



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1320385>Available online at: <http://www.iajps.com>

Research Article

**A SURVEY ON AWARENESS AND KNOWLEDGE ABOUT
DENGUE FEVER AMONG COLLEGE STUDENTS****Dr. R. Vadivelan, Triveni Jasti, Gautam Adhikari, N. Punitha**Department of Pharmacology, JSS College of Pharmacy
JSS Academy of Higher Education and Research, Mysuru
(Deemed to be University)

Udhagamandalam, The Nilgiris, Tamilnadu, India.

ABSTRACT:**AIM:** This study aims to evaluate the Dengue fever Awareness and Prevention among students in JSS College of Pharmacy, Ooty, Tamilnadu, India.**METHODS:** Total sample size of 100 students was taken. A questionnaire survey was adopted in this paper. A structure questionnaire was setup to predict the knowledge of Dengue fever and use of preventive measure Chi-square test and logistic regression were used for calculating and identifying the difference in knowledge of Dengue fever and the use of preventive measures between risk groups.**RESULTS:** Among 100 students, 51% were males & 49% were females. They are classified into different categories. Depending upon age they are grouped between 15-19 years (36%), 20-25 years (58%), above 25 years (6%). Depending upon education attainments they are grouped as Masters, B.Pharm, D.Pharm, Pharm.D (each 25%). And also depends on rural area (57%) and urban area (43%).**KEYWORDS:** Dengue fever, awareness, statistical analysis***Corresponding Author:****Dr.R.vadivelan**, M.Pharm., Ph.D., FIC

Professor

Department of Pharmacology

JSS College of Pharmacy

JSS Academy of Higher Education and Research, Mysuru

(Deemed to be University)

Udhagamandalam, The Nilgiris, Tamilnadu, India.

M- 9047539532

Email: vadivelanr@jssuni.edu.in

QR code



Please cite this article in press R. Vadivelan et al., A Survey on Awareness and Knowledge about Dengue Fever among College Students, Indo Am. J. P. Sci, 2018; 05(07).

INTRODUCTION:

Dengue fever commonly known as break bone fever infectious mosquito-borne disease caused by dengue virus and occurs in tropic and sub-tropic areas of the world [1]. Dengue virus belongs to *Falvivirus* family that causes disease in human where it is a self-limiting disease that can clear up on its own within a couple of weeks. An estimated 390 million infections occurs annually of which 96 million are clinically overt.

Transmission occurs between humans & *Aedes* vector species in endemic, hyperendemic patterns. Dengue is increasing by several factors including increased urbanization, world population growth, increased international trade and travel, changes in human behaviors that increase mosquito breeding site (e.g: discarded tires & plastics containers). Vectors control has been largely unsuccessful at reducing transmission there are anti-DENV therapy to protect against infections and disease. Although there are numerous vaccine candidates in preclinical and clinical development none have been licensed for use, the best prevention for the disease now is to reduce mosquito habitat in areas where dengue fever is common.

Dengue virus (DEN) is a small single standard RNA virus compressing four distinct serotype. There are closely related serotype of dengue virus belongs to *flavivirus*, family *flaviviridae*. The mature particle of dengue virus is spherical with a diameter of 50nm containing multiple copies of three structure protein, a host derived membrane bilayer and a single copy of a positive sense, single stranded RNA genome. The genome is cleaved by host and viral protease in three structure proteins(capsid, C, the precursor of membrane, m protein and envelope,t) & seven non-structural protein (NS).

The *Aedes aegypti* mosquito lives in urban habits and breeds mostly in man-made containers, unlike other mosquitoes *Aedes aegypti* is day time feeder; its peak biting periods are early in the morning and in evening

before dark. The female *aedes aegypti* bites multiple people during each period.

No vaccine can protect against dengue fever, only avoiding mosquito bites can prevent anyone who lives in or tract to an at-risk area can use a number of ways to avoid being bitten. If you are spending time in tropical region use mosquito nets that are treated with insecticide clothing reduce the amount of skin exposed by wearing long pants, long sleeved shirt, socks and wearing a hat. Mosquito traps & nets which contain insecticides will kill mosquito & other insects. It will repel insects from entering the room. *Aedes* mosquito breeds in clean, stagnant water, removing these water can help in reducing the risk.

METHODOLOGY:

A cross sectional descriptive study was conducted. A sample of 100 students(B.Pharm, Pharm D, D.Pharm & M.Pharm) was collected from JSS College of Pharmacy Ooty. The research process was initiated in December 2017 and completed in April 2018. A close ended structured questionnaire was distributed randomly to the students. Bivariate analysis of categorical variables was done by the chi-square test. The phi-values were calculated to determine the type of association i.e., positive or negative. Through logistic regression analysis OR was also calculated for categorical variables. The dengue is taken as dichotomous dependent variable. Data was analyzed by using SPSS version 16.

RESULTS:

The results were tabulated in table:- 1. Among 100 students, 51% were males & 49% were females. They are classified into different categories. Depending upon age they are grouped between 15-19 years (36%), 20-25 years (58%), above 25 years (6%). Depending upon education attainments they are grouped as Masters, B.Pharm, D.Pharm, Pharm.D (each 25%). And also depends on rural area (57%) and urban area (43%).

Table1: Basic demographic features, Awareness regarding dengue and Preventive measures.

Variable		Frequency	Percentage
Gender	Male	51	51%
	Female	49	49%
Age	15-19	36	36%
	20-25	58	58%
	Above 25	6	6%
Education Background	Master	25	25%
	Pharm.D	25	25%
	B.Pharm	25	25%
	D.Pharm	25	25%
Residence of respondent	Rural	57	57%
	Urban	43	43%
Have you heard about dengue?	Yes	95	95%
	No	5	5%
Where do dengue vector breed?	Clean Water	46	46%
	Dirty Water	47	47%
	Hot Water	1	1%
	Don't Know	6	6%
What is vector for dengue fever?	Mosquito	98	98%
	Air droplets	0	0%
	House flies	0	0%
	All above	2	2%
Do you know about the time of biting of dengue mosquito?	Sunrise/sunset	36	36%
	Night	24	24%
	Afternoon	29	29%
	Don't know	11	11%
What are the symptoms of dengue?	High fever/headache	33	33%
	Joint pain/muscle pain	8	8%
	Rashes	2	2%
	All above	57	57%
How dengue is transmitted?	Flies	3	3%
	Mosquitos	97	97%
	Ticks	0	0%
	Fleas	0	0%
What is the most life threatening sign of dengue?	Bleeding	7	7%
	Fever	80	80%
	Shock	2	2%
	Don't Know	11	11%
What are the after effects of dengue fever?	Fever	19	19%
	Joint pain	36	36%
	Skin Rashes	13	13%
	Death	32	32%
What type of mosquito is carrier of dengue fever?	<i>Aedes</i> mosquitos	59	59%
	Flavivirus	0	0%
	<i>Anopheles</i> mosquitos	41	41%
	<i>Culex</i> mosquitos	0	0%
	High Immune System	0	0%

Why are the children most affected by dengue as compared to adults?	Low Immune System	84	84%
	Don't Know	16	16%
Do you think it is preventable?	Yes	93	93%
	No	7	7%
How many people get infected by dengue annually?	100	6	6%
	800	9	9%
	9500	11	11%
	Don't Know	74	74%
What is indoor protective measure to avoid dengue?	Keep drinking water exposed	10	10%
	Use of mosquito replants and net	90	90%
	Use of skin exposing clothes	0	0%
How can we avoid dengue?	Covering storage	24	24%
	Window screens	40	40%
	Stagnation of fresh water	29	29%
	Insecticide	7	7%
What is the source of information about dengue infection?	Internet	37	37%
	School	5	5%
	Hospitals	50	50%
	Newspaper	8	8%

CONCLUSION:

This particular research was quantitative in nature and comprised a survey from the College students regarding awareness and prevention about dengue. By the descriptive analysis we find that a total of hundred students (100) students were recruited to participate in the investigation consisting of 51 (51%) male and 49 (49%) female. Majority of the students belongs to the age group of 20 to 25 years old (n=58, 58%), and majority of respondent belongs to rural area (n=57, 57%). Vast majority of the students heard about dengue (n=95, 95%) and half of the students knew that dengue breeds in clean water while the half of students opined that dengue breeds in dirty water, and majority of students knew that vector for dengue fever is mosquito and it is more likely to feed/bite in the time of sunrise/sunset (n=36, 36%). As for symptoms, most of the students agreed that a person with dengue infections may develop typical symptoms like fever, headache, joint pains, muscle pain, and rashes. Only 7 students knew that bleeding is the most life threatening sign of dengue infections. Only (n=, 40.0%) students knew that the after effects of dengue fever is death and half of the students knew that the after effects of dengue fever are fever, joint pain and skin rashes. Significant number of students, (n=210, 57.5%) believed that *Aedes* mosquito transmits dengue infection. Majority of the

students believed that the children are more affected by dengue as compared to adults because of low immune system. Similarly, majority of the students agreed that the dengue is preventable. A large number of students didn't know that how many people infected annually by dengue. A significant number of students had knowledge about dengue prevention; greater proportion of the students cited the use of mosquito replants, as measures to reduce dengue. Majority of students reported that TV/radio was major source of information about dengue. It is concluded from this investigation that the level of awareness about dengue and preventive practices among the study population is rather high. However, students face challenges to get correct information on dengue. In other countries, public health education programs help peoples to increase knowledge and awareness of the dengue.

REFERENCES:

1. M. Cristina Cassetti, Stephen J. Thomas; Dengue Human Infection Model: Introduction, *The Journal of Infectious Diseases*, Volume 209, Issue suppl_2, 15 June 2014, Pages S37–S39.
2. Abbasi A, Abbas K, Arooj S, Dengue Fever: A Statistical Analysis Regarding Awareness about Dengue among University Students in Azad Kashmir. *J Healthc Commun*. 2016, 2:1.

3. Itrat A, Khan A, Javaid S, Kamal M, Khan H, Javed S, et al. (2008) Knowledge, Awareness and Practices Regarding Dengue Fever among the Adult Population of Dengue Hit Cosmopolitan. PLOS ONE3 (7): e2620.
4. Gupta N, Srivastava S, Jain A, Chaturvedi UC. Dengue in India. The Indian Journal of Medical Research. 2012; 136(3):373-390.
5. Warkentien T, Pavlicek R (2016) Dengue Fever: Historical Perspective and the Global Response. J Infect Dis Epidemiol 2:015. 10.23937/2474-3658/1510015
6. Pooja Chawla, Amrita Yadav, Viney Chawla; Asian Pacific Journal of Tropical Medicine, Volume7, Issue 3, March 2014, Pages 169-178.
7. Porter KR, Beckett CG, Kosasih H, Tan RI, Alisjahbana B, et al. (2005) Epidemiology of dengue and dengue hemorrhagic fever in a cohort of adults living in Bandung, West Java, Indonesia. Am J Trop Med Hyg 72: 60–66 .
8. World Health O (1997) Dengue Haemorrhagic Fever: Diagnosis, Treatment, Prevention and Control: World Health Organization.
9. Centers for Disease Control and Prevention (CDC) (2008) Dengue fever. Colorado.
10. Luqman M, Sattar T, Farid S, Warraich IA, Khan, WA (2013) Effects of dengue incidence on socio-economic status of patient's family: a comparative analysis of multan and Lahor City (Pakistan). Journal of Economics and Sustainable Development 4: 28-39.
11. Jahan F (2011) Dengue fever in Pakistan. Asia Pac Fam Med 10: 1-4.
12. Scientific Working Group (2006) Research needs related to dengue case management in the health system. Geneva.
13. World Health Organization (2008) Media Centre. Dengue and severe dengue. World Health Organization. Geneva.
14. Benthem BH, Khantikul N, Kessels PJ, SomboonP, Oskam L (2002) Knowledge and use of prevention measures related to dengue in North Thailand. Tropical Medicine of Int Health 7: 993-1000.
15. Chusongsung P (2005) Factors affecting dengue hemorrhagic fever prevention and control behaviours of household leaders and primary school teachers in Kuan Khanun District, Phatthalung Province. Master's Thesis Faculty of Graduate studies, Chulalongkorn University.
16. http://www.dmc.gov.pk/documents/GDC/TitlePage_FINAL_Pic.pdf
17. Malhotra G, Yadav A, Dudeja P (2012) Knowledge, awareness and practice regarding dengue among rural and slum communities in North Indian city, India. Int J Med Sci Public Health 3: 1-5.
18. Gunasekara TDCP, Velathanthiri VGNS, Weerasekara MM, Fernando SSN, Peelawattage M (2012) Knowledge, attitudes and practices regarding dengue fever in a suburban community in Sri Lanka. Galle Medical Journal 17: 10-17.
19. Zameer M, Shuja M, Ashraf A, Mukhtar A, Ahmad BM (2013) Knowledge, attitude and practices study of dengue viral infection and its association with environmental factors and health issues, Lahore, Pakistan. Afr J Env Sci Tech 77: 11-17.
20. Qadir S, Ahmad I, Akhtar MN, Naeem H (2015) Knowledge, attitude and practice about dengue fever among local population. Gomal Med Sci 13: 87-90.