

A Comparative Study to Assess the Knowledge Regarding Dengue Fever and its Prevention among All Women at the Selected Urban and Rural Areas of Ratia (Fatehabad)

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Abstract

Dengue infection is a mosquito-borne arboviral infection. An important criterion to consider in the diagnosis of dengue infection is history of travel or residence in a dengue-endemic area within 2 weeks of the onset of fever. The spectrum of dengue virus infection ranges from an asymptomatic or undifferentiated febrile illness to severe infection. Criteria for diagnosis of probable dengue include history of travel or residence in a dengue-endemic area, plus high grade fever of acute onset and two of the following signs and symptoms: nausea/vomiting, rash, severe aches and pains (also called 'break bone fever'), positive tourniquet test, leukopenia, and any warning sign. Presence of any of the following warning signs—abdominal pain or tenderness, persistent vomiting, clinical fluid accumulation, mucosal bleeding, lethargy, restlessness, liver enlargement greater than 2 cm, and an increase in hematocrit concurrent with rapid decrease in platelet count—will require strict observation and medical intervention.

Keywords: Comparison, knowledge, women, health guide, dengue fever, prevention.

Introduction

Background of the Study: Dengue fever is an arthropod borne virus of the genus flavivirus, and within the family Flaviviridae. Other flavivirus include Japanese's encephalitis and yellow fever. There are four distinct serotypes of dengue virus (DEN1, DEN2, DEN3, and DEN 4) all of which have the potential to cause either classical dengue fever (DF) or the more serious form of the disease, dengue hemorrhagic fever (DHF). Dengue is transmitted by the bite of an infective *Aedes Aegypti* mosquito.¹

Dengue is acutely infectious mosquito-borne disease characterized by episodes of "Saddle back"

fever muscles and joint pain, accompanied by an initial erythema and terminal rash of varying morphology. It aedes mosquito an indoor vector of man. The disease is also called as break bone fever or dandy fever. Dengue is caused by group B arboviruses and the virus has four distinct antigenic serotype, i.e. "man to mosquito to man." Entry of virus cause viraemia and the onset of fever and persists four about 3 days. It produces endothelial swelling, perivascular edema infiltration with the mononuclear cells in the small blood vessels leading to varying sign and symptoms.²

Dengue fever is more commonly seen in older children and adults. It is characterized by abrupt onset of high fever lasting 3-7 days severe frontal headache, pain behind the eyes and muscle and joint pain. Other symptoms may include loss of appetite, nausea, vomiting and diarrhea, blanching rash and sometimes minor bleeding (e.g. from nose and gums). The acute symptoms of dengue fever last up to 10 days. Some people may experience repeated episodes of fever. Full recovery may be slow and associated with weakness and depression. It is rarely fatal.³

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There is no specific treatment or vaccine. Supportive treatment includes plenty oral fluids and paracetamol for relief of fever and body aches and pains. Aspirin and non-steroids anti-inflammatory drugs should not be used as they can affect blood clotting. Anyone with dengue hemorrhagic fever should hospitalize for fluid replacement and observation.⁴

Dengue fever is the most common among arthropod borne diseases. It is a disease of tropical and sub-tropical regions affecting urban and peri-urban areas. According to World Health Report, the increase of dengue and dengue hemorrhagic fever occurs due to increased population, urbanization, inappropriate water management, travel and trade.⁵

The World Health Organization (WHO) estimates that more than 2.5 billion people are at risk of dengue infection. Most will have asymptomatic infections. The disease manifestations range from an influenza-like disease known as dengue fever (DF) to a severe, sometimes fatal disease characterized by hemorrhage and shock, known as dengue hemorrhagic fever/dengue shock syndrome (DHF/DSS), which is on the increase. Dengue fever and dengue hemorrhagic fever/dengue shock syndrome are caused by the four viral serotypes transmitted from viraemia to susceptible humans mainly by bites of *Aedes aegypti* and *Aedes albopictus* mosquito species.⁶

Prevention depends on control of and protection from the bites of the mosquito that transmits it. The World Health Organization recommends an Integrated Vector Control program consisting of five elements:

- Stay in air-conditioned or well-screened housing. The mosquitoes that carry the dengue viruses are most active from dawn to dusk, but they can also bite at night.
- Wear protective clothing. When you go into mosquito-infested areas, wear a long-sleeved shirt, long pants, socks and shoes.
- Use mosquito repellent. Permethrin can be applied to your clothing, shoes, camping gear and bed netting. You can also buy clothing made with Permethrin already in it. For your skin, use a repellent containing at least a 10 percent concentration of DEET.
- Reduce mosquito habitat. The mosquitoes that carry the dengue virus typically live in and around houses, breeding in standing water that can collect in such

things as used automobile tires. Reduce the breeding habitat to lower mosquito population.⁷

During the community health nursing experience and by studies shows increased incidences of dengue in India. When the researcher's observation regarding mosquito breeding at Hassan in the most rainfall area and the lack of knowledge regarding dengue fever among people living in rural and urban area, so this incidence made the investigator to take study conducted on rural and urban area people at Hassan district, Karnataka. Dengue fever is a mosquito-borne tropical disease caused by the dengue virus. Symptoms typically begin three to fourteen days after infection. This may include a high fever, headache, vomiting, muscle and joint pains, and a characteristic skin rash. Recovery generally takes two to seven days.⁸

Dengue has a wide spectrum of clinical presentations, often with unpredictable clinical evolution and outcome. While most patients recover following a self-limiting non-severe clinical course, a small proportion progress to severe disease, mostly characterized by plasma leakage with or without hemorrhage. Intravenous rehydration is the therapy of choice; this intervention can reduce the case fatality rate to less than 1% of severe cases.⁹

This is even more the case during the frequent dengue outbreaks worldwide, where health services need to be adapted to cope with the sudden surge in demand. Changes in the epidemiology of dengue, as described in the previous sections, lead to problems with the use of the existing WHO classification. Symptomatic dengue virus infections were grouped into three categories: undifferentiated fever, dengue fever (DF) and dengue hemorrhagic fever (DHF). WHO supported prospective clinical multicenter study across dengue-endemic regions was set up to collect evidence about criteria for classifying dengue into levels of severity. Currently classification into DF/DHF/DSS continues to be widely used. The study finding confirmed that, by using a set of clinical and/or laboratory parameters, one sees a clear-cut difference between patients with severe dengue and those with non-severe dengue.¹⁰

Dengue fever is a dangerous and depilating disease, and it's a growing threat to global health. Dengue fever is the second most widespread in the world. The world health organizations have estimated that between 50 and 100 million people suffer from dengue fever each year. The biggest issue is that dengue fever is spreading fast, but currently has no treatment for it. This disease can

affect you because someday it might travel to the place you live.

However, for practical reasons it was desirable to split the large group of patients with non-severe dengue into two subgroups -- patients with warning signs and those without them. It must be kept in mind that even dengue patients without warning signs may develop severe dengue.¹¹

Statement of Problem: “A comparative study to assess the knowledge regarding Dengue Fever and its prevention among women at selected urban and rural areas of Ratia, Fatehabad.”

Objective of Study:

- To assess the level of knowledge among women at urban and rural areas.
- To compare the knowledge between women at urban and rural areas.
- To find out the association between the level of knowledge among women regarding dengue fever and its prevention with demographic variables

Hypothesis:

- **H1** There was significant increasing knowledge of women regarding dengue fever in urban and rural areas.

Data Analysis and Interpretation:

Assess the knowledge level of women of urban and rural area regarding dengue fever

Table: 1. Criteria measure of women' s according to level of knowledge regarding dengue fever. N=100

Criteria Measure of Knowledge Score			
Category	Score	Urban Women knowledge (%)	Rural Women knowledge (%)
Low	(0-14)<50%	6	19
Average	(15-22) 50%-74%	40	29
Good	(20-30) ≤75%	4	2

Table 2: Comparison of the knowledge between women of urban and rural area regarding dengue fever.

Unpaired T Test	Knowledge Score	
	Urban	Rural
Mean Score	19.77	15.32
Standard Deviation	3.102	2.986
Mean %	57.00	51.01

- **H2** There was significant association between knowledge of urban and rural women regarding dengue fever and its prevention with their selected demographic variables.

Research Methodology

Research Approach: Descriptive research approach

Research design: Comparative research design

Setting of the study: In the selected Naharka Mohalla of urban and Alipur Barota of rural area of Ratia.

Sample Technique and Sample Size

Sample Technique: Convenient sampling technique

Sample Size: 100 women of urban and rural area. (50 urban and 50 rural)

Tools for Data Collection: Researcher used self structured knowledge questionnaire to measure knowledge regarding dengue fever and its prevention.

Procedure for data collection: A written permission was obtained. The researcher informed the participants about the purpose of the study and has taken an informed consent the same. The data were collected from the samples. All the samples answered the questionnaire.

Unpaired T Test	Knowledge Score	
	Urban	Rural
Unpaired Test	2.986	
P Value	<0.001	
Table Value at 0.05	1.98	
Result	Significant	

Note: Significant at 5% level (i.e. $P < 0.005$)

Association and correlation between knowledge of women regarding dengue fever in urban and rural areas

Table 3: Association with Urban Knowledge

Demographic Data		Levels (N=50)			Association with Urban Knowledge				
Variables	Opts	Low	Average	Good	Chi-Test	P Value	D.F	Table Value	Result
Age	21-25 Age	6	9	3	17.760	0.007	6	12.592	Significant
	26-30 Age	0	15	0					
	31-35 Age	0	9	0					
	36-45 Age	0	7	1					
Religion	Hindu	4	12	2	4.461	0.0615	6	12.592	Not Significant
	Muslim	1	8	1					
	Sikh	2	7	0					
	Christian	3	17	3					
Type of Family	Nuclear Family	2	14	1	5.524	0.238	4	9.488	Not Significant
	Joint Family	2	17	0					
	Extended Family	2	9	3					
Educational Status	Primary Education	6	11	3	15.152	0.019	6	12.592	Not Significant
	Secondary Education	0	10	0					
	Under Graduate	0	13	0					
	Post Graduate	0	6	1					
Occupation	Housewife	0	12	0	8.988	0.174	6	12.592	Not Significant
	Govt. Job	3	9	3					
	Private Job	2	8	1					
	Business	1	11	0					
Family Income	1000-5000	4	14	3	4.802	0.569	6	12.592	Not Significant
	5001-10000	0	4	0					
	10000-20000	1	8	0					
	Above 2000	1	14	1					
Size of Family	1-2 Member	2	18	1	6.700	0.349	6	12.592	Not Significant
	3-4 Member	2	9	3					
	5-6 Member	2	8	0					
	7-8 Member	0	5	0					

Demographic Data		Levels (N=50)			Association with Urban Knowledge				
Variables	Opts	Low	Average	Good	Chi-Test	P Value	D.F	Table Value	Result
Source of Information	Family Members	3	19	2	2.574	0.860	6	12.592	Not Significant
	TV/Radio/Internet	1	7	0					
	Newspaper, Magazines & Books	1	3	0					
	Health Personnel	1	11	2					

Association and correlation between knowledge of women regarding dengue fever in urban and rural areas:

Table 4: Association with Rural Area

		Levels (N=50)			Association with Rural Knowledge				
Variables	Opts	Low	Average	Good	Chi-Test	P Value	D.F	Table Value	Result
Age	21-25 Age	8	8	0	6.772	0.342	6	12.592	Significant
	26-30 Age	2	11	1					
	31-35 Age	5	5	0					
	36-45 Age	4	5	1					
Religion	Hindu	2	4	0	1.567	0.955	6	12.592	Not Significant
	Muslim	4	6	1					
	Sikh	4	5	0					
	Christian	9	14	1					
Residence	Urban	10	24	26	6.345	0.865	6	13.654	Not Significant
	Rural	14	11	15					
Type of Family	Nuclear Family	5	13	0	4.061	0.398	4	9.488	Not Significant
	Joint Family	6	10	1					
	Extended Family	8	6	1					
Educational Status	Primary Education	11	6	1	10.079	0.121	6	12.592	Not Significant
	Secondary Education	3	5	1					
	Under Graduate	3	13	0					
	Post Graduate	2	5	0					
Occupation	Housewife	2	10	0	6.278	0.393	6	12.592	Not Significant
	Govt. Job	7	10	1					
	Private Job	5	3	0					
	Business	5	6	1					
Family Income	1000-5000	9	13	1	4.730	0.579	6	12.592	Not Significant
	5001-10000	0	4	0					
	10000-20000	4	6	1					
	Above 2000	6	6	0					
Size of Family	1-2 Member	6	14	1	4.734	0.578	6	12.592	Not Significant
	3-4 Member	8	5	1					
	5-6 Member	4	7	0					
	7-8 Member	1	3	0					

		Levels (N=50)			Association with Rural Knowledge				
Variables	Opts	Low	Average	Good	Chi-Test	P Value	D.F	Table Value	Result
Source of Information	Family Members	12	16	2	3.581	0.733	6	12.592	Not Significant
	TV/Radio/Internet	3	2	0					
	Newspaper, Magazines & Books	1	2	0					
	Health Personnel	3	9	0					

Discussion

This part deals with discussion according to the results obtained from statistical analysis based on the data of the study, the reviewed literature, hypothesis which was selected for the study. The present study reveals that 40% of urban women's have average knowledge regarding dengue fever and its prevention, 29% of rural women have average knowledge regarding dengue fever, 6% of rural women have low knowledge, 19.0% of urban women have low knowledge, and 2% of rural women have good knowledge regarding dengue fever and 4% of urban women have good knowledge regarding dengue fever.

Majority of rural respondents (70%) and urban respondents (75.62%) had medium awareness about dengue fever education was positively and significantly associated with awareness of rural respondent whereas occupation and monthly income were positively and significantly associated with urban respondents.

The study reveals that statistical outcomes of association between socio demographic characters of urban and rural women's with their knowledge regarding dengue fever. In order to examine the association between the variables the chi-square test was worked out. Some character were found to be statistically significant i.e., P0.05. It evidenced that the knowledge is not influenced by age, religion, type of family, occupation, family income, number of children, source of information. There is significant relationship in between knowledge of urban and rural area.

Conclusion

The major conclusions were drawn on the basis of the findings of the study are: The study was aimed at assessing the knowledge level of women about dengue fever. The relevant data was collected and analyzed statistically based on the objective of the study.

Among 100 women of urban and rural area, no one is having adequate knowledge regarding dengue fever. The researcher reveals that there was significant difference in knowledge of women of urban and rural area about dengue fever. The study also reveals that there was an association between demographic variable knowledge of women about dengue fever and its prevention.

Conflict of Interest: No

Source of Funding: Self

Ethical Approval: The ethical approval was obtained from ethical committee, Shaheed Udham Singh Post Graduate college of Nursing, Barota (Ratia).

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