

# “A Survey On Dengue Patient And In Relation With Hypertension and Diabetes Mellitus”



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Masters of pharmacy

Faculty of Allied Health Science

Daffodil International University

Date: 13 September 2019

# “A Survey On Dengue Patient And In Relation With Hypertension and Diabetes Mellitus”



A DISSERTATION SUBMITTED TO THE DEPARTMENT OF PHARMACY,  
DAFFODIL INTERNATIONAL UNIVERSITY IN THE PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF  
MASTERS OF PHARMACY.

Submitted By

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Batch: 7th Sec: A

Masters of pharmacy

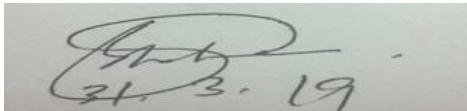
Faculty of Allied Health Science

Daffodil International University

Date: 13 September 2019

## APPROVAL

This is notified that this project report, entitled “A survey on Dengue patients and in relation with Hypertension and Diabetes mellitus” submitted by Rebeka Sultana to the Department of Pharmacy, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree Masters of Pharmacy and approved as to its style and contents.

A rectangular box containing a handwritten signature in black ink. Below the signature, the date "31.3.19" is written in the same ink.

-----  
Dr. Sharif M. Shaheen  
Professor and Head of the department  
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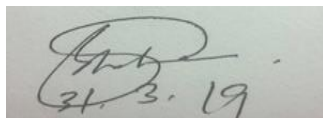
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## DECLARATION

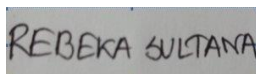
I hereby declare that, this project report is done by me under the supervision of Professor and Head, Dr. Sharif M. Shaheen, Department of Pharmacy, Daffodil International University, in partial fulfillment of the requirements for the degree of Masters of Pharmacy. I am declaring that this Project is my original work. I also declare that neither this project nor any part thereof has been submitted elsewhere for the award of Masters or any degree.

### Supervised By



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## **ACKNOWLEDGEMENT**

**All praises be to almighty Allah**

Firstly, I am grateful to Allah for blessings upon me to undertake and complete this project work and finally write up the outcome of the project work leading towards the fulfillment of the Degree of Masters of Pharmacy.

I am also thankful to my supervisor Professor and Head, Dr.Sharif M. Shaheen, Department of Pharmacy, Daffodil International University for his day to day monitoring, guidance, and constant encouragement for carrying out the work.

Also I want to extend appreciation to my loving family, specially my father and mother for their inspiration, affection, support and praying and well wisher.

I would like to express thanks to all of my respected teachers of my dept. for their support.

Lastly, I want to give thanks my all friends for their encouragement without which this project would not be possible and people who have willingly helped me out with their abilities.

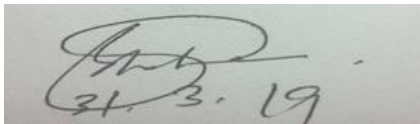
Rebeka Sultana

13 September 2019

## **CERTIFICATE**

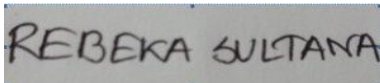
This is to certify that the project entitled “A survey on dengue patient and in relation with hypertension and diabetes mellitus” Submitted by Rebeka Sultana, ID: 183-46-216, carried out his research under my supervision. This is further to certify that it is an original work and suitable partial fulfillment of the degree of Masters of Pharmacy, Daffodil International University.

### **Supervised By**



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## ABSTRACT

Dengue is an acute viral illness caused by RNA virus of the family Flaviviridae and spread by *Aedes* mosquitoes. Dengue is a highly endemic infectious disease of the tropical countries and is rapidly becoming a global burden. As the outbreaks Dengue fever increasing in Bangladesh at Dhaka city, one city after other getting affected and the situation is very dangerous. This article provide a new information that is-which ages patients are mostly affected by Dengue?What is their physical condition? Do they have hypertension or Diabetes mellitus?

We use data from hospitalized patient to show that the relationship between Dengue patient and in relation with hypertension and diabetes mellitus. This survey study result is that the Dengue mosquitoes are affected of the healthy and young person and their blood pressure is normal and below the normal range. Few patients are vulnerable which ages range from 2-8 yrs. From my study report I can not find any one that person have hypertension or diabetes mellitus. Hypertensive and Diabetic patients can not affected by the Dengue mosquitoes (*Aedes* Mosquitoes).

It is very important for us to know more about the disease and its causes, through which we can save the lives of many people. We can prevent the prevalence.



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# **CHAPTER # 1**

## **INTRODUCTION**

## 1.1 Epidemiology

Dengue is an acute viral illness and spread by an Aedes mosquitoes. The number of people admitted to hospitals with dengue infection this year is well on its way to surpass the highest annual tally of dengue cases in the last two decades, official data indicates. This year, a total of 9,657 dengue patients were reported to have been hospitalized until Friday since January 1, according to the Directorate General of Health Services (DGHS). With hospitals overflowing with patients and the rising number, dengue is all set to break the previous record – which was 10,148 in 2018 – by today or tomorrow. Despite that, the Dhaka city authorities corporations as well as top government officials continue to say that the situation is “under control,” whereas medical officials fear that this year's outbreak might become the worst since the first outbreak in 2000. The first dengue case in Bangladesh was recorded in 2000. Till Friday, a total of 59,823 patients have been diagnosed with the infection, 305 of whom died. The number of patients hospitalized crossed the 6,000 mark four times since 2000 – with 6,232 in 2002, 6,060 in 2016, 10,148 in 2018 and 9,657 so far this year.

Between January 1 and July 26 in 2019, a total of 9,657 patients were admitted and eight people died in different hospitals, according to the DGHS. In July alone, 289 people on average were hospitalized every day. At least 7,513 patients were admitted to hospitals in the first 26 days of July, while four patients died, according to the latest DGHS control room data.<sup>i</sup>

## 1.2 Clinical Features

The characteristic symptoms of dengue is given below-

- Headache
- Onset of fever
- Muscle and joint pains
- And a rash
- In the febrile phase the temperature is 40°C Or over with pains.
- In the critical phase the temperature of the body lasting 2-7days and in severe case bleeding also can occur.

### **1.3 Signs of significant dehydration Include:**

- Tachychardia
- Cool skin
- Diminished peripheral pulses
- Changes in mental status
- Continuously elevated haematocrit despite administration of fluids
- Narrowing of pulse pressure (20 mmHg (2.7 kPa))
- Vomitting.
- Muscle Pain

### **1.4 Essential laboratory tests in assessing a patient's condition, the following tests are recommended:**

- Haematocrit.
- Serum electrolytes and blood gas studies.
- Platelet count, prothrombin time.
- ELISA test

# **CHAPTER # 2**

# **STUDY REPORT**

## 2.1 The Study

Clinical Dengue incidence data that have been serologically confirmed are abstracted from a survey conducted in 2019 at Shaheed Suhrawardy Medical College in Dhaka city, Bangladesh. We survey on all ages of Dengue patient which were hospitalized. This survey data describe which ages patients were mostly affected and the patients which have Hypertension and Diabetic, they were affected by dengue or not.

Table-2.1 For, male patients

Name	Age (Yrs)	Platelet Count	Standard value	B.P mm/Hg	Hypertension And Diabetic
Habibur Rahman	40	1 <sup>st</sup> 32×10 <sup>3</sup> /μl 2 <sup>nd</sup> 50.4×10 <sup>3</sup> /μl 3 <sup>rd</sup> 121.3×10 <sup>3</sup> /μl		110/80	No
Samrat	21	1 <sup>st</sup> 95×10 <sup>3</sup> /μl 2 <sup>nd</sup> 99×10 <sup>3</sup> /μl		130/90	No
Mr. Rubel	26	1 <sup>st</sup> 80×10 <sup>3</sup> /L 2 <sup>nd</sup> 1,75000/cmm 3 <sup>rd</sup> 210,000/cmm		90/70	No
Anisur Rahman	40	1 <sup>st</sup> 109,000/cmm		120/90	No
Md. Nur Ullah	20	1 <sup>st</sup> 38,000/cmm 2 <sup>nd</sup> 92,000/cmm		90/60	No
Azizul	21	1 <sup>st</sup> 155.00K/μl		85/60	No
Md. Anis	35	1 <sup>st</sup> 180,000/cmm 2 <sup>nd</sup> 220×10 <sup>3</sup> /μl		110/60	No
Shakil Ahmed	22	1 <sup>st</sup> 65000/cmm 2 <sup>nd</sup> 112.8×10 <sup>3</sup> /μl		110/90	No
Ibrahim	23	1 <sup>st</sup> 76000/cmm 2 <sup>nd</sup> 93000/cmm 3 <sup>rd</sup> 30.9×10 <sup>3</sup> /μl	150-400 ×10 <sup>3</sup> μl	85/60	No
Faruk millah	35	1 <sup>st</sup> 140.00k/μl 2 <sup>nd</sup> 24,000/cmm		110/85	No
Nazmul	30	1 <sup>st</sup> 143,000/cmm		110/70	No
Sanowar	26	1 <sup>st</sup> 61000/cmm 2 <sup>nd</sup> 278,000/cmm 3 <sup>rd</sup> 60.4×10 <sup>3</sup> /μl		90/75	No
Hridoy	18	1 <sup>st</sup> 185.00k/ μl		85/65	No
Imran Hasan	31	1 <sup>st</sup> 168,000/cmm		100/75	
Nurnobi	24	1 <sup>st</sup> 50 ×10 <sup>9</sup> L		90/65	No
Sahnewaz	26	1 <sup>st</sup> 164.8×10 <sup>3</sup> μl		85/60	No

Md.Sabbir	13	1 <sup>st</sup> 1,01000/cmm 2 <sup>nd</sup> 76.0×10 <sup>3</sup> μl 3 <sup>rd</sup> 79.6×10 <sup>3</sup> μl		80/50	No
Jisan	35	1 <sup>st</sup> 137000/cmm 2 <sup>nd</sup> 106000/cmm		110/80	No
Md. Eshaque	27	1 <sup>st</sup> 129.00k/μl 2 <sup>nd</sup> 100.00k/μl		85/60	No
Asadullah	15	1 <sup>st</sup> 146.8×10 <sup>3</sup> μl 2 <sup>nd</sup> 117.7×10 <sup>3</sup> μl		90/65	No
Amirul	19	1 <sup>st</sup> 74000/cmm		90/60	No
Saiful Islam	20	1 <sup>st</sup> 1,10,000/cmm 2 <sup>nd</sup> 1,50000/cmm		85/55	No
Rakib	15	1 <sup>st</sup> 124.6×10 <sup>3</sup> μl		80/50	No
Liton Das	20	1 <sup>st</sup> 41.7×10 <sup>3</sup> μl 2 <sup>nd</sup> 64.2×10 <sup>3</sup> μl 3 <sup>rd</sup> 158.410 <sup>3</sup> μl		85/60	No
Hamidul	33	1 <sup>st</sup> 71000/cmm 2 <sup>nd</sup> 83,000/cmm 3 <sup>rd</sup> 78.3×10 <sup>3</sup> μl		90/65	No
Rashed khan	27	1 <sup>st</sup> 135.410 <sup>3</sup> μl		110/75	No
Nayeem	20	1 <sup>st</sup> 105.010 <sup>3</sup> μl		90/60	No
Saheen	21	1 <sup>st</sup> 80,000/cmm		80/55	No
Moni	17	1 <sup>st</sup> 65,000/cmm		85/60	No
Joni	26	1 <sup>st</sup> 35,000/cmm		110/70	No

**Table-2.2 For, female patient**

Name	Age (yrs)	Platelet count	Standard value	B.P (Hg)	Hypertension And Diabetic
Ms.Irani	19	1 <sup>st</sup> 130.00k/μl 2 <sup>nd</sup> 100000/cmm		120/80	No
Shammi	21	1 <sup>st</sup> 147.610 <sup>3</sup> μl		90/65	No
Hasina	25	1 <sup>st</sup> 215000/cmm 2 <sup>nd</sup> 28.510 <sup>3</sup> μl		85/50	No

Shilpi	23	1 <sup>st</sup> 120×10 <sup>9</sup> /L 2 <sup>nd</sup> 140×10 <sup>9</sup> /L		110/75	No
Nahar	37	1 <sup>st</sup> 160000/cmm 2 <sup>nd</sup> 110.00k/μl		120/75	No
Kolpona Das	22	1 <sup>st</sup> 43.00k/μl 2 <sup>nd</sup> 31.00k/μl 3 <sup>rd</sup> 60000/cmm 4 <sup>th</sup> 80k/μl		85/60	No
Jerin	25	1 <sup>st</sup> 64000k/μl 2 <sup>nd</sup> 29.1×10 <sup>3</sup> μl		110/80	No
Ms.Rumana	25	1 <sup>st</sup> 91,000/cmm 2 <sup>nd</sup> 86.9×10 <sup>3</sup> μl	150- 400×10 <sup>3</sup> μl	100/60	No
Ruma	32	1 <sup>st</sup> 210.00k/μl		110/80	No
Nurjahan	30	1 <sup>st</sup> 93×10 <sup>9</sup> μl 2 <sup>nd</sup> 173×10 <sup>3</sup> μl		90/65	No
Farzana	18	1 <sup>st</sup> 53.8×10 <sup>3</sup> μl		80/55	No
Sumaya	24	1 <sup>st</sup> 120×10 <sup>3</sup> μl 2 <sup>nd</sup> 40,000 μl 3 <sup>rd</sup> 20,000 μl		110/75	No
Mukti Rahman	23	1 <sup>st</sup> 80,000 μl 2 <sup>nd</sup> 50,000 μl 3 <sup>rd</sup> 35,000 μl		110/80	No
Tripty	19	1 <sup>st</sup> 110×10 <sup>3</sup> μl		100/60	No
Rebeka	24	1 <sup>st</sup> 90,000μl 2 <sup>nd</sup> 120×10 <sup>3</sup> μl		80/65	No
Ms.Luba	21	1 <sup>st</sup> 85000/cmm		85/50	No
Khadiza	25	1 <sup>st</sup> 75000/cmm		90/60	No
Hosneara	19	1 <sup>st</sup> 65000/cmm		110/70	No
Mehrun	26	1 <sup>st</sup> 90,000/cmm 2 <sup>nd</sup> 120×10 <sup>3</sup> μl		120/75	No
Nesa	18	1 <sup>st</sup> 89,000/cmm		90/55	No



**Table-2.3 For, Children**

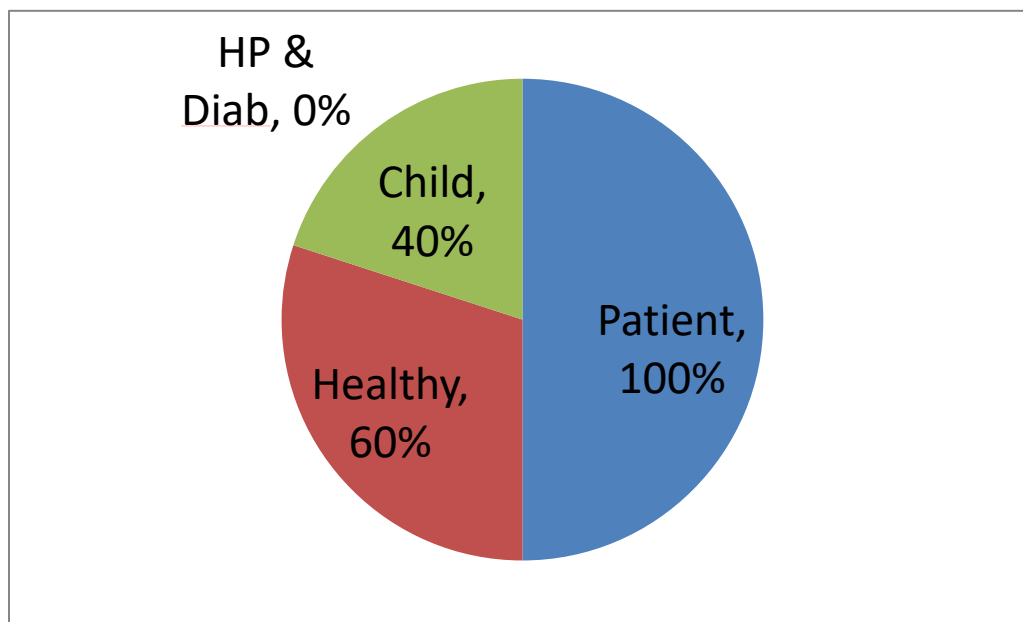
Name	Age	Platelet count	Standard value
Tamanna	7	1 <sup>st</sup> 20.00k/ $\mu$ l 2 <sup>nd</sup> 30.00 k/ $\mu$ l	
Taslima	7	1 <sup>st</sup> 20.00 k/ $\mu$ l	
Abir	7	1 <sup>st</sup> 110.00 k/ $\mu$ l 2 <sup>nd</sup> 198.000/cumm 3 <sup>rd</sup> 160.00 k/ $\mu$ l	
Abir Hossain	8	1 <sup>st</sup> 81.00 k/ $\mu$ l	
Mahir	3	1 <sup>st</sup> 260.00k/ $\mu$ l	
Mahi	3	1 <sup>st</sup> $79.3 \times 10^3 \mu$ l	150-450.00 k/ $\mu$ l
Mahin	3	1 <sup>st</sup> 68,000/cmm	
Raihan	2	1 <sup>st</sup> $180.00 \times 10^9 \mu$ l	
Samiul Alam	2	1 <sup>st</sup> $100 \times 10^9 \mu$ l 2 <sup>nd</sup> 100.00 k/ $\mu$ l 3 <sup>rd</sup> 40.00 k/ $\mu$ l 4 <sup>th</sup> 150.00 k/ $\mu$ l	
Sadaf	4	1 <sup>st</sup> $173 \times 10^9 \mu$ l 2 <sup>nd</sup> $55 \times 10^9 \mu$ l	
Afridi	8	1 <sup>st</sup> $25 \times 10^3 \mu$ l 2 <sup>nd</sup> $20 \times 10^3 \mu$ l 3 <sup>rd</sup> $15 \times 10^3 \mu$ l	
Aria	3	1 <sup>st</sup> 45000/cmm	
Arisha	2	1 <sup>st</sup> 287,000/cmm	
Tamim	10	1 <sup>st</sup> $232.0 \times 10^3 \mu$ l	

From the above list of table, we can see most of the patient age was 2-26 yrs . Some of them were young male and female and few baby. And we also get the report from the survey that most of the patient blood pressure was normal and low. Hypertension and diabetic patient was not found there.

# **CHAPTER # 3**

## **RESULT**

We use data from hospitalized patient to show that the relationship between Dengue patient with or without Hypertension and Diabetic and their ages. This survey study result is that the Dengue mosquitoes are affected of the healthy and young person and their blood pressure is normal and below the normal range. Few patients are vulnerable which ages range from 2-8 yrs. From my study report I can not find any one that person have hypertension or diabetic. Hypertensive and Diabetic patients can not affected by the Dengue mosquitoes (*Aedes Mosquitoes*). The percentage of the study patients are 100% whereas 60% healthy patients are affected and 40% are child and 0% patients are Hypertensive and Diabetic condition. The graphical representation is given below-



Here, Blue color represent total number of patient-100%

Red colour represent the percentage of healthy person-60%

Green colour represent the percentage of Child-40%

And the percentage of Hypertensive and Diabetic Patient - 0%

**CHAPTER # 4**  
**CONTROL AND TREATMENT**

## 4.1 Prevention and Control

In this following step we can prevent the mosquito growth-

- Preventing mosquitoes from accessing egg-laying habitats by environmental management and modification;
- Disposing waste material properly.
- Emptying the water vessel and clean properly water container.
- Spraying insecticides around the water container
- Cleaning properly outside the house
- Improving public awareness to control the mosquito growth.
- Monitoring that the mosquito can not growth in house.

Careful clinical detection and management of dengue patients can significantly reduce mortality rate and illness.

## 4.2 Treatment

There is no specific therapy available for dengue infections, but it is important to exclude other treatable diagnoses. Patients at risk for dengue because it can showing similar symptoms with other diseases, such as malaria, typhoid fever, leptospirosis. Symptoms in patients with dengue virus infection can show the symptoms within 7-10 days. Supportive treatments are available for specific diseases manifestations of dengue virus infection.

I saw in my survey study that the Dengue patients treatment was mostly similiar. Some common medicine was given by the doctor for older patient as they recover quickly.

The list of the medicine is given below-

- Diet: Normal + plenty of fluid+ ORS
- Inf. N/S (1L)
- Iv stat @ 20 or 30 drops/min
- Tablet: P/C (500mg)
- Cap: Omeprazole
- Tab: Omidon and
- Supp. Napa(500mg)

1stick PIR (505 if  $\geq 102F$ )

For Children,

- Diet: Normal+ plenty of food intake+ORS+ coconut water+ rice water +fruit juice
- Inj: 5% DNS (1500ml)
- IV@ 40 drops/min
- Inj: Emistat 8mg/4ml
- 46.5 ml iv TDS
- Ranitidin

# **CHAPTER # 5**

## **Conclusion**

From my survey study, I got the information was that, most of the young patients were affected by Dengue and their blood pressure was normal or low range. And following topic was that none of them was Hypertension and Diabetic mellitus. Baby patient was also vulnerable by dengue. From my study report I can not find any one that person have hypertension or diabetes mellitus. Hypertensive and Diabetes mellitus patients can not affected by the Dengue mosquitoes (*Aedes Mosquitoes*). The mosquitoes would not be able to produce their growth in hypertensive and diabetes mellitus patient. If the cause is unknown. The percentage of the study patients are 100% whereas 60% healthy patients are affected and 40% are child and 0% patients are Hypertensive and Diabetic condition. It is very essential to know to about this diseases and its prevalence and severity of the diseases pattern. It is very important to early detection of the dengue virus and early management of the diseases. By this way we can recover the patient very goodly.



# **CHAPTER # 6**

## **REFERENCES**

## References

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<sup>i</sup> <https://www.dhakatribune.com/bangladesh/2019/07/27/dengue-on-course-to-break-all-records>