Knowledge Regarding Dengue Fever among Rural and Urban People in Selected Communities of Nagpur, Maharashtra

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Abstract: The purpose of this descriptive study was to compare the knowledge about dengue fever among rural and urban people in selected communities of Nagpur, Maharashtra. Self prepared structured questionnaire was the tool for the study. The researcher went to rural and urban area and samples were selected. The convenience sampling method was used for sample selection. Totally one hundred (100) samples including 50 samples from rural area and 50 samples from urban area were selected. On the day of data collection, each sample was asked to respond to structured questionnaire. It was found according to the statistical Student's unpaired t test that the difference in the knowledge score among rural and urban people from selected communities of Nagpur, Maharashtra was 5.07 which was statistically significant at 0.05% level of significance. The tabulated value was (t-tabulated value=2.05, degrees of freedom n=48). It was also found that there was an association between educational level of rural people and their knowledge score (p<0.05).
Keywords: rural, urban, knowledge, dengue fever, community.

I. Introduction

A mosquito-borne viral infection leading to a severe flu-like illness is Dengue. Sometimes it may cause a potentially fatal complication called severe dengue. There was 30-fold increase in the incidence of dengue over the last 50 years. It is now estimated that up to 50-100 million infections may occur annually in over 100 endemic countries, leading almost half of the world's population at risk. Dengue fever and its severe forms-dengue haemorrhagic fever and dengue shock syndrome have attained major international public health importance. Dengue is found in tropical and subtropical regions in the world. It is predominantly seen in urban and semi-urban areas and are now spreading to rural areas. In India, the risk of dengue has shown an increase in recent years due to rapid urbanization, life style changes and deficient water management including improper water storage practices in urban, peri-urban and rural areas, leading to proliferation of mosquito breeding sites.

The dengue virus belong to the genus Flavivirus and has four serotypes (DEN-1, DEN-2, DEN-3 and DEN-4). The role of mosquito in the life cycle of dengue fever is as a vector and humans are the main victim and source of infection. The *Aedes aegypti* mosquito is the main vector that transmits the viruses to the human. The infective female *Aedes* mosquito, which mainly gets the virus while feeding on the blood of an infected person, transmit it to the humans through the bites.

For the cure of the diseases, patients should ask for medical advice, rest and drink plenty of fluids. There is no specific treatment for dengue fever. Antipyretics can be taken to reduce fever and joint pain. Aspirin or ibuprofen should avoided because they can increase the risk of bleeding. Medical care by physicians and nurses experienced with the effects and progression of the disease can frequently save lives in the case of severe dengue. Maintenance of the patient's fluid volume is the main modality of such care. The only effective way to control or prevent dengue virus transmission is to combat the vector mosquitoes.

Integrated Vector Management approach is a rational decision-making process for the optimal use of resources for vector control. A management approach is needed that improves the efficacy, cost-effectiveness, ecological soundness and continuity of vector control interventions. Solid waste disposal and improved water storage practices, including covering containers to prevent access by egg-laying female mosquitoes are among methods that are promoted through community-based programmes.

Problem Statement

A study to assess the knowledge about dengue fever among rural and urban people in selected communities of Nagpur, Maharashtra.

Objectives of the Study

1. To assess the knowledge about dengue fever among rural people in selected community
2. To assess the knowledge about dengue fever among urban people in selected community.
3. To compare the knowledge about dengue fever among rural and urban people.
4. To associate between knowledge regarding dengue fever among rural people in selected community and selected demographic variables
5. To associate between knowledge regarding dengue fever among urban people in selected community and selected demographic variables

II. Materials and Methods

***Research Design*:** Descriptive design was used for the present study.

Setting: Selected rural and urban communities of Nagpur was the setting

Sample and Sample Size: The samples for the study include 50 people from rural community and 50 people from urban community in Nagpur.

Sampling Technique: Convenience sampling technique was used for sample selection.

Data Collection Technique and Instrument: The tool for the study was structured questionnaire. There are two parts for the questionnaire.

Part 1: Demographic variables: It had 5 items. It included personal and demographic data such as age, gender, education, occupation and source of information.

Part 2: Knowledge: It had 20 items. Structured questionnaire was prepared as the tool to assess the knowledge of people about Dengue fever. Each correct answer was scored as 1 and wrong answer was scored as 0. Total maximum score was 20.

Content Validity

The prepared tool with the problem statement, objectives and criterion checklist was given to experts from the field of nursing to ensure content validity. Their opinion and suggestions regarding the items in the tool was requested. The necessary modification was done according to the suggestions by the experts.

Reliability

Pearson's Correlation Coefficient	0.807
Reliability	89.31%

The reliability of the tool was 89.31% by using parellel form method and so the tool was reliable.

Procedure for Data Collection:

Formal permission was asked from the health centres to conduct the study as per the convenience of the researcher. The researcher met the people in rural and urban communities and samples were selected by using convenience sampling method among those who fulfilled the sample selection criteria. Totally one hundred (100) samples including 50 people from rural area and 50 people from urban area were selected. After selection, rapport was established and the subjects were informed about the purpose of the study and gave assurance about the confidentiality of their responses. An informed consent was obtained from the samples showing their willingness to participate in the study. The researcher collected the data from the questionnaire during the month of April 2018. Confidentiality was maintained. During data collection, each sample was given 30 minutes time to give answers for structured questionnaire. Data collection process was terminated after thanking each respondent for their participation and co-operation.

III. Results

The analysis was conducted with the help of descriptive and inferential statistics. The analysis and interpretation of the observations are given in the following four sections.

Section A: *Distribution of rural and urban people in relation to demographic variables in selected communities of Nagpur, Maharashtra.*

Table 1: Percentage wise distribution of people according to their demographic characteristics.

n=50

Demographic Variables	Rural Area	Urban Area
Age in years		
20-39 yrs	25(50%)	26(52%)
40-59 yrs	20(40%)	21(42%)
>60 yrs	5(10%)	3(6%)
Gender		
Male	23(46%)	13(26%)

Female	27(54%)	37(74%)
Education		
Primary	13(26%)	12(24%)
Secondary	22(44%)	17(34%)
Higher Secondary	11(22%)	6(12%)
Graduation/Diploma	3(6%)	0(0%)
Higher Education	1(2%)	15(30%)
Occupation		
Private Employee	29(58%)	19(38%)
Govt. Employee	11(22%)	27(54%)
Unemployed	10(20%)	4(8%)
Source of information		
Mass Media	12(24%)	15(30%)
Health Personnel	29(58%)	30(60%)
Friends	9(18%)	5(10%)
Relatives	0(0%)	0(0%)

The above table 1 depicts frequency and percentage wise distribution of rural and urban people according to their age, gender, educational qualifications, occupation and source of information.

Section B: Assessment of knowledge regarding dengue fever among rural and urban people in selected communities of Nagpur, Maharashtra

Table 2: Distribution of rural people with regards to knowledge regarding prevention dengue fever

n=50

Level of knowledge score	Score Range	Percentage score	Level of Knowledge Score	
			Rural People	Percentage
Poor	1-5	0-25%	6	12
Average	6-10	26-50%	22	44
Good	11-15	51-75%	21	42
Excellent	16-20	76-100%	1	2
Mean±SD			9.74 ± 3.26	
Mean %			48.70 ± 16.31	
Range			4 to 17	

The above table no 2 shows that 12% of the rural people had poor level of knowledge score, 44% had average, 42% had good and only 2% of them had excellent level of knowledge score. Mean knowledge score of the rural people was 9.74 ± 3.26 and mean percentage score was 48.70 ± 16.31.
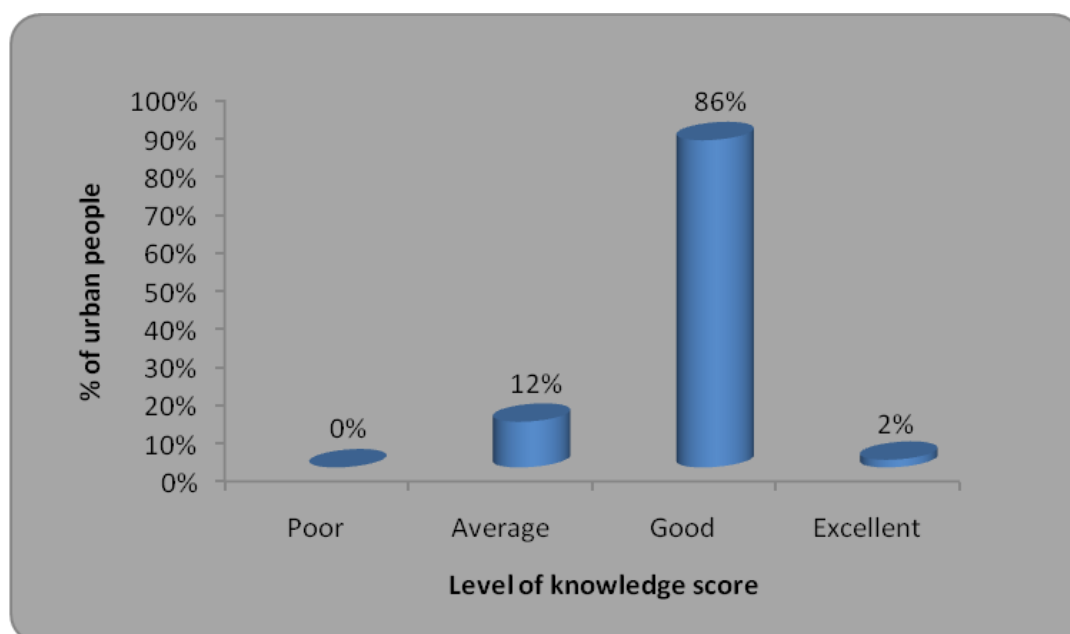

Graph 1: Distribution of rural people with regards to knowledge regarding dengue fever

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Table 3: Distribution of urban people with regards to knowledge regarding dengue fever

n=50

Level of knowledge score	Score Range	Percentage score	Level of Knowledge Score	
			Urban People	Percentage
Poor	1-5	0-25%	0	0
Average	6-10	26-50%	6	12
Good	11-15	51-75%	43	86
Excellent	16-20	76-100%	1	2
Mean±SD			12.32 ± 1.51	
Mean %			61.60 ± 7.58	
Range			9 to 16	

The above table no 3 shows that 12% of the urban people had average level of knowledge score, 86% had good and 2% had excellent level of knowledge score. Mean knowledge score of the urban people was 12.32 ± 1.51 and mean percentage score was 61.60 ± 7.58.

Graph 2: Distribution of urban people with regards to knowledge regarding dengue fever
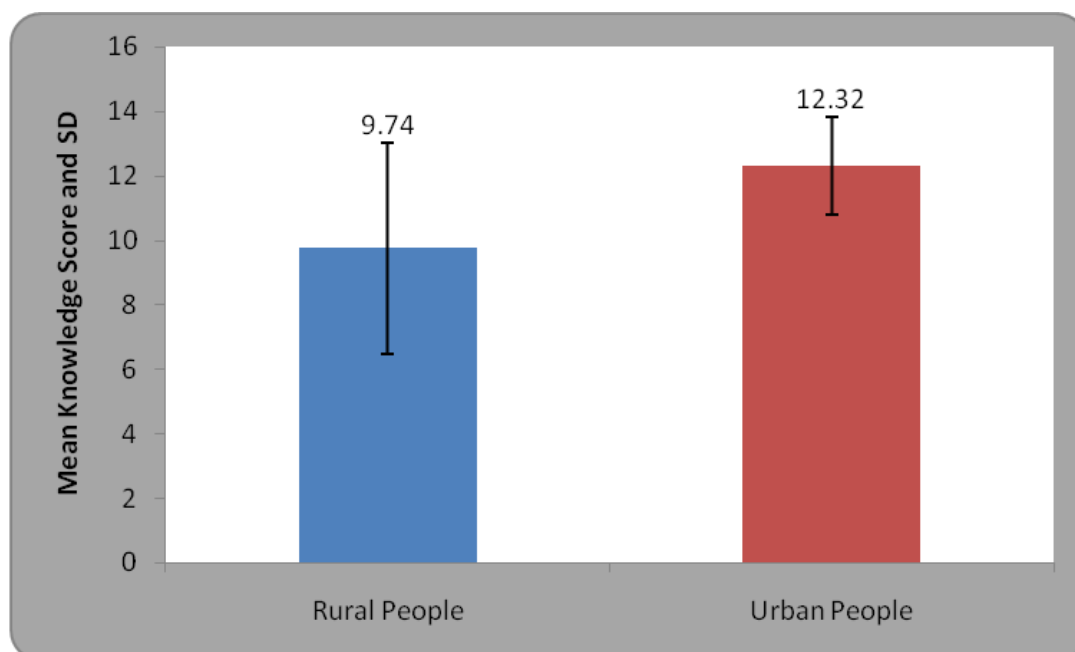
Section C
Comparison of knowledge regarding dengue fever among rural and urban people in selected communities of Nagpur, Maharashtra

Table 4: Comparison of knowledge regarding dengue fever among rural and urban people

n=50

	Mean	SD	Mean Difference	t-value	p-value
Rural People	9.74	3.26	2.58±0.50	5.07	0.0001,S
Urban People	12.32	1.51			

*S- Significant

The statistical Student's unpaired t test implies that the difference in the knowledge score among rural and urban people from selected communities of Nagpur, Maharashtra was found to be 5.07 which is statistically significant at 0.05% level of significance. The tabulated value was (t-tabulated value=2.05, degrees of freedom n=48). Hence it is statistically interpreted that difference in knowledge regarding dengue fever among rural and urban people was significant. Thus H1 is accepted and H0 is rejected.

Graph 3: Comparison of knowledge regarding dengue fever among rural and urban people

Section D.1
Association of knowledge aboutg dengue fever among rural people in selected communities of Nagpur, Maharashtra with selected demographic variables
It was found that educational level of rural people is statistically associated with knowledge score of them. The tabulated 'F' values was 2.56 (df=4,45) that was less than the calculated 'F' i.e. 3.22 at 5% level of significance. The calculated 'p'=0.021 was less than the acceptable level of significance i.e. 'p'=0.05. There was no association found between knowledge regarding dengue fever and any other demographic variables.
Section D.2
Association of knowledge about dengue fever among urban people in selected communities of Nagpur, Maharashtra with selected demographic variables
There was no association found between knowledge regarding dengue fever among urban people and any of the selected demographic variables.

IV. Discussion

The purpose of the present study was to compare the knowledge about dengue fever between rural and urban people in selected communities of Nagpur, Maharashtra. It is interpreted that difference in knowledge regarding dengue fever among rural and urban people was significant statistically. A cross sectional study in Chandigarh city, India showed that knowledge about dengue fever was generally inadequate. It was more in rural (48.5%) as compared to slum (30%). The study also concluded that there is a need to make villages and slum people aware of different preventive practices and reduce this knowledge application gap.

The present study showed that 12% of the urban people had average level of knowledge score, 86% had good and 2% had excellent level of knowledge score. Mean knowledge score of the urban people was 12.32 ± 1.51 and mean percentage score was 61.60 ± 7.58. A community based cross sectional study conducted among 400 participants in urban area of Karnataka revealed that majority of them (87.75%) identified fever as a cardinal symptom of dengue fever. Only 32.25% knew that dengue fever is transmitted by Aedes mosquitoes. 42% of participants had good knowledge of dengue. Key finding of this study was that knowledge was poor among the study samples although majority of people had clear understanding of fever, joint pain and headache as common features of dengue fever.

Implications
Nursing Practice: Nursing professionals have the duty to assess the knowledge about dengue fever among public and plan different awareness programmes related to dengue fever according to that data. Comparison between urban and rural population will be helpful to organize need based public education on dengue fever .
Nursing Education: Integration of theory and practice is essential in nursing profession. So the nurse educator can use the result of the study as source of learning for the students. Findings of the study may help nurse

educators to organize education awareness programmes for the students to update the knowledge on dengue fever.

Nursing Administration: Community health nursing administrators can plan special awareness programmes for students regarding dengue fever. The administrators can also organize in service education and supervisory plan for nurses and health workers using this data.

Nursing research: The study findings may help to widen the scientific body of knowledge upon which further researches can be conducted. Research should be continued on knowledge on dengue fever among different category of people. Finding of the study indicated that the area needs further studies.

V. Recommendation

* A similar study can be done on a larger population.
* The study can be replicated on different categories of population in the community.
* A study can be conducted to evaluate the effectiveness of planned teaching versus information booklet on people in relation to dengue fever.

VI. Conclusion

A careful approach and varieties of awareness programmes are essential to increase the knowledge level of people in the community. Study findings emphasized that special attention should be given to the rural community. Awareness through innovative educational methods, need based teaching and motivational sessions in communities are some of the measures to bring about major change in the level of knowledge among rural people

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