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A study to assess the knowledge regarding dengue fever and its prevention among the residents of Akhepur village, Indore (M.P.)

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Abstract
Introduction: Epidemiology is the basic science of preventive and social medicine. It has evolved rapidly over the past few decades. Many diseases are under consideration as like dengue fever. Dengue fever is a self-limiting disease and represents majority of the cases of dengue infection. A person equipped with awareness on prevention strategy can make themselves safer.
Methodology: A descriptive survey approach with was adopted in order to assess the knowledge about dengue fever and its prevention among residents of Akhepur village, Indore, M.P. A total of 30 subjects males and females together were selected by random sampling method was included in the study.
Results: Majority of subjects 23 (78%) belong to the age group of 21-30 yrs. Majority of subjects 12 (40%) live in nuclear family. Monthly family income of 18 (60%) of the subjects were between 5001 to 10000. Most of the subjects averaging 24 (80%) were Hindu with least percentages of Christian and Muslims. Most of the subjects accounting to 18 (60%) had an average knowledge regarding dengue fever and its prevention followed by 9 (30%) good knowledge and very less 3 (10%) with poor knowledge. Chi square test was used to find the association between knowledge scores and selected demographic variables. The result revealed that there was no significant association between the knowledge score and selected demographic variables except educational qualification of the subjects.
Recommendations: The following recommendations have been made for further study on the basis of the findings of the present study:
- The study can be replicated on a large number of samples for generalization.
- A comparative study can be conducted to assess the knowledge urban and rural residents can be done.

Keywords: Knowledge regarding, dengue fever, prevention

Introduction
Hygiene is the state of being cleaned and practice of keeping away from dirty things and the one who practices is called hygiene conscious. Poor hygiene is the most common cause for the spread of the disease, but heavy rainfall is providing a breeding ground for the mosquitoes. It is better to stop something bad happening than it is to deal with it after it has happened as we all know prevention is better than cure. There are many diseases, illness arising because of environmental that may be cause by human activities and geographical condition [1]. One example of these is called dengue fever. The first case report dates back from 1789 [2].

Dengue is an acutely infectious mosquito borne viral disease characterized by episode of "saddle back fever", muscle and joint pain, accompanied by an initial arrhythmia and terminal rash of varying morphology. It is a life threatening fever. It is caused by group "B" arbo virus transmitted by certain species of aedes mosquito [3].

Dengue has become a major international public health problem in recent year. The first Epidemic occurs almost simultaneously in Asia, Africa, and North America in 1780's. The disease was identified and named in 1779. Epidemic dengue has become more common by 1980's by the late 1980's dengue was the most important mosquito-born disease affecting human after malaria. The major outbreak occurred in India in 1996 following these another outbreak was reported in year 2003, 2004, 2005, 2006, 2007 [8, 9].

A cross sectional study was conducted on awareness regarding safe and hygienic practice among women in rural area of Kuala district, Kangsar.

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The findings showed that majority of the women received the information regarding dengue fever from their neighbours 41% followed by media 24%, friends 19%. The women who develop fever not underwent any good treatment. The study concluded that it is important to educate the women with scientific knowledge and dispelling their myths, misconceptions and encouraging safe and hygienic methods. [6]

A comparative study was conducted to assess the knowledge and attitude about dengue and practice of prevention followed by the residents of a rural area and an urban resettlement colony of East Delhi, in Jan 2007 to Feb 2007. A pre-structured and pre tested format containing the relevant questions were administered to the subjects. A total of 687 students/334 rural and urban were interviewed. Nearly a four fifth (82.3%) of these were aware of dengue. Audio visual media was the most common source of information in both the areas. Knowledge about the disease was fair too good. Fever was commonest the symptoms of the disease known to 92% urban and 83% rural respondent followed by symptom of bleeding and headache. Mosquito was known to spread the disease to 71% rural and 89% urban respondents. More than 2/3rd respondent in urban and 2/5th in rural areas had used some method of mosquito control for personnel protection during epidemic [8].

A cross sectional study was conducted in urban field of Calcutta National Medical College to determine perception of general population of disease dengue. A total 161 individual were interviewed regarding the different aspect of the dengue fever. The results showed that out of total respondents, majority (68.9%) had knowledge that fever is the main symptom of the disease, though only 6.2% new of retro-orbital pain as the pathognomonic symptoms of disease. Out of total respondent 83.3% were unaware regarding mode of transmission of disease and the level of awareness is significantly higher among educated group (*p*<0.05). 69.6% were unaware about the prevention of disease but there is no significant variation in relation to literacy status.

Regarding awareness about vector control 60% of the respondent belonging to the low socio economic class were unaware followed by 58.6% of the upper lower class. Only 39.1% had knowledge about breeding places of *Aedes aegypti*. The main source of information was found to be mass media (65%) and 7% of the respondents did not get any information about dengue. Specific intervention major such as information education communication to be provided to the urban slum community for prevention and control of dengue hemorrhagic fever [7].

A cross sectional study was conducted in semi urban town of Malaysia using a structured questionnaire covering a socio-demographical knowledge related to aedes mosquito and preventive measures against the disease. For comparison of survey responses, chi square test was applied for categorical data. To explore the factors affecting the practice of dengue control, a linear regression model was introduced. Almost all of the respondents (95%) had heard about dengue. Overall, misconception of dengue transmission was identified and the practice of dengue control in the study population was insufficient. About half (50.5%) had misconception that ades can breed in dirty water and the preferred biting time in dusk or sunset (45.6%). Only 44.5% of households surveyed had covered their water container properly. Significant association were found between knowledge score of dengue and age (p=0.001), educational level (p=0.001), marital status (p=0.012) and occupation (p=0.007). In regression analysis, only the knowledge of dengue was significantly and positively associated with practice on dengue control [4].

A cross sectional study was designed to assess the knowledge, attitude and practice of the people regarding dengue disease in 9 villages of Pakse district from (july-september-2010) purposive sampling was done to collect data from 230 subjects. They had a fair knowledge about vector 163 (70.9%). For 101 (43.9%) respondents, their main source of information about dengue was their friends or relatives. It is encouraging that that 217 respondents had positive attitude (94.3%) that dengue fever can be treated and that 222 (96.5%) knew they should visit a doctor when they suffer from it. About 196 (85.2%) people store water at home but infrequently change it. The study indicates the community was quite familiar with dengue but there was some confusion about some vaccination and water storage for domestic usage [5].

Methodology

A descriptive survey design was employed to collect data from subjects. A total of 30 subjects were enrolled into the study by using random sampling technique. A formal approval was obtained from the authorities and ethical consent was obtained from all subjects. The structured knowledge questionnaire was used to assess the dengue fever and its prevention. The study was conducted in village Akhepur, Indore. The minimum score was 0 on this questionnaire and maximum wa 35. The questionnaire was categorized into 3 headings. The reliability was found to be 0.79. The data was analyzed using both descriptive and inferential statistics i.e. mean, mean percentage, median, standard deviation, t-test and chi square.

Results

The results were divided into the following headings
The inferences of table I with the title "frequency and percentage wise distribution of the demographic variables" are

- Majority of subjects 23 (78%) belong to the age group of 21-30 yrs.
- Majority of subjects 12 (40%) live in nuclear family.
- Monthly family income of 18 (60%) of the subjects were between 5001 to 10000.
- Most of the subjects averaging 24 (80%) were Hindu with least percentages of Christian and Muslims.
- Most of the subjects accounting to 18 (60%) had an average knowledge regarding dengue fever and its prevention followed by 9 (30%) good knowledge and very less 3 (10%) with poor knowledge.

Table 2: Distribution of subjects according to the level of knowledge

S.N	Level of knowledge	Score	Knowledge regarding dengue fever and its prevention	
			Frequency	%
A	Good	25-35	9	30
B	Average	13-24	18	60
C	Poor	0-12	3	10

Max score = 35
Min score = 0

Inference
The above table shows the converted score to assess the overall knowledge on dengue fever and its prevention. 3% of the residents had good knowledge, 60% had average knowledge and 9% had poor knowledge.

Table 3: Overall assessment of mean, standard deviation and mean percentage of knowledge score on residents of Akhepur village, Indore

Particular	Total no of questions	Mean	Mean %	Standard deviation
Knowledge of questionnaire on dengue fever and its prevention	35	19.6	55.7	3.2

Max score=35
Min score=0

Inference
Table no 3 shows that mean is 19.6, standard deviation 3.2, and mean percentage is 55.7.

Table 4: Association between demographical variables and knowledge regarding dengue fever and its prevention

S.N	Variables		Below Median<21	Above Median≥21	χ^2	DF	Level of significance
	Age						
1.	a.	21-30	11	12	2.2	1	NS
	b.	31-40	4	3			
	c.	41 and above	0				
	Gender						
2.	a.	Male	9	7	-	-	-
	b.	Female	0	14			
	Educational qualification						
3.	a.	High school	5	2	4.69	1	*S
	b.	Graduate and above	7	16			
	Occupational status						
4.	a.	labourer	6	1	4.49	2	NS
	b.	Private employee	9	10			
	c.	Self employed	1	3			
	Family income						
5.	a.	<5000	4	5	2.85	1	NS
	b.	5001-10000	7	11			
	c.	10001 and above	1	0			
	Religion						
6.	a.	Hindu	10	14	4.6	1	NS
	b.	Christian	1	0			
	c.	Muslim	3	2			
	d.	Other specify	0	0			

Max score=35
Min score=0

The above depicts that there is non- significant association between knowledge scores and demographic variables except that of the educational qualification with a chi square value of 4.69 with df 1at 0.5 level of significance.

Discussion
1. To assess the knowledge regarding dengue fever among residents of Akhepur Village, **Indore.**
This study finding shows the overall knowledge score of residents regarding dengue fever and its prevention. Similar findings of the study can be seen in a study conducted by Susma, Siji, Viji *et al*. where the residents had average knowledge regarding prevention of dengue fever 17(40%).

2. To find out the significant association between knowledge about dengue fever and its prevention and selected demographic variables.
The study showed that there is no significant association between the knowledge regarding dengue fever and its prevention and demographic variables except for the educational qualification. Similar findings can be seen a study conducted at Kolkata by Debarati Guha.

Conclusion
The following conclusions were drawn on the basis of the findings of the study:
1. Most of the sample had average knowledge regarding dengue fever and its prevention.
2. There was non- significant association between pre-test knowledge and selected demographic variables except educational qualification at 0.5 level of significance.

The study further recommended for larger scale study for easy generalization and also comparative studies.

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