimes for the Dispose plastic and glass wastes serving as larval habitats; 75% were mentioned the option of Yes, 16% the option of No whereas 9% the option of sometimes for the Wear long-sleeved shirts and long pants to prevent mosquito bites; 85% were mentioned the option of Yes, 13% the option of No whereas 2% the option of sometimes for the Help your parents to keep the house tidy to prevent the creation of mosquito habitat; 70% were mentioned the option of Yes, 26% the option of No whereas 4% the option of sometimes for the Elimination of mosquito larvae can reduce the number of dengue cases and 73% were mentioned the option of Yes, 17% the option of No whereas 10% the option of sometimes for the Community members have a responsibility to prevent the spread of dengue.

Limitations of the study: There was a small sample size in the study. This is a small representation of nurses at Shaheed Ziaur Rahman Medical College Hospital, Bogura; the study's results may be limited to one particular area. The small sample size and selection samples only from the limited population at Shaheed Ziaur Rahman Medical College Hospital, Bogura were the limitations of our study. Thus, the large scales studies with larger sample sizes selected purposively from all parts of society are recommended to obtain more generalized results for further study in the health care sector.

V. CONCLUSION AND RECOMMENDATIONS

In conclusion, the dengue fever is a significant problem for developing countries. There were nurses' knowledge was low level of knowledge 40% about the prevention of Dengue Fever. But there are some gaps concerning a few specific issues related to dengue fever. In order to make progress that the nurses are needed special knowledge based continuing education, special training, workshop, seminar, symposium for the proper management of dengue fever patients for improving their condition promptly as well as reducing emerging complications. Although, Proper nursing practices in preventing the spread of dengue fever and their management contribute to promoting and creating an appropriate environment that prevents new affects and controls the existing ones. Nurses stated they had the necessary competencies to practice safe patient care. There is a need to improve better knowledge and positive practice to prevent dengue fever. This can be achieved by providing educational and motivational activities and improving nursing services to promote health and reduce dengue fever and its consequences. There is a need for more research studies to increase nurses' knowledge and practice regarding dengue fever because there were few research studies in this field. A similar study can be undertaken on a large scale. A comparative study between urban and rural areas may be conducted to generate the findings.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethical Committee.

REFERENCES

[1]. Jeelani S, Sabesan S, Subramanian S. Community knowledge, awareness and preventive practices regarding dengue fever in Puducherry–South India. Public health. 2015 Jun 1;129(6):790-6.
[2]. Udayanga WC, Veksha A, Giannis A, Lisak G, Chang VW, Lim TT. Fate and distribution of heavy metals during thermal processing of sewage sludge. Fuel. 2018 Aug 15;226:721-44.
[3]. Sharma B, Regmi S, Aryal B, Neupane MS, Lopchan M. Knowledge and attitude of dengue fever among clients from dengue prevalent areas. Int J PharmaBiol Archives. 2012;3:1383-8.
[4]. Horstick O, Martinez E, Guzman MG, Martin JL, Ranzinger SR. WHO dengue case classification 2009 and its usefulness in practice: an expert consensus in the Americas. Pathogens and global health. 2015 Feb 1;109(1):19-25.
[5]. Hsan K, Hossain MM, Sarwar MS, Wilder-Smith A, Gozal D. Unprecedented rise in dengue outbreaks in Bangladesh. The Lancet Infectious Diseases. 2019 Dec 1;19(12):1287.
[6]. Hossain MS, Siddiqee MH, Siddiqi UR, Raheem E, Akter R, Hu W. Dengue in a crowded megacity: Lessons learnt from 2019 outbreak in Dhaka, Bangladesh. PLoS neglected tropical diseases. 2020 Aug 20;14(8):e0008349.
[7]. Rather IA, Kim BC, Bajpai VK, Park YH. Self-medication and antibiotic resistance: Crisis, current challenges, and prevention. Saudi journal of biological sciences. 2017 May 1;24(4):808-12.

[8]. Abir T, Ekwudu OM, Kalimullah NA, Nur-A Yazdani DM, Al Mamun A, Basak P, Osuagwu UL, Permarupan PY, Milton AH, Talukder SH, Agho KE. Dengue in Dhaka, Bangladesh: hospital-based cross-sectional KAP assessment at Dhaka north and Dhaka south city corporation area. PLoS One. 2021 Mar 30;16(3):e0249135.

[9]. Prompetchara E, Ketloy C, Thomas SJ, Ruxrungtham K. Dengue vaccine: Global development update. Asian Pac J Allergy Immunol. 2019 Jan 13;10(3):178-85.

[10]. Valarmathi S, Parajulee S. Knowledge of nurses towards dengue fever in a tertiary care teaching hospital in Nepal. Journal of College of Medical Sciences-Nepal. 2013;9(1):7-13.

[11]. Tuhin B, Shakil MS, Anwar I. Knowledge, attitude and practice on determinants and transmission of dengue fever: a study among urban and peri-urban residents of a metropolitan city in Bangladesh. Pakistan Journal of Public Health. 2014;4(1):9-14.

[12]. Yao X, Ling Y, Guo S, Wu W, He S, Zhang Q, Zou M, Nandakumar KS, Chen X, Liu S. Tatanan A from the Acoruscalamus L. root inhibited dengue virus proliferation and infections. Phytomedicine. 2018 Mar 15;42:258-67.