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Knowledge and attitude of rural people regarding prevention and management of dengue fever

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Abstract
Background: Increasing numbers of dengue cases and fatalities are being reported in multiple urban and rural settings in India. These rapidly advancing dengue outbreaks result in severe disease that constitutes a leading cause of hospital admissions, with high case fatality rates. Furthermore, they place tremendous pressure on healthcare resources and have a heavy effect on society.
Objectives: To assess the knowledge and attitude of rural people regarding prevention and management of dengue fever and to find an association between pretest level of knowledge and attitude regarding prevention and management of dengue fever with their selected socio demographic variables.
Methodology: A quantitative approach with exploratory descriptive survey design was adopted for the study. The samples from the selected rural areas of Belagavi district were selected using convenient sampling technique. The sample consisted of 60 rural people. The tools used for data collection was knowledge questionnaire and structured attitude scale.
Results: The study result reveal that, the participant's knowledge mean was 26.08, median was 26, mode was 28 with standard deviation 2.71 and score range was 21-33. Majority 42(70%) of participants were had moderate level of knowledge, 13(21.7%) of participants were had poor level of knowledge and remaining 5(8.3%) of participants were had good level of knowledge. With respect to attitude of the participants mean was 82.46, median was 82, mode was 65 with standard deviation 16.76 and score range was 52-115. Majority 43(71.66%) of participants were had favorable attitude, 9(15%) of participants were had non favorable attitude and remaining 8(13.3%) of participants were had positive attitude. The association between levels of knowledge of participants regarding prevention and management of dengue fever is found to be statistically significant at 0.05 levels for participant's sources of knowledge.
Conclusion: There is a need for the education for the rural population for the prevention and effective management of vector borne diseases like dengue fever.

Keywords: knowledge, attitude, Dengue fever, rural people, rural areas

Introduction
Dengue virus is a flavivirus transmitted by mosquito vectors, such as *Aedes aegypti* and *Aedes albopictus.* All four serotypes of dengue virus, DENV-1 to DENV-4 have been circulating in the country, and each serotype has many genotypes [1].

The predominant serotype in the 2017 epidemic was DENV-2 which was infrequent since 2009. The outbreak in 2019 was predominantly due to previously latent serotype DENV-3 [2].

The WHO published and implemented a "Global Strategy for Dengue Prevention and Control" targeting the years from 2012 to 2020, with the goals of improving dengue mortality, and morbidity by the year 2020, and estimating the true disease burden. The main elements of the global strategy were diagnosis and case management, integrated surveillance and outbreak preparedness, sustainable vector control, future vaccine implementation, basic operational and implementation research [3].

In January 2019, the World Health Organization (WHO) announced their new 5-year strategic plan, the Thirteenth General Programme of Work 2019-2023, to ensure that one billion more people in the world enjoy the benefits of better health and wellbeing [4]. Among the 10 highest priority health issues presented, dengue was identified as one of the four main infections threatening global health. Concerted action against dengue was proposed by the WHO in 2012 with the aim of reducing dengue mortality by 50% and dengue morbidity by 25% by the year 2020. The five key elements needed to achieve the dengue public health targets identified by the WHO Global Strategy are diagnosis and case management,

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integrated surveillance and outbreak preparedness, sustainable vector control, future vaccine implementation, and basic operational and implementation research [5].

India is poised to play a key role in contributing towards these targets. Based on global model data, an estimated 33 million clinically apparent dengue cases occur in India each year, contributing to a third of the total global dengue burden [6].

Increasing numbers of dengue cases and fatalities are being reported in multiple urban and rural settings in India. These rapidly advancing dengue outbreaks result in severe disease that constitutes a leading cause of hospital admissions, with high case fatality rates. Furthermore, they place tremendous pressure on healthcare resources and have a heavy effect on society. Data from the Global Burden of Disease in 2013 and the WHO are similar in identifying India as an epicenter of dengue. National data on dengue collected by the National Vector Borne Disease Control Programme (NVBDCP) in India estimate a smaller number of cases, in part because of the lack of a systematic national surveillance system [7].

Since there is no vaccine, vector control is the ideal way to Control dengue. Vector control methods can be successful, only if there is community participation, and for the success of a community - based programme, it is important since there is no vaccine, vector control is the ideal way to control dengue. Vector control methods can be successful, only if there is community participation, and for the success of a community –based programme, it is important since there is no vaccine, vector control is the ideal way to control dengue. Vector control methods can be successful, only if there is community participation, and for the success of a community - based programme, it is important to assess the community's perception regarding the disease, its mode of transmission and breeding sites. Knowledge, attitude and practice studies serve as an educational diagnosis of a population. This information helps programs set communication objectives linked to increased community engagement and demand for services and develop tailored strategies appropriate for the social, cultural and political contexts of at-risk communities. Hence, this study was conducted to assess the knowledge and attitude regarding dengue fever among rural communities in Belagavi district of Karnataka.

Objectives
1. To assess the knowledge and attitude of rural people regarding prevention and management of dengue fever
2. To find an association between pretest level of knowledge and attitude regarding prevention and management of dengue fever among rural people with their selected socio demographic variables.

Hypothesis
H_{01}: There is no statistical significant association between pretest levels of knowledge of rural people regarding prevention and management of dengue fever and their selected socio demographic variables.

H_{02}: There is no statistical significant association between pretest levels of attitude of rural people regarding prevention and management of dengue fever and their selected socio demographic variables.

Methodology
Research Approach: Quantitative Research Approach
Research Design: Exploratory descriptive design
Sampling technique: Non-Probability; Convenient Sampling Technique Sample size: 60
Setting of study: Selected rural areas of Belagavi district
Method of data collection: Interview technique

Tools used
Section I: Socio-demographic variables of Participants
Section II: Structured Knowledge questionnaire
Structured knowledge consisted of 38 multiple choice questions related to prevention and management of dengue fever. There were four alternative answers, from which the participants have to choose one best option by encircling it. The total knowledge scores ranged from 0– 38.The score is further divided arbitrarily as follows;Poor knowledge (<13), Average knowledge (14-26), Good knowledge (>27).

Section III: Structured attitude scale
A structured attitude scale consisted of 23 statements regarding prevention and management of dengue fever. There are five alternative response columns; strongly agree, agree, uncertain, disagree and strongly disagree. The total score ranged from 23 to 115. The score is further divided arbitrarily as follows; Non favorable attitude (23-54), Favorable attitude (55-85), Positive attitude (86-115).

Procedure of data collection
Data was collected after obtaining administrative permission from selected primary health centers of selected rural community of Belagavi district. The investigator personally explained the participants the need and assured them of the confidentiality of their responses. Data was collected by face to face interview by researcher. The data analysis was done by using both descriptive and inferential statistics.

Results
a. The findings related to socio-demographic variables of participants
Study comprised of 50 participants. The socio demographic variables are presented in following table.

Table 1: Frequency & Percentage Distribution of participants according to socio demographic variables n=60

Sl No	Demographic variables	Frequency (f)	Percentage (%)
1	Age (in yrs)		
	20-30	23	38.3
	31-40	17	28.3
	41-50	15	25
	>50	5	8.3
2	Gender		
	Male	43	71.7
	Female	17	28.3
3	Religion		

		Hindu	38	63.3
		Muslim	11	18.3
		Christian	11	18.3
		Others	00	00
4.	**Educational status**			
		No formal education	14	23.3
		Primary school	13	21.7
		High school	18	30
		PUC and above	15	25
5.	**Type of family**			
		Nuclear	35	58.3
		Joint	25	41.7
6.	**Suffered with Dengue infection**			
		No	55	91.7
		Yes	5	8.3
7.	**Source of information**			
		Formal education	9	15
		Books/Journals	15	25
		Mass media	32	53.3
		Seminar/Workshop	4	6.7

b. Findings Related To Knowledge on prevention and management of dengue fever

Table 2: Mean, median, mode, standard deviation and range of knowledge scores of participants n = 60

Total scores	Mean	Median	Mode	Standard deviation	Range
38	26.08	26	28	2.71	21-33

Table 2 reveals knowledge score of participants regarding prevention and management of dengue fever, it shows that, the participants knowledge mean was 26.08, median was 26, mode was 28 with standard deviation 2.71 and score range was 21-33.

Level of Knowledge

Table 3: Frequency and Percentage distribution of participants according to level of Knowledge regarding prevention and management of dengue fever n=60

Level of knowledge		
Poor f (%)	Moderate f (%)	Good f (%)
13 (21.7%)	42 (70%)	5 (8.3%)

The data presented in the Table 3 depicts the participants level of knowledge regarding prevention and management of dengue fever, it reveals that; majority 42(70%) of participants were had moderate level of knowledge, 13(21.7%) of participants were had poor level of knowledge and remaining 5(8.3%) of participants were had good level of knowledge.
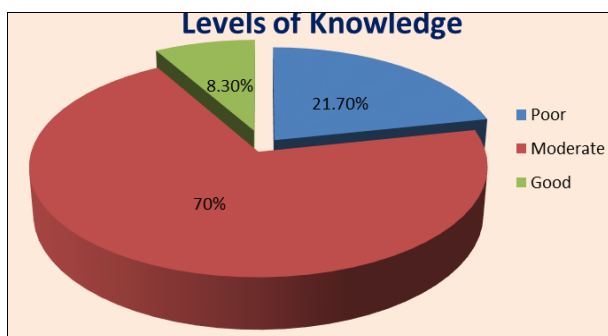

Fig 1: Levels of knowledge among participants

c. Findings Related To Attitude on prevention and management of dengue fever

Table 4: Mean, median, mode, standard deviation and range of attitude scores of participants n = 60

Total scores	Mean	Median	Mode	Standard deviation	Range
23-115	82.46	82	65	16.76	52-115

Table 4 reveals attitude score of participants regarding prevention and management of dengue fever, it shows that, the participants attitude mean was 82.46, median was 82, mode was 65 with standard deviation 16.76 and score range was 52-115.

Level of Attitude

Table 5: Frequency and Percentage distribution of participants according to level of Attitude regarding prevention and management of dengue fever n=60

Level of attitude		
Non favorable f (%)	Favorable f (%)	Positive f (%)
9(15%)	43(71.66%)	8(13.33%)

The data presented in the Table 5 depicts the participants level of attitude regarding prevention and management of dengue fever, it reveals that; majority 43(71.66%) of participants were had favorable attitude, 9(15%) of participants were had non favorable attitude and remaining 8(13.3%) of participants were had positive attitude.
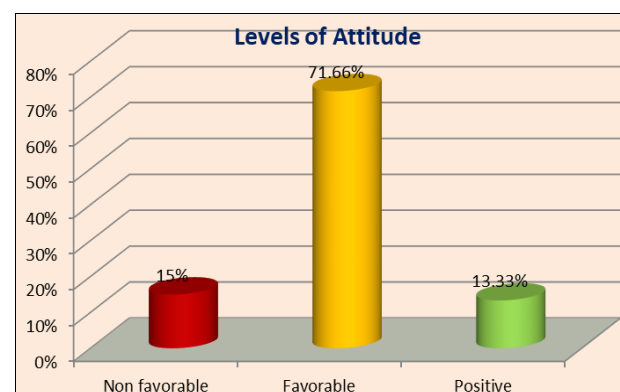

Fig 2: Levels of attitude among participants

d. Findings Related Association between levels of knowledge and attitude with selected socio demographic variables of participants

Knowledge

Computed Chi-square value for association between levels of knowledge of participants regarding prevention and management of dengue fever is found to be statistically significant at 0.05 levels for participant's sources of knowledge and not found statistically significant for other selected socio demographic variables. Hence null hypothesis H_{01} is partially accepted indicating significant statistical association between level of knowledge among participants and their sources of knowledge.

Attitude

Computed Chi-square value for association between levels of attitude of participants regarding prevention and management of dengue fever is not found statistically significant for any of the selected socio demographic variables. Hence null hypothesis H_{02} is accepted indicating no significant statistical association between level of attitude of participants and their selected socio demographic variables.

Conclusion

The findings revealed that rural people were had moderate level of knowledge and favorable attitude towards prevention and management of dengue fever. This suggests that, there is a need for the education for the rural population for the prevention of vector borne diseases like dengue fever effectively by following appropriate sanitary practices.

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