

Assessment of Knowledge on Control and Prevention of Zika Fever Among B.Sc Nursing Students at SRM College Of Nursing

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ABSTRACT

Objective: The aim of this study was to assess the knowledge on prevention and control of Zika fever among Nursing and to associate the level of knowledge on control and prevention of Zika fever with their selected demographic variables of the Nursing students. **Methods:** Quantitative approach and non-experimental descriptive research design was used. The data collection included two parts. 180 students who met the inclusion criteria for the study were selected by using non-probability purposive sampling technique. Structured questionnaire of knowledge on control and prevention of Zika fever was derived by the investigator. The study was conducted at SRM College of Nursing among 180 B.Sc. Nursing students. **Results:** The data were analyzed and interpreted based on the objectives using descriptive and inferential statistics. The findings depicted that majority 75.0% of them are having inadequate knowledge, 24.4% of them are having moderate knowledge and 0.6% of them are having adequate knowledge on control and prevention of Zika Fever. There was no significant association found between the Knowledge level on Control and Prevention of Zika fever among B.Sc Nursing students. **Conclusion:** Zika Fever is a major global concern as no cases have been estimated in Asian countries and even in India. So, due to lack of treatment modalities, having knowledge and awareness on control and prevention about this disease can help in saving lives and also help in stopping the spread of Zika fever widely. The investigator concludes that, awareness among nursing students is very poor. Hence, education among nursing students is needed.

Keywords: knowledge, Control and prevention of zika fever, BSc Nursing students.

INTRODUCTION

Despite remarkable changes in the advancement of medical science and treatment during 21st century in controlling the infectious diseases remain the leading cause of death. One among them is the Zika fever, an infectious disease caused by the Zika virus. Most cases have no symptoms, but when present they are usually mild and can resemble dengue fever. Symptoms may include fever, red eyes, joint pain, headache, and a macula-papular rash. Symptoms generally last less than seven days. It has not caused any reported deaths during the initial infection. Mother-to-child transmission during pregnancy can cause Microcephaly and other brain malformations in some babies. Infections in adults have been linked to Guillain-Barré syndrome (GBS)¹.

Zika fever is mainly spread via the bite of mosquitoes of the Aedes type. It can also be sexually transmitted and potentially spread by blood transfusions. Infections in pregnant women can spread to the baby. Diagnosis is by testing the blood, urine, or saliva for the presence of Zika virus RNA when the person is sick. Prevention involves decreasing mosquito bites in areas where the disease occurs and proper use of condoms. Efforts to prevent bites include the use of insect repellent, covering much of the body with clothing, mosquito nets, and getting rid of standing water where mosquitoes reproduce². There is no effective vaccine. Health officials recommended that women in areas affected by the 2015–16 Zika outbreak

consider putting off pregnancy and that pregnant women not travel to these areas. While there is no specific treatment, paracetamol (acetaminophen) may help with the symptoms. Admission to hospital is rarely necessary³. The virus that causes the disease was first isolated in Africa in 1947. The first documented outbreak among people occurred in 2007 in the Federated States of Micronesia. As of January 2016, the disease was occurring in twenty regions of the Americas. It is also known to occur in Africa, Asia, and the Pacific. Due to an outbreak which started in Brazil in 2015, the World Health Organization declared it a Public Health Emergency of International Concern in 2016⁴. WHO (2016) declared that the observed increase of congenital microcephaly and other neurological disorders associated with the Zika outbreak constituted a public health emergency of both national and international concern. The threat posed by Zika virus infection highlights the need to reinforce preparedness for mosquito-borne diseases in western as well as Asian countries, especially for pathogens transmitted by Aedes aegypti and Aedes albopictus, which are vectors of Zika virus and other arboviruses, for example dengue, chikungunya and yellow fever⁵.

Prevention involves decreasing mosquito bites in areas where the disease occurs and proper use of condoms. Efforts to prevent bites include the use of insect repellent, covering much of the body with clothing, mosquito nets,

Table 1: Frequency and percentage distribution of demographic data of bsc nursing students.

Demographic variable		N = 180	
		Frequency(n)	Percent age(%)
Age	18-19 Years	100	55.6
	20-21 Years	70	38.9
	21 and above	10	5.6
Gender	Male	12	6.7
	Female	168	93.3
Year of Study	B.Sc. (N) 1 st Year	44	24.4
	B.Sc. (N) 2 nd Year	47	26.1
	B.Sc. (N) 3 rd Year	43	23.9
	B.Sc. (N) 4 th Year	46	25.6
Religion	Hindu	143	79.4
	Christian	27	15.0
	Muslim	6	3.3
	Others	4	2.2
Father education	No formal Education	21	11.7
	Primary	27	15.0
	Middle	38	21.1
	Higher Secondary	45	25.0
	Intermediate	6	3.3
	Under-Graduate	31	17.2
	Post-Graduate	12	6.7
Family Income	Rs.1590 - Rs.4726	57	31.7
	Rs.4727 - Rs.7877	41	22.8
	Rs.7878 - Rs.11876	29	16.1
	Rs.11877 - Rs.15753	28	15.6
	Above Rs.15754	25	13.9
Residential status	Rural	61	33.9
	Semi-Urban	40	22.2
	Urban	79	43.9
Lodging	With Parents	70	38.9
	With Guardian	12	6.7
	Institutionalized/Hostel	98	54.4

and getting rid of standing water where mosquitoes reproduce. There is no effective vaccine. Health officials recommended that women in areas affected by the 2015–16 Zika outbreak consider putting off pregnancy and that pregnant women not travel to these areas. While there is no specific treatment, paracetamol (acetaminophen) may help with the symptoms. Admission to hospital is rarely necessary⁶.

The virus that causes the disease was first isolated in Africa in 1947. The first documented outbreak among people occurred in 2007 in the Federated States of Micronesia. As of January 2016, the disease was occurring in twenty regions of the Americas. It is also known to occur in Africa, Asia, and the Pacific. Due to an outbreak which started in Brazil in 2015, the World Health Organization declared it a Public Health Emergency of International Concern in February 2016⁷. In some developed countries such as Brazil, Puerto Rico, United States, etc, the incidence of Zika Virus infections is increasing at a faster rate among pregnant women and new born than among men. Following the initial Zika outbreak in North eastern Brazil, physicians observed a very large surge of reports of infants born with microcephaly, with 20

times the number of expected cases. Many of these cases have since been confirmed, leading WHO officials to project that approximately 2,500 infants will be found to have born in Brazil with Zika-related microcephaly. On 10 March 2016, a research group from the Faculty of Medicine, University of Ljubljana (Slovenia), led by young researcher Jernej Mlakar, published an article in The New England Journal of Medicine, connecting the Zika virus to microcephaly⁸.

Proving that Zika causes these effects is difficult and complex for several reasons. For example, the effects on an infant might not be seen until months after the mother's initial infection, long after the time when Zika is easily detected in the body. In addition, research is also needed to determine the mechanism by which Zika produces these effects. Since the initial outbreak, studies that use several different methods found evidence of a link, leading public health officials to conclude that it appears increasingly likely the virus is linked to microcephaly and miscarriage. On 1 February 2016, the World Health Organization declared recently reported clusters of microcephaly and other neurological disorders a Public Health Emergency of International Concern (PHEIC). On 8 March 2016, the WHO Committee reconfirmed that the association between Zika and neurological disorders is of global concern⁹.

Camila Zanluca, et al (2015), conducted on “First report of autochthonous transmission of Zika virus in Brazil” several cases of patients presenting symptoms of mild fever, rash, conjunctivitis and arthralgia were reported in the northeastern Brazil. Seven of the eight patients with confirmed ZIKV disease were female, the median age was 39 years (range, 18–65), all of them lived in Natal and had relatives with the same symptoms. The most commonly reported symptoms were maculopapular rash (100%) and pain¹⁰. Maria de Fatima Vasco Aragao, et al (2016) conducted a retrospective case series study on “Clinical features and neuroimaging (CT and MRI) findings in presumed Zika virus related congenital infection and microcephaly” among 23 children with a diagnosis of congenital infection presumably associated with the Zika virus during the Brazilian microcephaly epidemic. The results showed severe cerebral damage was found on imaging in most of the children in this case series with congenital infection presumably associated with the Zika virus¹¹.

The investigator has observed that the challenges India might face to overcome this pandemic are enormous. Hence the researcher recognized that nurses can be instrumental in controlling Zika Viral infections among pregnant women, women at reproductive age and the public, through awareness program. Thus, the researcher was motivated to conduct this study to assess the knowledge among the health team members, especially the nursing students at SRM college of Nursing, Kattankulathur, to find out about the awareness on control and prevention of Zika Fever.

METHODS

Table 2: Assessment of knowledge level on control and prevention of zika fever.

N=180			
S. No.	Knowledge level on Control and Prevention of Zika fever	No. of Students	Percentage
1	Inadequate	135	75.0%
2	Moderate	44	24.4%
3	Adequate	1	0.6%

Quantitative approach and non-experimental descriptive research design was used. A total of 180 B.Sc. Nursing students who fulfilled the inclusion criteria were chosen as samples by using non-probability purposive sampling technique. The study was conducted at SRM College of Nursing. The data collection included two parts. Part A: Demographic variables, Part B: Structured Questionnaire to assess the knowledge level on control and prevention of Zika fever. The Study variable was to assess the knowledge level and the Demographic variables were Age, Sex, Year of study, Religion, Education of Father, Family Income, Residential Status and Lodging.

Criteria for sample selection

The investigator adopted following selection criteria to select the Samples. The Inclusion Criteria were students who are studying B.Sc. Nursing willing to participate in the study and who can speak and understand Tamil or English. Students who are pursuing other Nursing degrees such as DGNM, P.B.B.Sc(N), M.Sc(N), Ph.D(N) and who were not available during the time of data collection were excluded from the study.

Ethical consideration

Formal approval was obtained from the Institutional Review Board and Institutional Ethical Committee of SRM University, Kattankulathur, Chennai, Tamil Nadu, India. In addition, the participants were informed of their right to withdraw anytime during the study.

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Instruments

The Demographic and structured questionnaire was developed by the investigator based on the review of literature discussion with experts and investigators personal experience.

Method of Data Collection

The formal permission was obtained from the Dean, SRM College of Nursing. The investigator explained the objectives and method of data collection to the clients and it was carried out within the given period of 1 week. Verbal concern was obtained from the Nursing students to carry out the main study.

The samples was chosen through non probability purposive sampling technique. A total number of 180 students who met the inclusion criteria were selected. The

investigator explained the purpose of conducting the study and reassured the students that the collection will be kept confidential

On selection of the subject, a self introduction was given. Consent was obtained and confidentiality of the response was assured. The investigator assessed the knowledge level on control and prevention of Zika fever. On average it took 15 minutes for an individual to Complete the assessment.

Statistical analysis

Statistical analysis was done using Statistical Package for Social Sciences-16. Mean, percentage, and standard deviation were used to explain the demographic variables Chi-square test was used to associate the demographic variables with knowledge level on control and prevention of Zika fever.

RESULTS

In the current study, 180 samples were assessed. Regarding age in demographic variables, among 180 samples, (100) 55.6% are in the age group of 18-19 years, (70) 38.9% are in the age group of 20-21 years and (10) 5.6% are in the age group of 21 and above. Among sex, (12) 6.7% are males and (168) 93.3% are females. Considering the year of study, samples (44) 24.4% are studying in B.Sc. Nursing 1st year, (47) 26.1% are studying in B.Sc. Nursing 2nd year, (43) 23.9% are studying in B.Sc. Nursing 3rd year and (46) 25.6% are studying in B.Sc. Nursing 4th year. Regarding religion, (143)79.4% belongs to Hindu religion, (27) 15.0% belongs to Christian religion, (6) 3.3% belongs to Muslim religion and (4) 2.2% belongs to others category. Considering the father's education, (21) 11.7% of the fathers has no formal education, (27) 15.0% of the fathers are primary educated, (38) 21.1% of the fathers has attained middle school education, (45)25.0% education level of their fathers is higher secondary, (6) 3.3% of the fathers have intermediate education, (31)17.2% of the fathers are under graduate and (12) 6.7% of the fathers are post graduate. Regarding family income, majority of them belongs to low socioeconomic group. (61) 33.9% are from Rural, (40) 22.2% is from Semi-Urban and (79) 43.9% from Urban. Regarding lodging, (70) 38.9% is with parents, (12) 6.7% is staying with guardian and (98) 54.4% is Institutionalized/Hostel.

The table 2 reveals that 135(75.0%) of nursing students are having inadequate knowledge, 44(24.4%) of them are having moderate knowledge and 1(0.6%) of them are having adequate knowledge

Table 3 reveals that there is no significant association found between the demographic variables and Knowledge level of students on Control and Prevention of Zika fever.

DISCUSSION

Zika Fever is an upcoming global concern as it has not affected India and other Asian countries. There is lack of knowledge and health education to the people and also health professionals about this disease condition. Improving the knowledge and awareness among people and health professionals is a vital component in prevention

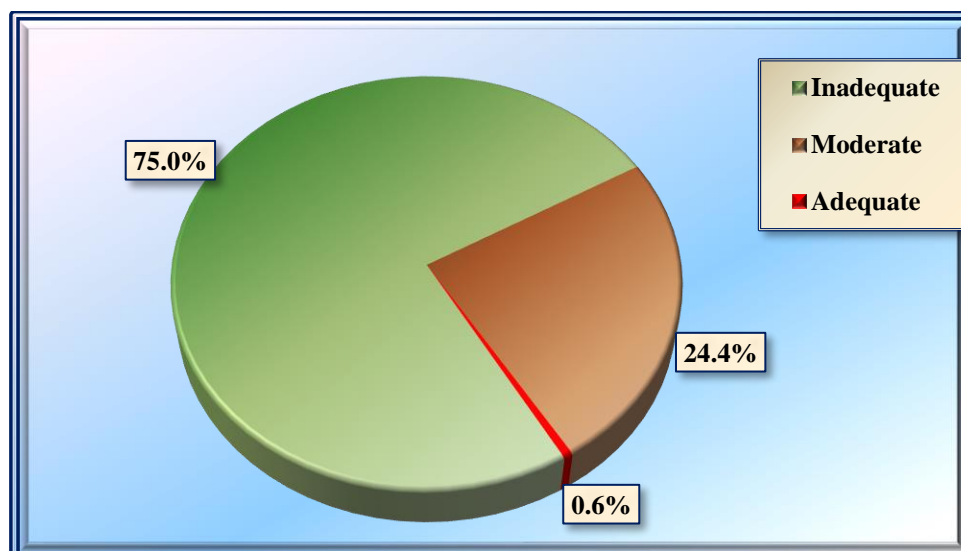


Figure 1: Shows the Percentage distribution of Knowledge level of students on Control and Prevention of Zika fever..

and control of Zika Fever. Recent trends in nursing shows that nurses play a vital role in propagation of facts regarding health. The nurse working at hospital setup or community setup is exposed to a wide range of people seeking treatments for various ailments. Nurses are in the best position to control and prevent Zika Fever among public by detecting any signs and symptoms to prevent health hazards. Health education can also be provided as door-to-door service in community sectors, at primary health centre and also in hospital sectors, so as to be prepared priorly. It is the duty of every nurse to help propagate the health message and knowledge about control and prevention of Zika fever

The primary aim of this study was to assess the Knowledge of BSc Nursing students on Control and Prevention of Zika fever. The study findings was that 135(75.0%) of nursing students are having inadequate knowledge, 44(24.4%) of them are having moderate knowledge and 1(0.6%) of them are having adequate knowledge. Many research studies were conducted and consistent with the study findings, such as Andrew D. Haddow, et al, 2012 reported that the strain responsible for the Yap epidemic and the Cambodian case most likely originated in Southeast Asia¹², and Petersen E, et al, 2016 on "Rapid Spread of Zika Virus in The Americas--Implications for Public Health Preparedness for Mass Gatherings at the 2016 Brazil Olympic Games". They reviewed the epidemiology and clinical features of the current ZIKV outbreak in Brazil, highlight knowledge gaps, and review the public health implications of the current ZIKV outbreak in the Americas¹³.

Disease spreads and multiples it darkens. Awareness and knowledge is the light which dispels the darkness and saves marked from morbidity and mortality. Nurse educators have to stress at importance of health education systems. Nurse as educator can change the situation. The nursing personnel working in various health settings should be given in-service education to update their

knowledge and abilities in identifying Zika fever and carry out teaching its control and prevention among public.

This study can be used as a baseline for further studies to build upon extensive approach must be conducted to identify the effectiveness of health education and modes of health education which can teach and influence masses to adopt the necessary changes as it is essential to identify the knowledge level on Zika fever among nursing students to gauge the extent of control and prevention that will be helpful priorly for further researches.

CONCLUSION

Zika Fever is a major global concern as no cases have been estimated in Asian countries and even in India. So, due to lack of treatment modalities, having knowledge and awareness on control and prevention about this disease can help in saving lives and also help in stopping the spread of Zika fever widely. Adequate knowledge regarding Zika fever is needed among B.Sc. Nursing students. The investigator concludes that, awareness among nursing students is very poor. Hence, education among nursing students is needed.

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