



RESEARCH ARTICLE

ASSESS THE KNOWLEDGE AND ATTITUDE ON PREVENTION OF DENGUE AMONG THE PATIENTS' ATTENDANTS

Kumari M.J.¹, Abinaya P.², Agila M.², Al Shajiya M.Y.², Amisha P.², Amitkumar², Anubhav Masih², Archana G.², Adhilakshmi P.², Akalya K.² and Bavithra S.²

1. Professor Cum Principal (Ag), College of Nursing, JIPMER, Puducherry-605 006.
2. College of Nursing, JIPMER, Puducherry-605 006.

Manuscript Info

Manuscript History

Received: 25 October 2022

Final Accepted: 28 November 2022

Published: December 2022

Key words:-

Dengue, Dengue Fever, Preventive Measures, Knowledge, Attitude And Aedes aegypti

Abstract

Objectives: Dengue infection is increasingly recognized as one of the world's emerging infection disease. Lack of knowledge and unfavourable attitude regarding preventive measure of dengue among public is leading to outbreak of dengue in many parts of India. The aim of the study was to assess the level of knowledge and attitude on prevention of dengue among the patients' attendants in Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry.

Settings and Design: Descriptive cross-sectional study design. The study setting was Medical Record Department, JIPMER where patients came for the registration for the purpose of seeking treatment.

Methods: The sample size was 176. The sampling technique used for the study was consecutive sampling who were satisfied with inclusion technique. The data collected with the help of questionnaire by face to face interview method.

Statistical analysis used: All the categorical data were presented on frequencies, percentages, mean standard deviation, chi-square and correlation coefficient used to find the correlation of knowledge and attitude on dengue fever.

Results: The study finding reported that 117(66.5%) of the participants had moderately adequate knowledge and 93 (52.8) moderately favorable attitude on prevention of dengue fever, at the same time adequate knowledge and most favorable attitude was not satisfactory level.

Conclusions: It shows that public needs more educational intervention to improve their health practice against dengue by the health care provider.

Copy Right, IJAR, 2022,. All rights reserved.

Introduction:-

Dengue is an arboviral disease which is transmitted by female mosquitoes mainly of the species *Aedes aegypti* is endemic in Asian sub-continent¹. Dengue infection is increasingly recognized as one of the world's emerging infection disease². Dengue infection emerged as a notable public health problem in recent decades. In terms of the mortality and morbidity associated with it³. According to WHO, global burden in recent estimate indicates 390

Corresponding Author:- Kumari M.J

Address:- Professor cum Principal (Ag), College of Nursing, JIPMER, Puducherry-605 006.

million dengue infections per year of which 96 million manifests clinically and prevalence shows an estimate of 3.9 billion people in 128 countries are at risk of dengue infection⁴. In India, it shows a dramatic upsurge of dengue infection in recent years due to urbanization lifestyle changes improper water storage practice leading to proliferation of mosquito breeding site. During 2016 in India, about 1,29,166 cases were reported with 245 deaths⁵.

Puducherry is emerging as an endemic region in Southern part of India. Considering the magnitude of problem, the present study is undertaken with the aim of assessing knowledge and attitude regarding prevention of dengue infection. As there is need for health information along with massive awareness campaign to combat health problem related to this disease⁶. To improve the environment at home and in the community to render it unfit for the breeding of Aedes mosquitoes⁷. This will include education, information and communication activities aimed at raising the awareness of the people to be conscious about the danger of dengue and to prevent themselves from possible exposure to the disease. The plan will also emphasize the creation of a public norm of controlling the environment and destroying the breeding sites of Aedes mosquitoes⁸.

Lack of knowledge and unfavourable attitude regarding preventive measure of dengue among public is leading to outbreak of dengue in many parts of India and other developing countries and ultimately this factor leads to increased mortality and global burden due to dengue. As in Puducherry, 490 cases were reported with 2 death and provisionally till August 2017, 582 cases were reported (Ministry of Health & Family Welfare 2017)⁵. So, the aim of the study was to assess the level of knowledge and attitude on prevention of dengue among the patients' attendants in JIPMER, Puducherry and educate public through health education regarding prevention of dengue fever as it will increase the knowledge and develop a positive attitude towards prevention of dengue.

Material and Methods:-

A Quantitative survey approach was used for this study. The research design chosen for this study was descriptive cross-sectional study. The sample size for this study is 176. The sampling technique used for the study was consecutive sampling who were satisfied with inclusion technique. Tool used for the study was part i-demographic variables like age, gender, educational status, occupation, type of family, income of the family. It was utilized by the investigator to gather information about the profile of the patient; part-ii. Questionnaires related to knowledge on dengue and its preventive measures, part-iii. Five-point Likert's scale related to attitude on dengue and its preventive measures. There was no score for demographic variables, part-I for knowledge related question correct response carried one score, attitude was for positive statement strongly agree noted 5 score, agree mentioned 4 score, uncertain state 3 score, disagree noted 2 score and strong disagree mentioned 1 score, the reverse score was given for negative statement. Scoring was given based on participants response, the total score was converted to percentage less than 50% mentioned as inadequate knowledge and unfavourable attitude, 50 to 75 noted as moderately adequate knowledge and moderately favourable attitude and more than 75% stated as adequate knowledge and most favourable attitude on dengue. The tool was prepared by the investigators. The tool was validated by nursing and medical experts, reliability was checked by test retest method, value found to be 0.82. Confidentiality was maintained throughout the study. The data collected with the help of questionnaire by face to face interview method. After completed data collection, the health education on prevention of dengue was provided to all participants by using flashcards. All data were computerized, and the databases were prepared in Microsoft excel to analyse the data by using descriptive and inferential statistics. The data were analysed with help of SSP version 21 software. All the categorical data were presented on frequencies, percentages, mean standard deviation, chi-square and correlation coefficient used to find the correlation of knowledge and attitude on dengue fever.

Results:-

Among the 176 participants, 86(48.9%) were males and 90(51.1%) were female, 57 (32.4%) participants belong to the age group of 21-30 years, 50 (28.4%) participants belong to the age group of 31-40 years and 58(33.0%) participants belong to the age group of 41 and above. A sum of 60 (34.1%) participants were come under full time job, remaining were did part time job, 125(71.0%) were married, 80(45.5%) participants have completed their primary school, 32(18.2%) participants have completed their secondary school and 64(36.4%) have done their under graduation. The participants monthly income ranges from 2000-4000 were 70(39.8%), 4000 -6000 were 36 (20.5%), 6000-10000 were 57(32.4%). Totally, 102(58.0%) were living in pukka house, 55(31.3%) were living in semi pukka house and 19(10.8%) were living in kutcha house. 67(38.1%) were using the open drainage system, 109(61.9%) were using the closed drainage system. Out of 176 participants, 9(5.1%) were using repellants as a mosquito control measures, 93(52.8%) were using mosquito coils, 38(21.6%) were using mosquito nets and

36(20.5%) were using any control measure. The source of information through health professionals was 84(47.7%), mass media was 55(31.3%) and through friends and relatives is 19(10.8%) and none is 18(10.2%). 10(5.7%) has family history of dengue and 166(94.3%) has no family history of dengue.

Out of 176 participants, 145 said that dengue has transmitted by mosquitoes. the *Aedes aegypti* mosquitoes breeding place was coconut shell said by 33 participants, empty container said by 86 participants, uncovered water storage tank told by 75 participants, 75 were expressed accumulated rainwater.

Discussion:-

The first objective was to assess the level of knowledge and attitude on prevention of dengue fever. The study finding reported that 117(66.5%) of the participants had moderately adequate knowledge and 93 (52.8) moderately favourable attitudes on prevention of dengue fever, at the same time adequate knowledge and most favourable attitude was not satisfactory level. The present study findings supported by the following study Tamilarasi et al conducted a cross sectional study to assess the knowledge, attitude and practice of dengue fever in urban field practice area at Chennai in 2016. Totally, 250 participants were involved in the study among them 97.53% were correctly answered the mode of dengue transmission, 86.83% were aware about preventive measures of dengue fever, but only 2% were agreed that prevention of dengue fever is everyone responsibility remaining 98% reported that it's the Government responsibility to prevent dengue fever⁹.

There was no significant correlation between knowledge and attitude on prevention of dengue fever. Even the participants had moderately adequate knowledge and attitude also most of them expressed the prevention of dengue was the government responsibility. The study finding also reported that there is association between knowledge and source of health information there is statistically significance ($p < 0.05$ level). General public awareness and co-operation is very important to prevent dengue fever. Even the government has initiated many programs without the public awareness and involvement unable to reach the target and aim of the any program. So, the investigators did the study among the patients' attendants.

Conclusion:-

The study concluded that majority of the attendants had moderately adequate knowledge and attitude on prevention of dengue. It shows that public needs some more educational intervention to improve their health practice by the health care provider. Educational interventions such as conducting workshop, exhibition, and live demo through electric media on prevention of dengue may enhance the public knowledge, change their attitude on desirable way and follow the healthy practice to prevent dengue fever.

Table 1:- Awareness of the Participants on Dengue fever.

Questionnaires	Responses	N	%
Where do the aedes mosquitoes usually breed?	Coconut oil	33	18
	Empty container	8	4.5
	Uncovered water storage tank	86	48.8
	Accumulated rainwater	75	42.6
Where do you think aedes mosquito usually breeds inside the house?	In the tray under the fridge	70	39.7
	In the water container	98	55.6
	In the flowerpot tray	97	55.1
	In the open water tank	141	80.1
Where do you think aedes mosquito usually breeds outside the house?	In the greenly vegetative	44	25
	In the roof gutter	145	82.3
	In the abandoned tires	125	71
	In the garbage	114	64.7
What are the signs and symptoms of dengue fever?	High fever	156	88.6
	Enlarge lymph nodes	136	77.2
	Diarrhea	136	77.2
	Chills	125	71
	Deep muscle and joint pain	132	75

	Extreme fatigue	146	82.9
	Headache, loss of appetite, eye pain	136	77.2
	Nausea and vomiting	127	72.1
What are all the steps you take to prevent dengue fever transmission during the outbreak?	Cover tightly all the water containers	150	85.2
	Bury unused tires is any	70	39.7
	Keep drain free from blockage	102	57.9
	Adding larvicide in water	112	63.6
	Change water plant container	120	68.1
	Remove water from flower pottery	118	67
	Put all the garbage into closed bin	109	61.9
	Level defective floor surfaces that can collect water, if any	92	52.2
	Use mosquito repellent and mosquito net when sleeping	88	50
	Wear long sleeved dresses	122	69.3
	Empty unnecessary stored water	76	43.1
What you have to do when health authority comes to visit your houses to control dengue?	Allow inspection of mosquito larva inside and outside the house	134	76.1
	Allow the health authority to put larvicidal in potentially breeding sites.	135	76.7
	Allow the health authority to do fogging process.	131	74.4
	Open windows during the fogging process.	102	57.9
What precautions should be taken during the dengue outbreak, if you have high fever?	Seek immediate medical attention	168	95.4
	Taking home remedies.	133	75.5

Table 1 show that the participants had awareness on breeding place of mosquitos, signs and symptoms of dengue and they were cooperative to control to mosquitos in their place. Majority of the participants aware to seek medical attention when has fever.

Table 2:- Attitude of the Participants on Dengue fever N=176.

Statement	Strongly agree		Agree		Uncertain		Disagree		Strongly disagree	
	N	%	N	%	N	%	N	%	N	%
Dengue cannot be prevented.	22	12.5	34	19.3	17	9.6	25	14.2	78	44.3
There is no need for immediate treatment and hospitalization after being diagnosed as dengue.	26	34.2	24	13.6	16	9.0	19	10.7	91	51.7
It is not necessary to sleep in mosquito net every night.	17	9.6	36	20.4	34	19.3	25	14.2	64	36.3
We have to eliminate stagnant water around the house to reduce mosquito breeding.	62	35.2	69	39.2	7	3.9	5	2.8	33	18.7
It is importance to spray insecticides at home as a preventive measure.	51	28.9	49	27.8	14	7.9	23	13.0	39	22.1
Dengue is not a serious public health problem.	73	41.4	15	8.5	21	11.9	37	21.0	30	17.0
It is important to eliminate the mosquito breeding site at home.	65	36.9	54	30.6	7	3.9	13	7.3	37	21.6
It is necessary to use mosquito repellents at home.	48	27.2	16	9.0	31	17.6	35	19.8	46	26.1
It is not only government responsibility to take mosquito control measures.	60	34.0	41	23.2	15	8.5	19	10.7	41	23.2

I can participate actively in mosquito control measures.	74	42.0	31	17.6	31	17.6	8	4.5	32	18.1
--	----	------	----	------	----	------	---	-----	----	------

The table 2 shows attitude on dengue, among 176 participants 78(44.3%) were strongly agree dengue can be prevented, at the same time 73 (41.4%) participants were strongly agree that dengue is not a serious public health problem. Sums of 62 (35.2%) participants were strongly agree that elimination of stagnated water around the house to reduce mosquito breeding and 74 (42.0%) were strongly agree to actively participate in mosquito control measures.

Table 3:- Level of Knowledge on Prevention of Dengue among the Participants N=176.

Level of knowledge	N	%	Mean	Standard deviation
Inadequate (<50%)	27	15.3%	2.03	0.580
Moderately adequate (50%-75%)	117	66.5%		
Adequate (Above 75%)	32	18.2%		

Table 3 data shows that level of knowledge on dengue was more than half of the participants had moderately adequate knowledge. The mean value was found 2.03 ± 0.580 .

Table 4:- level of attitude on prevention of dengue of study participants N=176.

Level of attitude	Frequency (N)	Percentage (%)	Mean	Standard deviation
Unfavourable (<50%)	19	10.8	2.26	0.639
Moderately favourable (50%-75%)		52.8		
Most favourable (Above 75%)	64	36.4		

Table 4 data shows that level of attitude on dengue was more than half of the participants had moderately favourable attitude. The mean value was found 2.26 ± 0.639 .

Table 5:- Correlation between knowledge and attitude regarding prevention of dengue among the participants.

MEAN SCORE		CORRELATION (r)	SIGNIFICANCE(p)
Knowledge	2.03	0.27	0.727
Attitude	2.26		

The table 5 shows that there is no significant correlation between knowledge and attitude ($p > 0.005$). The Karl Pearson value of correlation between knowledge and attitude is 0.27.

There was significance association between knowledge and the source of information P value 0.012 ($p > 0.05$).

Ethical issues:

The study was approved by the Nursing Research Monitoring Committee, JIPMER and the Institute (JIPMER) ethical committee, Human studies. Permission was obtained from the Institute (JIPMER) ethical committee, Human studies. Informed consent was obtained from every participant after a brief explanation regarding the study by the researcher.

Research highlight:

1. Lack of knowledge and unfavorable attitude regarding preventive measure of dengue among public is leading to outbreak of dengue in many parts of India and other developing countries and ultimately this factor leads to increased mortality and global burden due to dengue.
2. Need more educational intervention to prevent the outbreak of dengue in rural and urban community

References:-

1. World Health Organization. The World health report 1996: fighting disease, fostering developing. Geneva: World Health Organization; 1997.
2. Guzman MG, Kouri G; Dengue: An update. The Lancet Infectious Diseases. 2002; 2(1): 33-42.
3. World Health Organization. Dengue hemorrhagic fever: Diagnosis, Treatment, Prevention and Control. 2nd ed. Geneva: World Health Organization; 1997.12–23.
4. WHO. Factsheet: Dengue and severe dengue, 2017. Available at <http://www.who.int/mediacentre/factsheets/fs117/en/>. 2017.

5. NVBDCP. Dengue cases and deaths in the country since 2010. Available at <http://nvbdc.gov.in/dengcd.html>. 2017.
6. Mohapatra S, Aslami AN. Knowledge, attitude and practice regarding dengue fever among general patients of a rural tertiary-care hospital in Sasaram, Bihar. *Int J Community Med Public Health*. 2016; 3:586-91.
7. Bota R, Ahmed M, Jamali MS, Aziz A. Knowledge, attitude and perception regarding dengue fever among university students. 2013;219-20
8. Boonchutima S, Kachentawa K, Limpavithayakul M, et al. Knowledge and behavior on dengue fever prevention and control. 2016;1-2
9. Tamilarasi R, Maheshwari L, Ahimtha AJ, et al. A cross sectional study to assess the knowledge, attitude and practice of dengue fever in urban field practice area. *Stan Med J*. 2017; 1:8-13.