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A Study to Assess the Knowledge and Practice Regarding Prevention of Dengue among Residents of Selected Rural Community Area of Dehradun, Uttarakhand

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Abstract: ***Background: Dengue is a commonly known vector borne disease which is transmitted by the aedes mosquito, usually bites in day time. Dengue begins in summer and continues till winter. High humidity and heavy rainfall cause increase survival of mosquito for longer duration. Further rainfall leads to artificial collection of water in coconut shells, tires and other materials. Methodology: A quantitative research approach with descriptive research design was used for the study. Total 150 residents were selected by total enumeration sampling technique. Data was collected by using structured knowledge questionnaire and self-rated practice checklist. Result: The statistical finding shows that Overall mean percentage knowledge score of the participant was 64.03%. Domain wise knowledge score was highest in management of dengue (71.1%) and lowest in mode of transmission of dengue (48.3%).Maximum participants (81.78%) have overall mean practice score. Conclusion: The study reveals type of house was significant associated (p=0.02) with the knowledge score of participants and water drainage (p=0.006) monthly family income (p=0.31) was significant associated with the practice score of participants. The knowledge revealed that more than half of the participants (77.3%) had average knowledge and regarding practice most of the (52.7%) participants had good practice regarding prevention of dengue. The present study brought a need for further teaching of the resident people regarding prevention of dengue.***

Keywords: Knowledge, Practice, Residence, Prevention of dengue.

1. Introduction

Dengue fever now threatens half of the world's population, despite an estimated 100–400 million illnesses occurring each year, making dengue fever one of the most dangerous diseases in the world. Over 80% of those cases are often mild and asymptomatic. Dengue is mostly prevalent in tropical and subtropical areas of the world primarily in semi urban and rural community. [1]Dengue can affect everyone, irrespective of their age and gender. [2 nhp.gov.in] According to NCVBD report case rate of dengue in Dehradun was 1655 in 2015, followed by 2146 cases in 2016, 849 cases in 2017, 689 cases in 2018, and it was 10622 in 2019 which decreases in 76 in 2020.[3]During the community health nursing posting experience and by the several studies which showing increased incidence of dengue in India. When the researcher noticed mosquito breeding places in Dehradun and lack of awareness about dengue prevention among residents in rural areas, this led to investigator to undertake a study on people in rural areas in the Dehradun, Uttarakhand.

Objective
Study was done for assessing the knowledge and practice regarding prevention on dengue among resident of selected rural community area of Dehradun. Researcher also find association of knowledge and practice with selected demographic variables. Researcher also find correlation between knowledge and practice regarding prevention of dengue.

2. Methods

Study area
The study was conducted in a rural area of Dehradun, Uttarakhand.

Study design
It was a cross- sectional descriptive study.

Study duration
The study was conducted in January 2022.
Study participation selection criteria

Inclusion criteria
1) Residents who can understand Hindi

2) Residents who were available while the data was collected.

Exclusion criteria
1) Residents those refused to take part research study.
2) Residents who were working in medical facilities.

Data was collected by using a structured questionnaire which consists of 30 items. The questionnaire covered the following areas (1) General information about dengue (2) Causes and risk factor of dengue fever (3) Mode of transmission of dengue fever (4) Sign and symptoms of dengue fever (5) Prevention of dengue fever (6) Management of dengue fever (7) Complication of dengue fever and practice by self-rated practice checklist consists of 14 items.

Informed consent was taken from the study participant. Permission was obtained from university ethic committee. Strict confidentiality was maintained regarding data.

Sample size calculation
150 responded was selected.

Statistical analysis
Data analysis was done in Microsoft Excel, SPSS 20 version.

3. Result

I. Description of demographic profile
The more than half (53.3%) residents were coming under the age group of 20-30 years. Most of 53% residents were male. One third residents (36%) were graduate. Half of residents (51.3%) had nuclear family. Majority of (85%) residents were had pucca house, most of residents (64.0%) were had open drainage system, 53.3% residents had monthly income between 18000-45000. All residents heard about dengue fever. The source of health information for maximum residents (60.7%) were newspaper/ T.V./ radio/ books. Maximum (88%) residents were not suffered from dengue fever and very less residents 18(12%) were suffered from dengue fever. The socio-demographic details of the respondents are shown in table1.

II. Description of knowledge regarding prevention of dengue among resident
Knowledge of the residents regarding prevention of dengue was determined with mean of 19.21% and standard deviation of 4.188.The maximum possible score is 30. Table 2 shows that mean score percentage was computed and it was observed as 64.03%. Fig.1 showed that 9 (6%) residents had good knowledge, more than half of 116 (77.3%) residents had average knowledge and 25 (16.7) residents had poor knowledge regarding dengue fever. It shows that majority of residents had average knowledge.

III. Description of practice regarding prevention of dengue among resident
Table 3 shows that practice of residents regarding prevention of dengue was determined with mean score 11.45 and standard deviation 1.96 of all 150 residents. More than half of 79(52.7%) residents had good practice, less than half 68(45.3%) residents had at average practice and few of 3(2%) residents had poor practice.

IV. Association of socio demographic variables with level of Knowledge
The association was found only between the type of house with level of knowledge ($p<0.05$). There was no association found between knowledge and among the socio-demographic variables like age, gender, education status, family type, water drainage, occupation, monthly.

V. Association of socio demographic variables with level of Practice
Water drainage ($p=0.006$) and monthly family income ($p=0.31$) was significant associated with the practice score of residents.

VI. Correlation between knowledge and practice score
There is insignificantly weak correlation, $r=0.11$ between knowledge and practice score regarding the prevention from dengue among residents.

4. Discussion

The purpose of this study to assess the knowledge and practice of residents regarding prevention of dengue and it was found that majority of the participants had average knowledge (77.3%), (16.7%) residents had poor knowledge and (6%) residents had good knowledge. The finding of the present study was supported by **"Knowledge regarding dengue disease in urban area" by "K. Ramu, et al".** (2016) at Karnataka observed that the finding revealed that only 100(19.6%) participants had good knowledge, half of 258 (50.5%) participants had average knowledge, 152 (29.8%) participants had poor knowledge.[4]

The finding of study also shows that more than half of 79(52.7%) participants had good practice, less than half 68(45.3%) participants had at average practice and few of only 3(2%) participants had poor practice. The study's findings are in accordance with cross-sectional research on "A Knowledge, Attitudes, and Practices (KAP) on "Dengue Fever among the Rural Community in the Philippines **"by Kwon DH, Crizaldo RLP. (2014)**. The finding revealed that half (29.2%) of participants had good practice, half (50%) of the participants had fair practice, less than and less than half (20.8%) participants had low practice.[5]

The association of demographic variables with knowledge of residents revealed that type of house was significant associated ($p=0.02$) with the knowledge score of residents. and there was no association with other socio-demographic variables. Finding shows that, study was consistent with non-experimental study on "Assessment of knowledge, and practice of people regarding dengue fever" by **Meena Kumari Bimal, et al. (2016)** in Punjab. The finding revealed that knowledge score had statical significant relationship with age. Gender, marital status and per capita income. [6]

The association of demographic variable with practice of residents revealed that water drainage and monthly family income was significant associated ($p=0.31$) with the practice score of residents. The study's findings are in accordance with cross-sectional research on "Assessment of knowledge,

and practice of people regarding dengue fever" by **Meena Kumari Bimal, et al. (2016)** in Punjab. The finding revealed that level of practice had statical significant relationship with marital status ($p<0.01$).[6]

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Declaration
Funding- None
Conflict of interest: None interested
Ethical approval: Not required

5. Conclusion

The knowledge revealed that more than half of the residents (77.3%) had average knowledge and regarding practice more than half (52.7%) of residents had good practice regarding dengue prevention. The present study brought a need for further teaching of the adult people regarding prevention of dengue.

The study reveals house condition was significant associated ($p=0.02$) with the knowledge score of residents and monthly family income was significant associated ($p=0.31$) with the practice score of residents.

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Table 1: Demographic Data

S. No.	Demographic Characteristics	Frequency (F)	Percentage (%)
1	**Age**		
	a) 20-30	**80**	**53.3**
	b) 31-40	38	25.4
	c) 41-50	32	21.3
2.	**Gender**		
	a) Female	71	47
	b) Male	**79**	**53**
3.	**Educational qualification**		
	a) No formal education	16	10.7
	b) Primary education	17	11.3
	c) Secondary education	35	23
	d) Higher education	28	19
	e) Graduate and above	**54**	**36**
4.	**Type of family**		
	a) Nuclear	**77**	**51.3**
	b) Joint	65	43.4
	c) Extended	08	05.3
5.	**Type of house**		
	a) Pucca	**127**	**85**
	b) Semi kuccha	23	15
6.	**Drainage**		
	a) Open	**96**	**64**
	b) Closed	29	19
	c) soakage	25	17
7.	**Occupation**		
	a) Home maker	**59**	**39**
	b) Government Job	21	14
	c) Daily wages	30	20
	d) Private Job	40	27
8.	**Monthly family income**		
	a) <18000	40	26.7
	b) 18001-45000	**80**	**53.3**
	c) >45001	30	20
9.	**Information regarding dengue**		
	a) No	0	0
	b) Yes	**150**	**100**
9 (i)	**Source of information**		
	a) News/Newspaper/T.V./ Radio/ Books	**91**	**60.7**
	b) Mobile/ Internet	31	20.6
	c)Family Member/ Neighbors/ Asha/Hospital/Self	28	18.7
10.	**Suffered with dengue**		
	No	**132**	**88**
	Yes	18	12
10.(i)	**Treatment for dengue fever N=18**		
	a) home remedies	06	21.42
	b) Hospital/ doctor clinics	**15**	**53.57**

Table 2: Distribution of overall mean knowledge score

Variable	Max. Score	Range	Mean±SD	Mean (%)
Knowledge	30	7-30	19.21±4.188	64.03

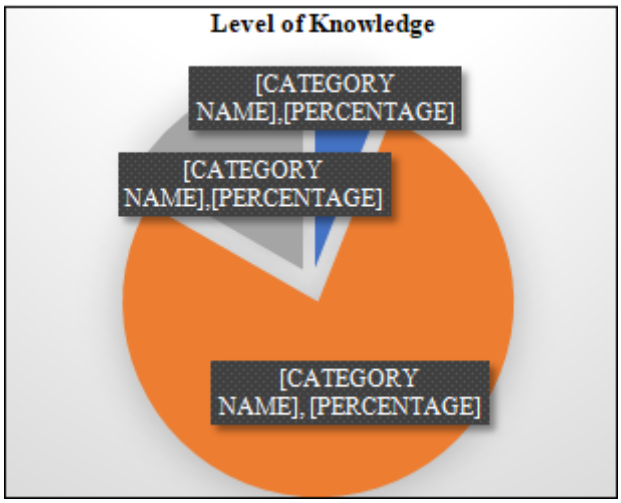

Figure 1: Level of Knowledge

Table 3: Distribution of overall mean practice score

Variable	Number of Items	Range	Mean±SD	Mean (%)
Practice	14	5-14	11.45±1.96	81.78

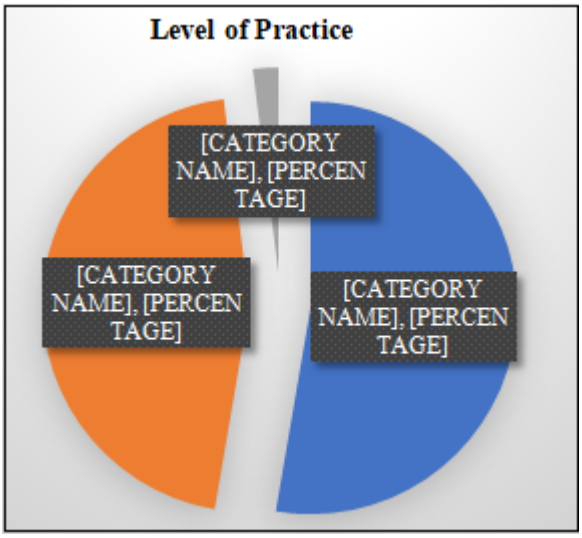

Figure 2: Level of practice