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A study to assess the knowledge regarding zika virus among adults in selected coastal areas at Pallithottam, Kollam

Abstract

Introduction: Zika virus is transmitted primarily by Aedes mosquitoes, which bite mostly during the day. In February 2016, WHO declared Zika-related microcephaly a Public Health Emergency of International Concern (PHEIC), and the causal link between the Zika virus and congenital malformations was confirmed. On 8th July 2021, a Zika virus (ZIKV) infection was laboratory-confirmed in a resident of Kerala state, south-west India. This represents the first Zika virus disease case ever reported from Kerala. ZIKV viral RNA was detected through RT-PCR testing at the National Institute of Virology (NIV) Pune, in a blood sample collected from the patient, a 24-year-old pregnant woman in her third trimester of pregnancy resident in Trivandrum district1 .The present study was entitled "A study to assess the knowledge regarding Zika virus among adults in selected coastal areas of Pallithottam, Kollam".

Objectives: The objectives of the study were to assess the knowledge regarding Zika virus among adults, to find the association between knowledge regarding Zika virus among adults and selected socio-demographic variables and to develop and distribute an information booklet on knowledge regarding Zika virus.

Materials and methods : A quantitative research approach with non-experimental descriptive research design was used in this study. The sample comprised 100 adults residing in selected coastal areas of Pallithottam, Kollam. The study sample was selected bya purposive sampling technique. The tool used for data collection was a self-administered knowledge questionnaire for assessing the knowledge regarding Zika virus and demographic Proforma. The collected data were analysed by using descriptive and inferential statistics.

Results: The results of the study showed that out of 100 samples, 75% had poor knowledge,25% had average knowledge and no one had good knowledge regarding Zika virus. The study also found that therewas significant association between knowledge regarding the Zika virus and demographic variables likeage and educational status. There was no significant association of knowledge with gender, type of family,religion,marital stats, occupation,economic status and previous knowledge regarding Zika virus.

Conclusion: Based on the findings, the researchers have developed and distributed an information booklet on knowledge regarding Zika virus among selectedadults.

Keywords: Knowledge, Zika virus, information booklet, adults.

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Introduction

The bite of an infected Aedes mosquito is the main way that the Zika virus is spread. When these mosquitoes bite someone who has the virus, they contact the infection themselves. Microcephaly is one of the many birth abnormalities that could result from pregnant women passing the virus to their foetus during pregnancy or around the time of delivery. An infected person can sexually spread the Zika virus to their partners. Semen and other bodily fluids have been confirmed to contain the virus. Although it is less frequent, incidents of Zika virus transmission through blood transfusions have occurred. Rare instances of infections acquired in laboratories have been reported. Zika virus transmission islikely to occur in organ transplant patients. The spread of the virus is also influenced by environmental variables, including warm climate, stagnant water where mosquitoes thrive, and increased movement to and from places where Zika transmission is active2.

With 89 nations having verified Zika virus circulation as of 2023, the infection's global incidence and prevalence remain high. The biggest occurrence is reported in the United States particularly in Brazil, Colombia, and Venezuela; in early 2024, 867 cases were confirmed in Brazil alone. Outbreaks are also occurring in Asia and the Pacific Islands, especially in French Polynesia and Thailand. Though the numbers may be underreported because of inadequate surveillance, Africa reports a number of cases. Travellers returning from endemic areas are the primary source of imported infections in Europe. The occurrence and frequency of Zika virus in India have been comparatively lower when contrasted with areas like South and Central America.State wise Cases and Deaths reported in Zika Outbreaks during 2017-2023 under

Integrated Disease Surveillance Project (IDSP) in Kerala was 973.

RESEARCH METHODOLOGY

Research Approach: In this study, quantitative research approach was used to assess the knowledge regarding Zika virus among the adults in selected coastal areas at Pallithottam, Kollam.

Research Design: The research design adopted for this study was a non-experimental descriptive research design.

Research Variables: The demographic variables under this study were age,gender , type of family, religion, marital status, education status, occupation ,economic status and previous knowledge regarding Zika Virus.

The study settings: The study was conducted in Velicham Nagar at Pallithottam, Kollam

Population: The population for the present study included the adults in selected coastal areas at Pallithottam, Kollam.

Sample and sampling technique

Sample: In this study, the sample consisted of 100 adults belonging to the age group of 18- 60 years at Century Nagar Pallithottam , Kollam.

Sampling technique:Purposive sampling technique was used for the study.

Criteria for selection of sample

Inclusion criteria

- ✶ Adults including men and women who are in the age group of 18-60 years residing at Century Nagar, Pallithottam , Kollam.
- ✶ Adult who are available at the time of data collection.

Exclusion Criteria

- ✶ Adult who are not willing to participate in the study
- ✶ Adults who are critically ill.
- ✶ Health workers who are at the age group of 18-60 years at Century Nagar, Pallithottam, Kollam

Tools/instruments

The tool consisted of two sections:

Section A: Socio-Demographic Proforma

It includes age, gender, type of family, religion, marital status, educational status, occupation, economic status, previous knowledge regarding Zika virus.

Section B : Self-administered knowledge questionnaire

Self-administered knowledge questionnaire to assess the knowledge regarding Zika virus among adults. There were 20 multiple choice questions in the questionnaire, each carries one mark for the right answer and zero mark for each wrong answer. The total score was 20.

The score was interpreted in the following manner:

Level of knowledge	Score
Poor	0-7
Average	8-13
Good	14-20

Content validity

Validity of content was established by submitting the tool to five experts in nursing professions.

Reliability

Reliability of the tool was done by test-retest method. The reliability score obtained was 0.75 indicating that the tool is reliable.

Data collection process

The data collection was conducted from 10/07/24 to 13/07/24. The main study was conducted in Century Nagar of Pallithottam community area, Kollam after obtaining permission from Institutional Ethics Committee and Bishop Benziger Community Health Center, Pallithottam,Kollam. Total 100 samples were taken by purposive sampling technique.The purpose of the study was explained and written informed consent was obtained from them. The tools for data collection were demographic proforma including age, gender, type of family, religion, marital status, educational status, occupation, economic status and previous knowledge regarding Zika virus. The knowledge regarding Zika virus was assessed by using self-administered knowledge questionnaire and after the completion of data collection,the researchers distributed an information booklet on Zika virus to selected samples in the community.

Section A

Description of samples according to their demographic variables

(N=100)

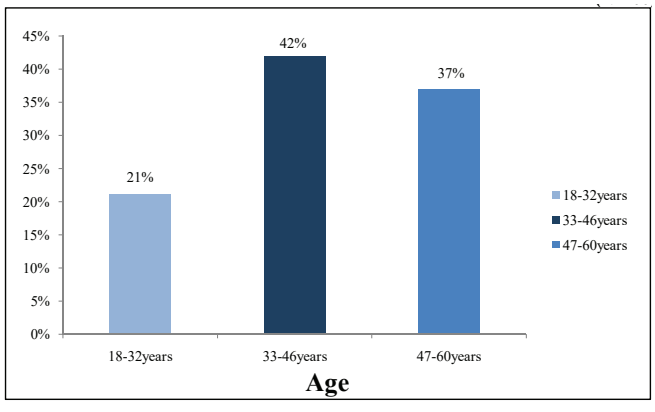

Figure 1: Percentage wise distribution of sample according to age

The data presented in figure 1 shows that out of 100 samples, 21%were in the age group of 18-32 years and 42% were in the age group of 33-46 years and 37% were in the age group of 47-60 years.

(N=100)

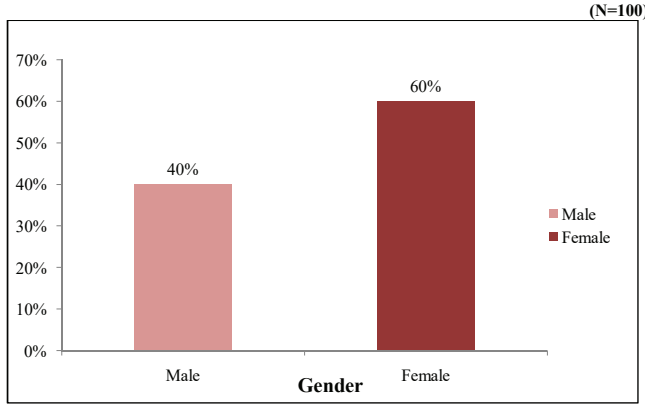

Figure 2: Percentage wise distribution of samples according to gender

The data presented in figure 2 shows that out of 100 samples, 40% were males and 60% were females.

(N=100)

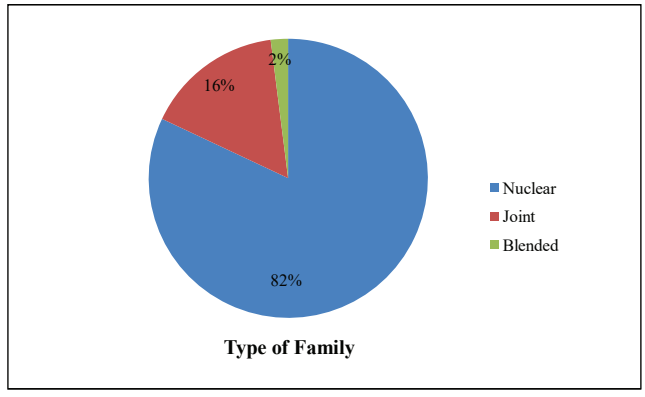

Figure 3: Percentage wise distribution of samples according to type of family

The data presented in figure 3 shows that out of 100 samples, majority (82%) belonged to nuclear family,16% belonged to joint family and 2% belonged to blended family.

(N=100)

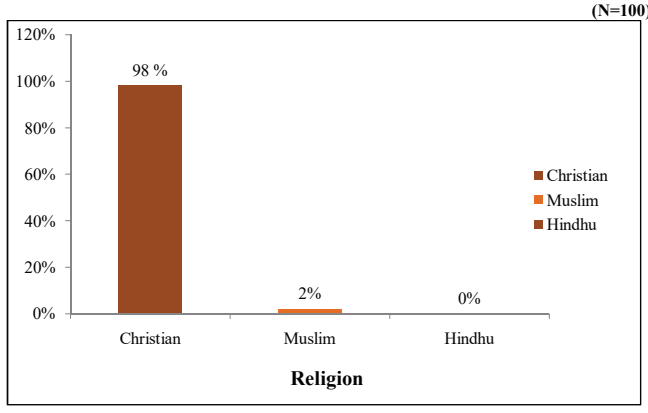

Figure 4: Percentage wise distribution of samples according to religion

The data presented in figure 4 shows that out of 100 samples, majority (98%) belonged to Christian, 2% belonged to Muslim and none of them belonged to Hindu.

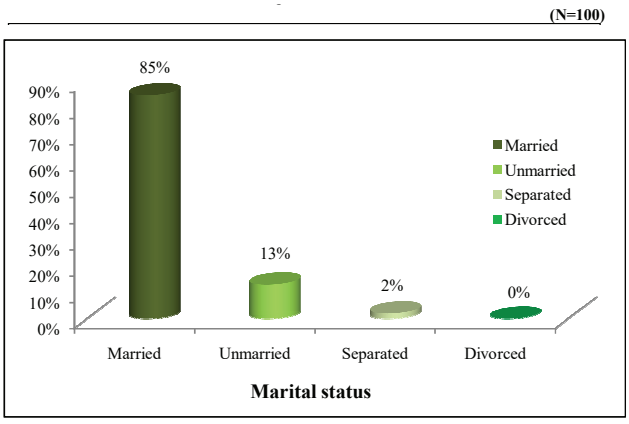

Figure 5: Percentage wise distribution of samples according to marital status

The data presented in figure 5 shows that out of 100 samples, majority (85%) were married, 13% were unmarried, 2% were separated and none of them were divorced.

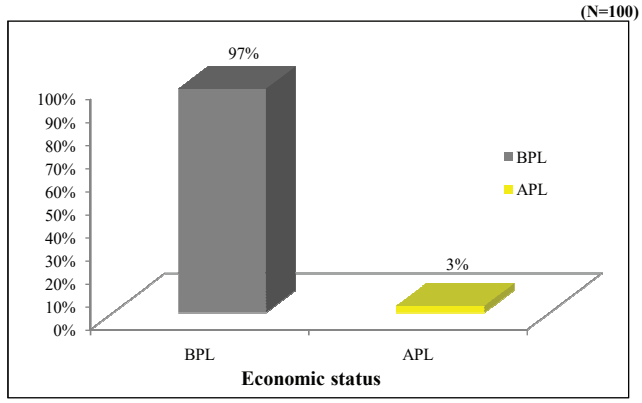

Figure 8: Percentage wise distribution of samples according to Economic status

The data presented in figure 8 shows that out of 100 samples, majority (97%) belongs to BPL and 3% belongs to APL.

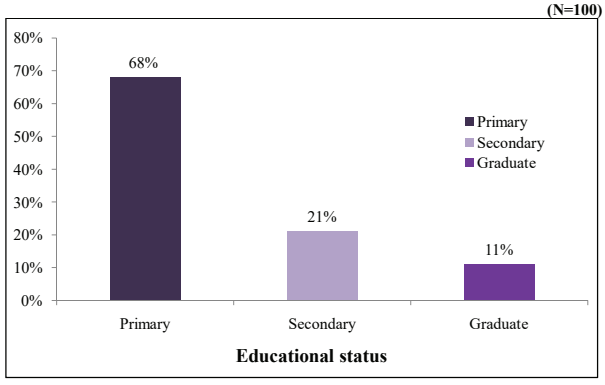

Figure 6: Percentage wise distribution of samples according to Educational status

The data presented in figure 6 shows that out of 100 samples, majority (68%) having primary level of education,21% having secondary level of education and 11% were graduated.

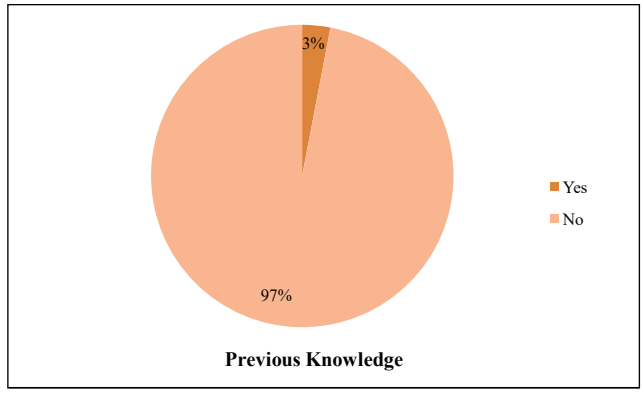

Figure 9: Percentage wise distribution of samples according to Previous knowledge

The data presented in figure 9 shows that out of 100 samples, majority (97%) had no previous knowledge regarding Zika virus and 3% had previous knowledge regarding Zika virus via social media.

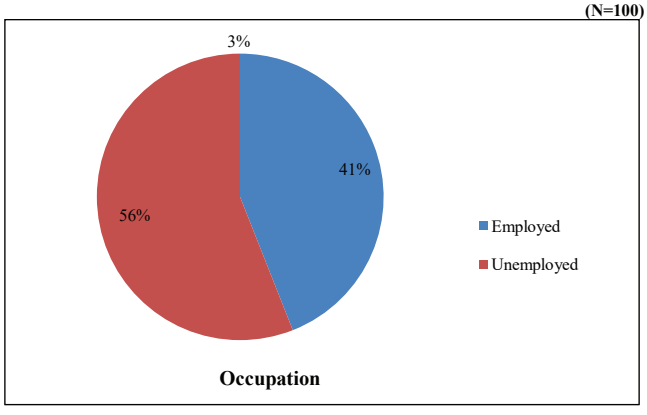

Figure 7: Percentage wise distribution of samples according to Occupation

The data presented in figure 7 shows that out of 100 samples 44% were employed, 56% were unemployed.

Section B

Assess the knowledge regarding Zika virus among adults in selected coastal areas of Pallithottam, Kollam.

Table 1: Frequency and percentage distribution of sample based on their knowledge regarding Zika virus.

Level of Knowledge	Score key	Frequency	Percentage (%)
Poor	0 – 7	75	75%
Moderate	8 – 13	25	25%
Good	14 – 20	0	0%

Table 1 shows that out of 100 sample, 75% had poor knowledge, 25% had moderate knowledge and none of them had good knowledge regarding Zika virus.

Section C

Find out the association between knowledge score regarding Zika virus among adults and selected socio-demographic variables.

Table 2: Association between knowledge regarding Zika virus among adults and selected demographic variables.

Sl No	Selected Demographic Variables	Knowledge			Degree of freedom	Chi Square	Table Value	Level of Significance
		Poor	moderate	Good				
1.	**AGE (IN YEARS)**							
	18-32 Years	11	10	0	4	14.07	2.132	S
	33-46 years	29	13	0				
	47-60 years	35	2	0				
2.	**Gender**							
	Male	29	11	0	2	0.22	2.920	NS
	Female	46	14	0				
3.	**Type of family**							
	Nuclear	61	21	0	4	0.674	2.132	NS
	Joint	12	4	0				
	Blended	2	0	0				
4.	**Religion**							
	Christian	74	24	0	4	0.673	2.132	NS
	Hindu	0	0	0				
	Muslim	1	1	0				
5.	**Marital Status**							
	Married	64	21	0	6	0.899	1.943	NS
	Unmarried	9	4	0				
	Separated	2	0	0				
	Divorced	0	0	0				
6.	**Educational status**							
	Primary	55	13	0	4	3.917	2.132	S
	Secondary	14	7	0				
	Graduate	6	5	0				
7.	**Occupation**							
	Employed	33	11	0	2	1.02	2.920	NS
	Unemployed	42	14	0				
8.	**Economic status**							
	APL	3	0	0	2	1.02	2.920	NS
	BPL	72	25	0				
9.	**Previous knowledge**							
	Yes	1	2	0	2	1.02	2.920	NS
	No	74	23	0				

Table 2: The association was computed by using chi square test. It was inferred that the present study showed significant association between knowledge score regarding Zika virus and demographic variables like age and educational status.There was no significant association between knowledge regarding Zika virus and demographic variables such as gender, type of family, religion, marital status, occupation, economic status and previous knowledge regarding Zika virusat 0.05 level of significance.

Ethical consideration

Ethical Clearance and approval was obtained from the Institutional Ethics Committee of Bishop Benziger College of Nursing, Kollam and Bishop Benziger Community Health Centre,Pallithottam,Kollam. Informed consent was obtained from the participants. The respondents were assured the anonymity and confidentiality of the information provided by them. The privacy of the research participants was maintained. The participants were given the right to withdraw from the research study at any time.

Discussion

The purpose of the study was to assess the knowledge of adults regarding Zika virus among adults in selected coastal areas at Pallithottam,Kollam. In order to achieve the objectives of the study, non-experimental descriptive research design was adopted. The subjects were selected by purposive sampling technique. The sample consisted of 100 adults of selected coastal areas, Pallithottam. The findings of the study have been discussed in relation to the objectives and other similar studies.

Discussion of findings with other studies based on objectives:

✶ **To assess the knowledge regarding Zika virus among adults.**

The present study revealed that out of 100 sample, 75% had poor knowledge, 25% had average knowledge and none of them had good knowledge regarding Zika Virus. The above findings are supported by a study which was conducted in Malaysia to assess knowledge and risk perception regarding zika virus among forest fringe population. A sample of 433 adults among forest population in Malaysia were selected for the study. The study revealed that majority of the forest fringe population in Malaysia have poor knowledge and risk perception towards the Zika virus4.

✶ **To find the association between knowledge regarding Zika virus among adults and selected socio-demographic variables.**

The association was found by using Chi-square test. The present study showed no significant association between knowledge regarding Zika Virus and demographic variables such as gender, type of family, religion, marital status, occupation, economic status and previous knowledge regarding Zika Virus (calculated value is greater than table value at 0.05 significance) and significant association was found between knowledge regarding Zika virus and demographic variables like age and educational status. The above findings are supported by a study which was conducted among healthcare workers to assess the association between healthcare workers' characteristics and knowledge, attitudes and practices regarding Zika Virus. A sample of 190 healthcare workers were participated in this study. The study showed that there was significant association between healthcare worker's characteristics and knowledge, attitudes and practices regarding Zika Virus5.

Conclusion

The present study was conducted to assess the knowledge regarding Zika virus among adults at selected coastal areas, Pallithottam, Kollam.Based on the study findings the researchers developed and distributed an information booklet containing the information such as aedes mosquitoes breed in small collections of water around homes, schools and work sites. It is important to eliminate these mosquito breeding sites, including covering water storage containers, removing stagnant water in flowerpots, and cleaning up trash and used tires. Community initiatives are essential to support local government and public health programs to reduce mosquito breeding sites. Health authorities may also advise the community to use larvicides and insecticides to reduce mosquito populations and disease spread.

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