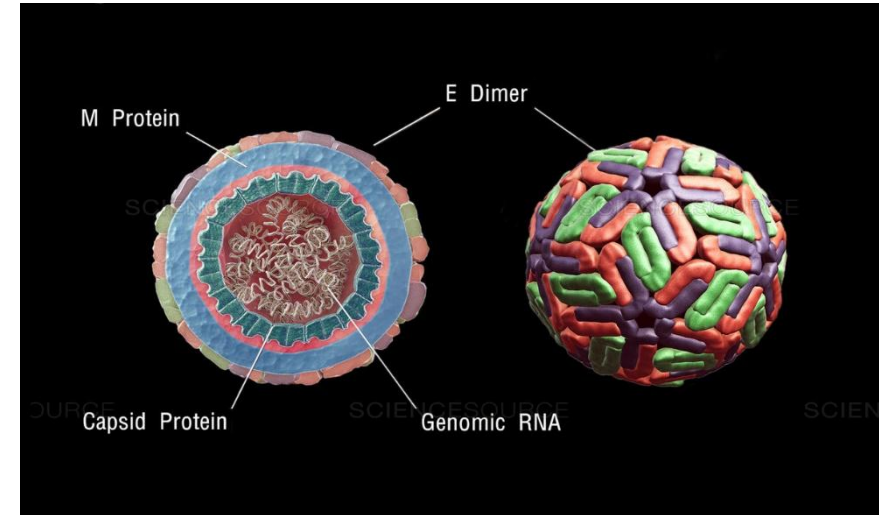


Hospital Sero-prevalence of Dengue Virus Infection among Adults of Urban Dhaka



Mohammad Mahfuzul Hoque
Junior Consultant of Medicine
Dhaka Medical College Hospital

Title: Hospital Sero-prevalence of Dengue Virus Infection among Adults of Urban Dhaka*

Dr. Mohammad Mahfuzul Hoque¹, Dr. Md. Robed Amin², Dr. Sarmistha Biswas³, Dr. Mohammad Rafiqul Islam⁴

1. Junior consultant of Medicine, Dhaka Medical College Hospital, Dhaka
2. Associate professor of Medicine, Dhaka Medical College, Dhaka
3. Associate professor of Medicine, Dhaka Medical College, Dhaka
4. Associate professor of Medicine, Shaheed Suhrawardi Medical College

* Study was funded by Bangladesh Medical Research Council

Introduction

- 390 million dengue infection occurs per year worldwide of which 96 million people manifest with dengue fever
- Real infection pressure is not known.
- This study was done to have idea about prevalence of past dengue infection by detecting IgG in patients presenting to hospitals.

<http://www.who.int/en/news-room/fact-sheets/detail/dengue-and-severe-dengue>

Bhatt S, Gething PW, Brady OJ, Messina JP, Farlow AW, Moyes CL et.al. The global distribution and burden of dengue. Nature;496:504-507.

Methodology

- **Cross sectional study**
- **Study site:**
 - 1. Dhaka Medical College Hospital**
 - 2. Sir Salimullar Medical College Hospital**
 - 3. Shaheed Suhrawardy Medical College Hospital**
 - 4. Mugda Medical College Hospital**
 - 5. Uttara Adhunik Medical Colloge**
 - 6. Shahabuddin Medical College Hospital**
 - 7. Enam Medical College and Hospital.**
- **ELISA for IgG was done in virology department of DMC and BSMMU.**

Result

Demographic Profile

Variable	Frequency	Percentage (%)
Age, years		
Mean±SD	34.92±15.49	
Median (min-max)	33 (1 – 90)	
Age group (in years)		
1-10	24	4
11-20	83	13.8
21-30	166	27.6
31-40	148	24.6
41-50	90	15
51-60	50	8.3
61-70	32	5.3
71-80	8	1.3
81-90	1	0.2
Total	602	100

Residence of patients (n=695)

Residence	Frequency	Percentage (%)
Urban	246	47.2
Semi-urban	180	34.5
Rural	95	18.2
Slum	2	0.1
Total	521	100

Educational qualification of participants

Education	Frequency	Percentage (%)
Illiterate	111	21.7
Literate	400	78.3
Educated	280	70
Highly Educated	120	30
Total	511	100

Monthly Income of patients

Monthly family income, BDT	Frequency	Percentage (%)
< 10000	39	20.4
10000 – 25000	84	44.0
>25000	68	35.6
Total	191	100

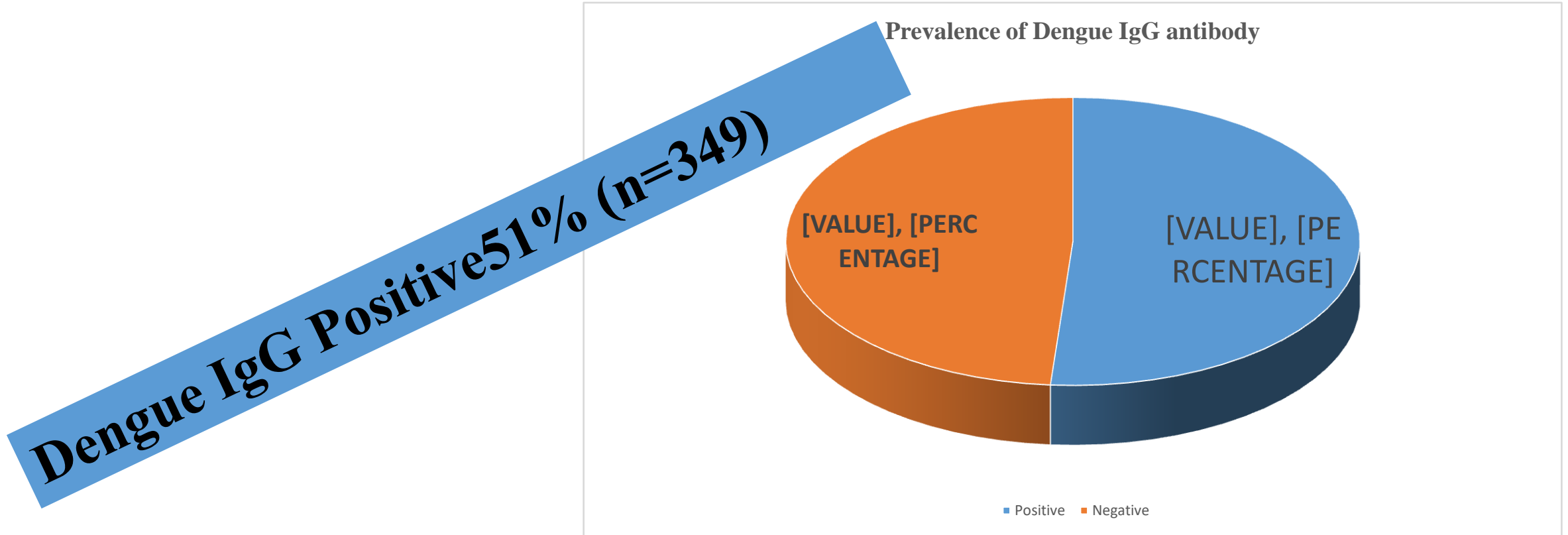
Mosquito control measures

Variable	Frequency	Percentage (%)
Use of mosquito net	500	74.1
Spraying activity for mosquito control	154	37.4
Use of insecticide or repellent		
Regular	42	20.4
Irregular	63	30.6
Never	101	49.0

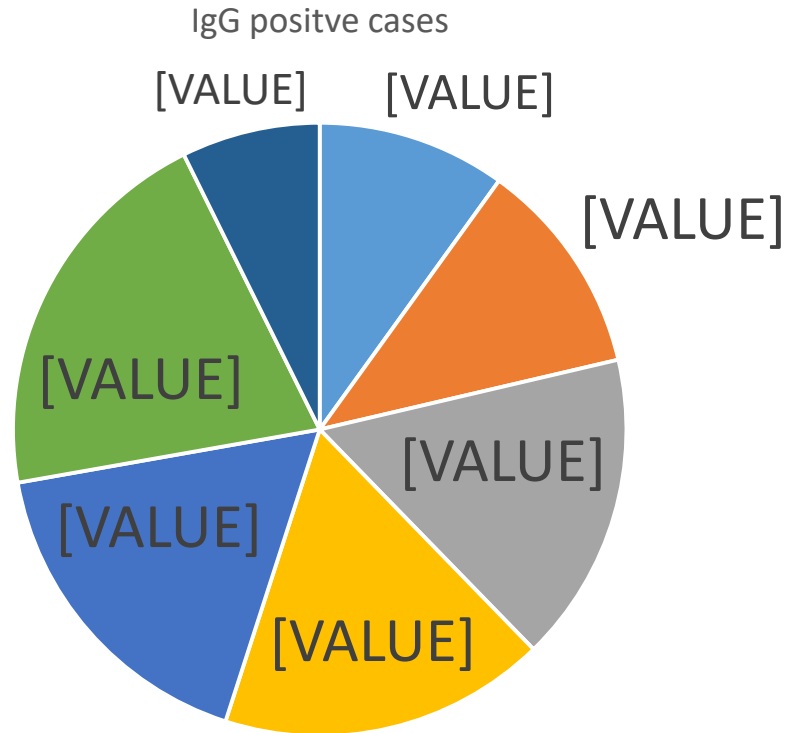
Status of living environment

Variable	Frequency	Percentage (%)
Type of house		
Kacha	20	3.8
Semipaka	145	27.4
Paka	364	68.8
Sleep practice		
Bed	567	90.6
Floor	59	9.4
Garden present	148	25.3
Stagnant water	140	34.0

Test result of Dengue IgG antibody (n=695)



IgG positivity according to Medical College



■ Enam Medical College

■ Mugda Medical College

■ Uttara Adhunik Medical College

■ Shorawardi Medical College

■ Dhaka Medical College

■ Sir Salimullah medical College

■ Shahabuddin medical College

Discussion

- Sero-prevalence is lower than expected*
- Highest sero-positivity in Shahabuddin Medical College indicate not only high transmission but also risk of severe dengue.
- Lowest in Uttara Adhunik Medical College followed by Enam Medical college indicate moderate transmission in peri-urban area.

- International Centre for Diarrhoeal Disease Research Bangladesh. Seroprevalence of dengue virus infection in Dhaka, Bangladesh, 2012. ICDDR, B Health and science bulletin 2014; 12:2–6.
 - Rahman MT, Tahmina HA, Mannan T, Sultan (2007) Sero-positivity and pattern of Dengue infection in Dhaka city. Myeminsigh Med. J; 16(2):204-8

Conclusion

- **This hospital based sero-survey may provide information of sero-prevalence among the population**
- **This study revealed high sero-prevalence of Dengue infection which may provoke further larger scale population based study**

Thank you