Knowledge and Practice regarding Dengue Fever and Its Control among the Urban Population of Sylhet

Nazia Chowdhury[1], Mohammad Nurunnabi[2], Fazlur Rahim Kaiser[3], Sabrin Radi[4]

Abstract

Introduction: Dengue is one of the most important mosquito-borne diseases which can cause a major problem to human health.

Methods: A descriptive type of cross sectional study was conducted in two focal urban areas of Sylhet city to know about knowledge & practices regarding dengue fever & its control among urban population in Sylhet city. Data was collected from 151 respondents residing in Housing Estate & Modina Market area by using a semi-structured questionnaire & purposive type of non-probability sampling technique was used.

Results: The study showed that large (70.20%) numbers of respondents were female & 22.52% completed higher secondary education among the respondents. Regarding knowledge 68.21% mentioned fever & 23.18% headache as dengue fever symptoms. Majority (82.12%) knew that mosquito causes dengue fever, 59.60% could mention the name of mosquito, 56.95% respondents said that mosquito bite at daytime and 64.90% knew that removal of artificial collection of water as to control breeding of Adedes mosquito. Almost 90% had knowledge about different preventive measures like use of windows net (40.40%), mosquito net (29.13%) and others. Regarding practice, 39.07% followed removal of artificial collection of water, 24.50% always covered the water container and reaming took other measures as to control breeding. About 90% used different preventive measures like window net (35.10%), mosquito net (27.81%) and others measures to prevent mosquito bite.

Conclusion: Both knowledge and practices regarding dengue fever is good among the urban population.

Keywords: Dengue Fever, socio-demographic status, educational status, preventive measures.

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Introduction

Dengue is an arthropod-borne viral infection. Arbovirus causes this infection and it is transmitted by *Aedes aegypti* and *Aedes albopictus.* Among them, *Aedes aegypti* is prediminant in urban area. Dengue viruses are members of the genus flavivirus of family flaviviridae. It is a single-stranded RNA virus with four serotypes DEN-1, DEN-2, DEN-3 and DEN-4.After neutralization, antibody produced from the first infection causes more serious infection during secondary infections by other serotypes.[1] Types of these viral infection include dengue fever (DF) about (95 % of cases), and a more severe cases cause dengue haemorrhagic fever (DHF) or dengue shock syndrome (DSS-5% of cases). Further, dengue infections are symbolized by frontal headache, retro-orbital pain, body aches, nausea and vomiting, joint pains, weakness and rash.[2] Against its dangerous effects, currently there is no licensed and approved vaccine or antiviral available.[3]

According to the World Health Organization (WHO), among arboviral infection diseases, dengue is considered to be one of the most common types in the world; with approximately

1. *Associate Professor, Department of Community Medicine, Sylhet Women's Medical College, Sylhet 3100, Bangladesh.
2. Lecturer, Department of Community Medicine, Sylhet Women's Medical College, Sylhet 3100, Bangladesh.
3. Professor, Department of Community Medicine, Sylhet Women's Medical College, Sylhet 3100, Bangladesh.
4. Assistant Professor, Department of Community Medicine, Sylhet Women's Medical College, Sylhet 3100, Bangladesh.

Corresponding author: Nazia Chowdhury
Associate Professor, Department of Community Medicine, Sylhet Women's Medical College, Sylhet 3100, Bangladesh.
Email: naziachowdhurynazia@yahoo.com

390 million infected cases yearly, and 40% of the world population living in at-risk areas.[4,5] In many parts of the tropics and subtropics, dengue is endemic especially during rainfall season which is the breeding season of the Aedes mosquito.[6] Exhibiting symptoms similar to the flu, dengue fever can progress to severe and life-threatening stages which involves severe bleeding, respiratory and organ impairment.[7] Along with morbidity and fatality, dengue fever poses a significant economic burden on the individuals and countries infected, partly since the disease dominantly affects young adults, those are likely to be working and 'bread-winners' in the family.[8,9,10] There is a need for information, education and communication programmes to combat problems related to this disease.[11] There is need to create awareness among the urban people about different preventive practices and reduce knowledge application gap.

Methods

It is a descriptive type of cross sectional study which was conducted to know the knowledge and practices regarding dengue fever and its control among the peoples at Housing Estate and Modina Market areas of Sylhet city. This sample size was 151 by using a pretested semi-structured questionnaire from November, 2019 to January, 2020. Purposive type of non-probability sampling technique was used and the data was collected by face to face interview. Ethical issues ware strictly followed throughout the study and guidelines from BMRC was followed. After collection, the data was checked for any error or omission and cleaned, analyzed by IBM SPSS version 21 and presented with tables and charts.

Results

Among the respondents, majority (70.20%) was female and 29.80% were male. Among the respondents, 58.28% were married, 38.41% unmarried, 1.99% widow and 1.32% divorced. Age group of the respondents, 32.45% were in 21-30 years, 17.88% were in ≤20 years, 25.83% were in 31-40 years, 16.56% were in 41-50 years, 5.96% were in 51-60 years and 1.32% was in ≥60 years. Number of children among the respondents, 39.74% had not any child, 39.07% had 1-2 children, 15.89% had 3-4 children and 5.30% had >4 children. Regarding occupation of the respondents, 40.40% were housewife, 19.87% job holder, 11.92% student, 11.26% businessmen, 9.93% working in abroad and respectively 3.31% day laborer and in other types. Figure 1. shows that, 22.52% and 20.53% completed higher secondary and graduation level respectively, 18.54% secondary level, 13.91% primary level, 11.92% post-graduation level, 9.27% illiterate and only 3.31% studied in others system.

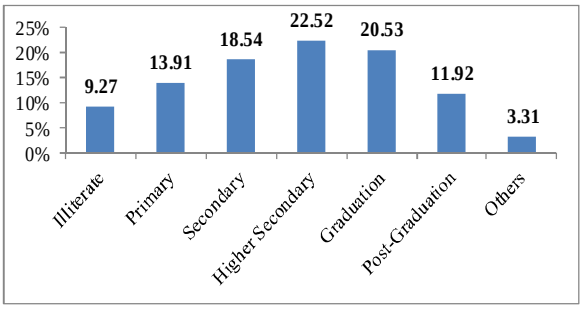

Figure 1.: Educational status of the respondents (n=151)

About educational status of the spouses, 15.59% completed higher secondary level, 12.58% primary level, 9.93% secondary level and post-graduation and 6.62% graduation, 5.30% illiterate and 4.64% studied in others system. Average monthly family income (BDT) of the respondents 30.46% had >30000, 26.49% had 20001-30000, 22.52% had 10001-20000 and 20.53% ≤10000 BDT. Table 1. shows symptoms of dengue fever.

Regarding causes of dengue fever, 82.12% opined by mosquito bite, 1.32% by housefly bite, 5.96% by contaminated water, food and others and 6.62% didn't not know. About the name of the Mosquito, 59.60% said Aedes, 1.32% said Culex and 25.80% did not know. Regarding time of biting, 56.95% said mosquito bite at daytime, 10.60% said at night and 32.45% did not know. Causes of increase breeding of Aedes mosquito, 68.21% respondents said that collection of water, 6.62% said uncovered water container and15. 89% did not know. Table 2. shows knowledge regarding control of Aedes mosquito breeding

and Table 3. shows practices regarding control of Aedes mosquito breeding. Table 4. shows knowledge regarding preventive measures for controlling mosquito bite and Table 5. shows practices regarding preventive measures for controlling mosquito bite.

Table 1.: Symptoms of Dengue fever

Symptoms of Dengue Fever	Frequency (f)	Percentage (%)
Fever	103	68.21
Headache	35	23.18
Joint pain	22	14.57
Muscle pain	18	11.92
Eye pain	2	1.32
Skin rash	8	5.30
Bleeding	6	3.97
Don't know	14	9.27
Others	7	4.64

*Multiple Responses

Table 2.: Knowledge regarding control of Aedes mosquito breeding

Measures of Control of Aedes Mosquito Breeding	Frequency (f)	Percentage (%)
Removal of artificial collection of water	98	64.90
Removal of water containing pot and flower vase	43	28.48
Insecticides	26	17.22
Smoke	8	5.30
Don't know	16	15.60
Others	5	3.31

*Multiple Responses

Table 3.: Practices regarding control of Aedes mosquito breeding

Measures taken to Control of Aedes Mosquito Breeding	Frequency (f)	Percentage (%)
Removal of artificial collection of water	59	39.07
Always cover the water container	37	24.50
Removal of water containing pot and flower vase	27	17.88
Regular spray	12	7.95
Didn't take	17	11.26
Others	21	13.91

*Multiple Responses

Table 4.: Knowledge regarding preventive measures for controlling mosquito bite

Knowledge regarding preventive measures for controlling mosquito	Frequency (f)	Percentage (%)
Use of Mosquito net	44	29.13
Use of netting window	61	40.40
Wearing full sleeves cloth & socks	12	7.95
Repellant/ Cream	9	5.96
Mosquito coil	20	13.25
Don't know	15	9.93
Others	12	7.95

*Multiple Responses

Table 5.: Practices regarding preventive measures for controlling mosquito bite

Measures taken to Prevent Aedes Mosquito Biting	Frequency (f)	Percentage (%)
Use of Mosquito net	42	27.81
Use of netting window	53	35.10
Wearing full sleeves cloth & socks	19	12.58
Repellant/ Cream	6	3.97
Nothing	18	11.92
Others	16	10.60

*Multiple Responses

Figure 2. shows majority (92.72%) said that their any family member never affected by Dengue fever and only 7.28% said affected. Regarding keeping the patient suffering from Dengue fever, 66.23% said always keep inside the mosquito net, 17.22% didn't know, 5.96% said shouldn't sleep in the same mosquito net with dengue patient and 10.60% said others causes. Measures that respondent will like to prefer after affects by dengue fever, 89.40% said that they immediately visit doctors, 1.99% take medicine by them, 0.66% take medicine from the pharmacy and 7.95% others. 32.45% respondents said they chose only paracetamol during Dengue fever, 7.28% said any type of NSAIDs and 60.26% couldn't mention anything. Majority (86.09%) knew that the risk of complications and death can be minimized by consulting with the doctor,

11.26% did not know and only 2.65% said it can't be minimized.

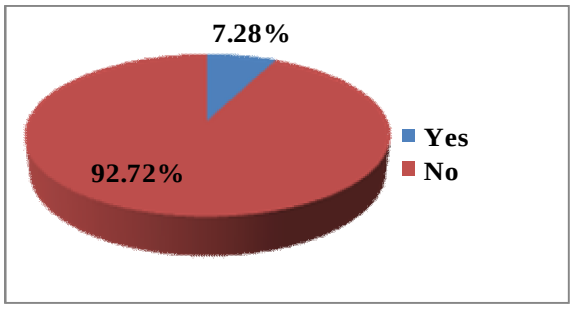

Figure 2.: Family Members affected by Dengue fever

Discussion

The findings of our study suggest that there are relatively good knowledge and practices regarding dengue fever and its control among peoples of these areas. In our study 68.21% fever, 23.18% headache, muscle pain 11.92% & bleeding tendency 3.97% which is quite different from other study done in Pakistan.[12] 57% said that mosquito bites in day time in contrast to 46% in a study in Pakistan[12] & 85% in study in Srilangka.[13] The findings are almost similar with Pakistan but quite different from Srilanka. Regarding name of mosquito 59.60% said that dengue fever caused by Aedes mosquito which is quite nearer (70.91%) to the study done in Laos.[14] Regarding causes of dengue fever most of them (82.12%) said dengue fever is caused by mosquito bites which is quite similar to this study.[14] About the breeding places of mosquito 84.11% knew all the breeding places of Aedes mosquito which is quite similar (93%) to the study done by Laos.[14] Almost 10% respondents didn't know preventive measures for controlling mosquito which is almost double (4.7%) in a study done in South Delhi.[15] Almost 12% didn't take any type of preventive measures against controlling mosquito (mosquito net, repellent cream) which is similar to the study.[15]

The reason for the difference might be attributed due to various levels of literacy among respondents. Those areas need attention because it is important for the modification of health seeking behaviour by early detection of cases and their prompt and timely management.

Conclusion

It can be concluded that both knowledge and practices regarding dengue fever is good among the urban population in Sylhet city. Therefore, there is need to arrange more awareness programme to elevate the knowledge and practices of peoples in these areas & to limit future spread.

Recommendations

Proper water drainage, cleaning of the surroundings, disposal of waste bottles and coconut shells must be required for source reduction as well as controlling the disease. For community awareness mass media can play an important role and also active health education should be given. Most importantly it should be included in school and university curriculum to raise awareness among the students.

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