

Original Research Article

Assess The Knowledge Of Mothers Regarding Dengue Fever At Selected Rural Area, Gonda, Uttarpradesh.

Mrs. Manisha Srivastava^{1*}, Mr. Anil Singh Bhadouria², Ms. Apana Vegda³, Mrs. Shikha Gupta⁴,
Dr. Satyveer Singh Gurjar⁵, Ms. Sudha Gautam⁶.

^{1*} Assistant Professor, Avadh Hospital Group of Institutions, Gonda, U.P.

² Principal, Avadh Hospital Group of Institutions, Gonda, U.P.

³ Staff Nurse, PDU Hospital, Rajkot, Gujarat.

⁴ Assistant Professor, Noida International University, Greater Noida U.P.

⁵ Vice Principal, G. G. School of Nursing & Paramedical, Agra, U.P.

⁶ Associate Professor, G.G. School of Nursing & Paramedical, Agra, U.P.

*Corresponding Author :- Mrs. Manisha Srivastava

*Assistant Professor, Avadh Hospital Group of Institutions, Gonda, U.P.

ABSTRACT

Introduction: The viral virus transmitted by mosquitoes that can be fatal, dengue, has been a public health issue. Despite being lethal, dengue is an illness that can be avoided. Health education, mosquito eradication, and immunization are the three basic forms of preventive that are frequently used in tandem.

Method: Quantitative research design was used for study. A practical simple random sampling procedure was used to select 60 mothers in total. Questionnaire methods were used to gather the data. Age, religion, degree of education, and other socio-demographic characteristics were taken into account when formulating the questions.

Results: In this study, the majority of participants, 36 (60%) had average knowledge about dengue fever, followed by 13 (21.7%) who had bad knowledge and just 11 (18.3%) who had strong knowledge. The majority of 28 (46.7%) were between the ages of 18 and 25, and the majority of 45 (75%) were Hindus, according to other results. Of the relationship between mother and selected socio-demographic factors and their level of understanding regarding their dengue fever. The results indicated that while religion and educational status are significant at the p0.05 level, socio-demographic variables like the mother's age, residence, employment status, earning members of the family, family monthly income, marital status, family type are not significant at that level.

Conclusion: It is important to give mothers enough information about prevention of dengue fever so that they can help and encourage other mothers.

Keywords: Assess, Knowledge, dengue fever, mothers, Rural area

INTRODUCTION

Dengue fever is an acute, mosquito-transmitted viral disease characterized by fever, headache, arthralgia, myalgia, rash, nausea, and vomiting. Infections are caused by any of four virus serotypes.¹ The incidence of dengue is increasing in most tropical areas throughout the world. Economic, political, technological, ecologic, and demographic changes have brought about the emergence of new microbial diseases, as well as an increase in the incidence of previously known infections. The increase in dengue activity in Asia, Africa, and the Americas represents a pandemic that is being facilitated by increased air travel; global urbanization; population growth; greater abundance of disposable, non degradable containers that can serve as *Aedes* production sites; and lack of effective mosquito control programs.² This report summarizes information about risk factors for severe disease, recent dengue outbreaks throughout the world, and cases of dengue virus infection in travelers who have been diagnosed on return to the United States. Dengue is an infectious disease caused by a virus. The virus is transmitted by a type of mosquito (*Aedes aegypti*) that bites during daylight hours.

The dengue virus belongs to the Flaviviridae family of viruses that cause diseases in humans. Dengue is the most common infection caused by viruses transmitted by mosquitoes (these are known as arboviral illnesses).³ Dengue causes severe flu-like symptoms, such as a high temperature (fever) of 40C (104F) or over, severe headache, muscle and joint pain, facial flushing and skin rash. Anyone can catch dengue if the disease is common in that area (endemic). See the box, below left, for a list of high-risk countries. However, dengue is more common among older children, adolescents and adults.⁴ The risk of travelers catching dengue depends on several factors, including, the countries they visit, how long they stay in an endemic area (although even short-term visitors may be vulnerable to dengue), the season of travel (mosquitoes breed in fresh-standing water, such as puddles and collected rainwater), the intensity of dengue transmission in that area. Dengue is a self-limiting disease. Self-limiting means that it clears up by itself, usually within a couple of weeks. The incubation period (the time it takes for symptoms to show after infection) for dengue is five to eight days.⁵ There is no vaccine to prevent you becoming infected, although research into developing a vaccine to protect against dengue is in progress. The only way to prevent getting the virus is to avoid being bitten and to be particularly careful around the hours of dawn and dusk. There are no specific medications available to treat the disease, but symptoms can be managed by taking paracetamol, drinking plenty of fluids and resting.⁶ According to the World Health Organization, each year there are 50-100 million cases of dengue. Dengue fever is a fatal viral infection that results in up to 24,000 deaths every year. Dengue a mosquito-borne viral disease has rapidly spread in all regions of WHO in recent years. The number of dengue cases reported annually to WHO has increased from 0.4 to 1.3 million in the decade 1996–2005, reaching 2.2 million in 2010 and 3.9 billion in 2018. In the last 50 years, incidence has increased 30-fold with increasing geographic expansion to new countries and in the present decade, from urban to rural settings. The estimated global annual incidence of symptomatic cases is about 50 million – 100 million who were predominantly from Asia, followed by Latin America and Africa.⁷

In India, 16517 cases and 545 deaths were reported during 1996 dengue outbreak after which there was upsurge of cases from 2010 onwards . In 2019, 89974 cases have been reported which were lower than the cases reported in 2017. Tamil Nadu reported 4.04% of the national burden in the year 201814 . Overall burden of disease is appearing sleek due to the substantial under-reporting of dengue within health systems.⁸ The disease was mainly restricted to urban and semi-urban areas of the country because of the availability of favorable breeding sites of dengue vector. However, over period of time there was a paradigm shift in the trend of incidence of dengue from urban to rural areas due to urbanization, industrialization, large scale development activities and rapid transportation which made the rural areas favorable for dengue vector breeding¹⁶. These developments have resulted in frequent outbreaks of dengue in rural areas of the country. Rapid population growth, lack of correct knowledge about dengue infection and preventive measures,

environmental changes and increased breeding of Aedes in the living premises resulted in higher transmission of disease.⁹ considering the severity of the disease it has become need of the hour to adopt preventive and control measures to halt the transmission of dengue. This in turn depends on the community acceptance and participation which again depends on the community awareness regarding dengue and its prevention. With this background the study was conducted to determine the awareness about dengue and its prevention among a rural population.¹⁰

METHODS

Study location and time frame: In 2022, women in Gonda village uttarpradesh participated in this study.

Study design: In the present study a quantitative descriptive research design was adopted to assess the knowledge of dengue fever among mothers at Gonda village.

Population:

(a)**Source population:** mothers in rural areas.

(b) All mothers who were willing to participate in the study made up the study population.

Sample size: 60 mothers.

Inclusion and Exclusion criteria:

(a)**Inclusion criteria:** Mothers who are willingly participate in the study at selected areas at Gonda.

(b)**Exclusion criteria:** Mothers who are ill at the time of data collection and those who are unable to participate in study.

Variables:

(a)**Independent variables:** In this study, Independent variables are- Age, Gender, Income, Religion, Educational status, Occupation, Family type, Marital status etc.

(b)**Dependent variable:** In this study, Dependent variable is the knowledge of mothers regarding dengue fever.

Operational definitions:

Assess: -In this study, assess means to evaluate or estimate the factors leading to dengue fever, and to assess the knowledge regarding prevention of dengue fever.

Knowledge: - In this study, knowledge is defined as information that has been gathered via experience, education, or training and that is either theoretical or practical in nature.

Dengue fever: - In this study, Dengue fever is a mosquito-borne viral disease that has rapidly spread to all regions

Data Collection: Data collection was conducted by structure knowledge Questionnaire and was distributed to the participants and collected back. Each participant finished the tools in between 15 and 20 minutes.

Data Quality Control:

- Carefully informed about the purpose of the study to the participant during the collection of data during the Research study.
- Each subject provided informed consent prior to participating in the study.
- Thus, the Research followed the issued by the research committee.
- The ethical aspect of research was followed very strictly in this Research.

Data Collection: Both descriptive and inferential statistics will be used to collect the data. Inferential analysis will be performed using the frequency and percentage distribution of prenatal mothers' socio-demographic data as well as the frequency and percentage distribution of their knowledge of their high risk status.

RESULTS

Socio-demographic characteristics: In this study, a total of 60 mothers were chosen who were present at the time of study. Most of them (28, 46.7%) were between the ages of 18 and 25. They were followed by 26 (43.3%), who were between the ages of 26 and 35, 5 (8.3%), who were between the ages of 36 and 45, and 1 (1.7%), who were under the age of 18. Regarding religion of 1 mothers, maximum 45(75.0%) were Hindu, 9(15.0%) were Jain and 6(10%) were Muslim religion. With regard to Residential area of mothers, majority 33(55.0%) were residing in semi urban area, 12(20%) were residing in rural area,9(15%) were residing in slum area) and 6(10%) were in urban area. Regarding education status of mothers, 34(56.7%) were primary education, 14(23.3%) were non formal education,8(13.3%) were higher secondary and 4(6.7%) were secondary education. Regarding marital status of mothers, 51(85.0%) were married, 5(8.3%) were unmarried, 4(6.7%) were divorced. With regard to family type of mothers, majority 46(56.7%) were nuclear family, 21(35.0%) were joint family, 4(6.7%) were Reconstituted family and 1(1.7%) Single-parent family. With regard to Eating habit of mothers, majority 34(76.7%) were vegetarian, and 14(23.3%) were Non-vegetarian. (**Table-1**).

Table:1: Socio-demographic characteristics of respondents

| S. No | Demographic Variables | frequency | percentage | |
|-------|--------------------------|----------------------------|------------|------|
| 1 | Age of the mothers | Below 18 years | 1 | 1.7 |
| | | 18-25 Years | 28 | 46.7 |
| | | 26-35 Years | 26 | 43.3 |
| | | 36-45 Years | 5 | 8.3 |
| 2 | Religion | Hindu | 45 | 75.0 |
| | | Jain | 9 | 15.0 |
| | | Muslim | 6 | 10.0 |
| 3 | Residential area | Rural area | 12 | 20.0 |
| | | Semi-rural | 33 | 55.0 |
| | | Slum area | 9 | 15.0 |
| | | Urban area | 6 | 10.0 |
| 4 | Educational status | No formal education | 14 | 23.3 |
| | | Primary | 34 | 56.7 |
| | | Secondary | 4 | 6.7 |
| | | Higher secondary and above | 8 | 13.3 |
| 5 | Employment status | Employed | 12 | 20.0 |
| | | Part-time worker | 23 | 38.3 |
| | | Full-time worker | 2 | 3.3 |
| | | Unemployed | 23 | 38.3 |
| 6 | Number of earning member | 1 Member | 10 | 16.7 |
| | | 2 Member | 16 | 26.7 |
| | | 3 Member | 22 | 36.7 |
| | | More than 3 | 12 | 20.0 |
| 7 | Monthly income | Less than 10,000 rupees | 29 | 48.3 |
| | | 11,000-25,000 rupees | 26 | 43.3 |
| | | 26,000-50,000 rupees | 5 | 8.3 |
| | | More than 50,000 rupees | 29 | 48.3 |
| 8 | Marital status | Married | 51 | 85.0 |
| | | Unmarried | 5 | 8.3 |
| | | Divorced | 4 | 6.7 |
| 9 | Family type | Joint family | 21 | 35.0 |
| | | Nuclear family | 34 | 56.7 |
| | | Reconstituted family | 4 | 6.7 |
| | | Single-parent family | 1 | 1.7 |

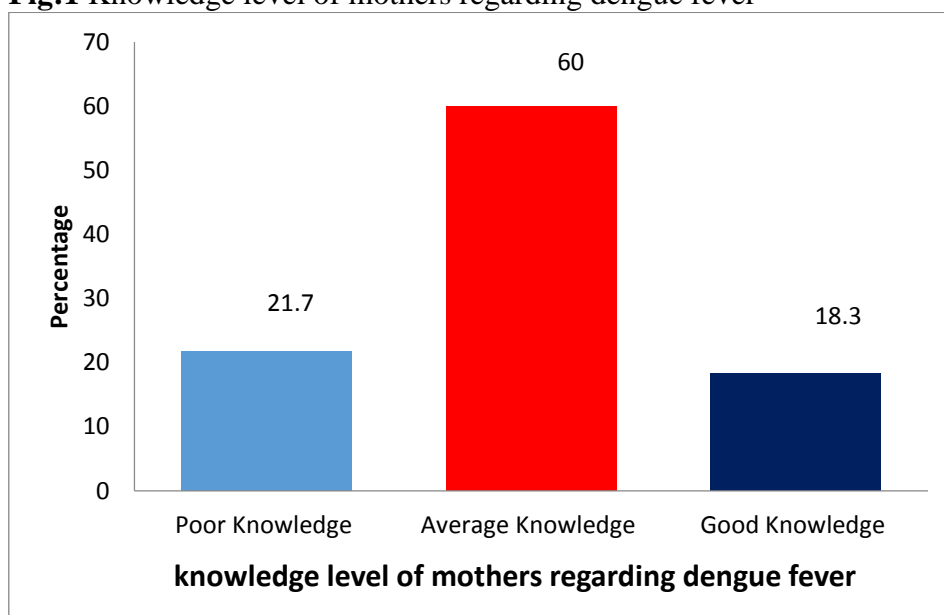
| | | | | |
|--|--------------|--|-----------|------------|
| | Total | | 60 | 100 |
|--|--------------|--|-----------|------------|

Knowledge level of mothers regarding dengue fever: Regarding the level of knowledge regarding dengue fever revealed that majority 36(60%) had average knowledge followed by 13(21.7%) had poor knowledge and only 11(18.3%) had good knowledge regarding dengue fever with median score of 4 and mean knowledge score was 5.65 with standard deviation was 3.066 (Table:2).

Table:2: Knowledge level of mothers regarding dengue fever

| Level of Knowledge | Frequency (f) | Percentage (%) | Median | Mean | SD |
|--------------------|---------------|----------------|--------|------|-------|
| Poor Knowledge | 13 | 21.7 | 4 | 5.65 | 3.066 |
| Average Knowledge | 36 | 60.0 | | | |
| Good Knowledge | 11 | 18.3 | | | |

Fig:1 Knowledge level of mothers regarding dengue fever



Reveals that the association between level of knowledge regarding dengue fever of mothers with their selected socio-demographic variables. Result showed that socio-demographic variables such as age of the mother, residence, employment status, earning members in the family, family monthly income, marital status, family type, eating habits and any addiction were non-significant at $p < 0.05$ level and religion and educational status are significant at $p < 0.05$ level hence religion and educational status mother affects the knowledge level of dengue fever of antenatal mothers (Table 3).N=60

Table 3: Association between knowledge regarding dengue fever among mothers with their selected socio-demographic variables

| Demographic Variables | Level of knowledge | | | χ^2 value | df | p value |
|--------------------------|--------------------|---------|------|---------------------|----|---------------------|
| | Poor | Average | Good | | | |
| Age of the mother | | | | 7.856 ^a | 6 | 0.247 ^{NS} |
| a. <18 years | 0 | 0 | 1 | | | |
| b. 18-25 years | 5 | 16 | 7 | | | |
| c. 25-35 years | 6 | 17 | 3 | | | |
| d. 35-45 years | 2 | 3 | 0 | | | |
| Religion | | | | 14.280 ^a | 4 | 0.006 ^{S*} |
| a. Hindu | 7 | 33 | 5 | | | |
| b. Jain | 3 | 2 | 4 | | | |
| c. Muslim | 3 | 1 | 2 | | | |

| | | | | | | |
|--------------------------------------|----|----|---|--------------------|---|---------------------|
| Residence | | | | | | |
| a. Rural area | 2 | 9 | 1 | 1.885 ^a | 6 | 0.930 ^{NS} |
| b. Semi-rural | 8 | 18 | 7 | | | |
| c. area | 2 | 5 | 2 | | | |
| d. Slum area | 1 | 4 | 1 | | | |
| Educational status | | | | | | |
| a. Non-formal education | 1 | 10 | 3 | 8.325 ^a | 6 | 0.004 ^{S*} |
| b. Primary | 8 | 21 | 5 | | | |
| c. Secondary | 2 | 0 | 2 | | | |
| d. Higher secondary and above | 2 | 5 | 1 | | | |
| Employment status | | | | | | |
| a. Employed | 2 | 9 | 1 | 4.120 ^a | 6 | 0.660 ^{NS} |
| b. Part time worker | 6 | 11 | 6 | | | |
| c. Full time worker | 0 | 2 | 0 | | | |
| d. Unemployed | 5 | 14 | 4 | | | |
| Earning members in the family | | | | | | |
| a. One member | 1 | 9 | 0 | 7.602 ^a | 6 | 0.267 ^{NS} |
| b. Two members | 3 | 8 | 5 | | | |
| c. Three member | 7 | 12 | 3 | | | |
| d. More than 3 member | 2 | 7 | 3 | | | |
| Family monthly income | | | | | | |
| a. Less than 10,000 | 5 | 19 | 5 | 0.949 ^a | 4 | 0.917 ^{NS} |
| b. 10,000-25,000 | 7 | 14 | 5 | | | |
| c. 25,000-50,000 | 1 | 3 | 1 | | | |
| Marital status | | | | | | |
| a. Married | 11 | 31 | 9 | 4.300 ^a | 4 | 0.367 ^{NS} |
| b. Unmarried | 1 | 4 | 0 | | | |
| c. Divorced | 1 | 1 | 2 | | | |
| Family Type | | | | | | |
| a. Joint family | 2 | 14 | 5 | 7.269 ^a | 6 | 0.267 ^{NS} |
| b. Nuclear family | 11 | 17 | 6 | | | |
| c. Reconstituted family | 0 | 4 | 0 | | | |
| d. Single parent family | 0 | 1 | 0 | | | |
| Eating Habits | | | | | | |
| a. Vegetarian | 11 | 28 | 7 | 1.528 ^a | 2 | 0.466 ^{NS} |
| b. Non-vegetarian | 2 | 8 | 4 | | | |

p value < 0.05 level of significance S- Significant NS-Non Significant

CONCLUSION

Majority of mothers were willingly participated in the study. The mothers had some knowledge about dengue fever. Regarding the association between levels of knowledge regarding dengue fever of mothers with their selected socio-demographic variables. Providing proper education about prevention of dengue fever.

DISCUSSION:

The purpose of this study was to assess the knowledge of dengue fever among mothers at selected areas. In this study it was found that knowledge regarding dengue fever revealed that majority 36(60%) had average knowledge followed by 13(21.7%) had poor knowledge and only 11(18.3%) had good knowledge regarding dengue fever. A study to evaluate the knowledge and attitudes

regarding dengue and the practises of prevention practised by the residents of a rural area and an urban resettlement colony of east Delhi was undertaken in 2019 in comparison to research on previous findings provided by Antony. The subjects were given a pre-structured, pre-tested format including the pertinent question. 400 different individuals in all were questioned. Eighty-two percent (82.3%) of those surveyed were aware of dengue. In these regions, audiovisual media predominated as a source of information. 92% of respondents said they were aware of fever as the disease's most frequent symptom, followed by bleeding and headaches. 71% of respondents said they were aware that mosquitoes spread the illness. The trends and outcomes of dengue cases were investigated in a tertiary care hospital in Southern India. From 2002 through 2012, the number of instances increased steadily, with 2012 being the highest number of cases. The majority of instances were noted in September, following the monsoon season. 285 patients, or 82.8% of the 344 cases, had dengue fever, 34 had dengue hemorrhagic fever, and 25 had dengue shock syndrome. The study demonstrates that there is a lack of knowledge and awareness regarding dengue fever prevention. The vector surveillance, integrated vector control, emergency response, early clinical diagnosis, and proper case management should be prioritized in the disease control programme. A study was conducted to assess knowledge, attitudes and practice (KAP) of high school female students, teachers and supervisors towards Dengue fever (DF), and to determine scoring predictors of high school students' knowledge and practice scores. A multistage, stratified, random sample method was applied. A total of 2693 students, 356 teachers and 115 supervisors completed confidential self-administered questionnaires. Result showed that Students obtained the lowest mean knowledge score compared to the other two groups ($F=51.5$, $P<0.001$). A positive family history of DF (a $OR=2.05$; $95\% CI=1.15-3.64$), having literate mothers (\geq secondary education), and students' age ≥ 17 were the predictors of high students' knowledge score. The only predictor of high practice score was obtaining high knowledge score (a $OR=2.06$; $95\% CI=1.73-2.44$).study concluded that KAP towards DF was deficient among target populations, especially among students. School-based educational campaigns and social mobilization for raising knowledge and changing it into sound practice is urgently needed for controlling dengue epidemics in Jeddah.

Competing interest:

All authors report no conflicts of interest for this work.

Authors' contributions

All authors drafted the report and advised the whole research paper and were involved in the interpretation of the data and contributed to manuscript preparation. All authors have read and approved the final version of the manuscript.

REFERENCES:

1. I.K. Park. Preventive and Social Medicine. 19th edition. Bhanot Publishers; 2007.
2. N.K. Goel, Gurpreet and H.M. Swami (2007) Epidemiological Characteristics of Dengue fever; its prevention and control, "The Internet Journal of Biological Anthropology" Vol – 1 No. 1, ISSN: 1939 – 4594.
3. 3.Kumar A, Pandit VR, Shetty S, Pattanshetty S, Krish SN, Roys., (2010); A profile of dengue cases admitted to a tertiary care hospital in Karnataka Southern India; Trop doct 40(1); 45
4. 4.Guha-Sapir, D., & Barbara, S. B. (2005). Dengue fever: New paradigms for a changing epidemiology. Emerging Themes in Epidemiology, 2, 1. doi: 10.1186/1742-7622- 2-1

5. 5.Beatty ME, Beutels P, Meltzer MI, Shepard DS, Hombach J, Hutubessy R, Dessis D, et al. Health economics of dengue: a systematic literature review and expert panel's assessment. *Am J Trop Med Hyg.* 2011;84(3):473-88.
6. Jagtap MB, Sale LS, Bhosale AS, Sathe A, Sathe TV. Incidence of dengue and shifting trend to rural in Kolhapur District, India. *Biological Forum – An Int J.* 2009;1(2):58-61.
7. 7.Communicable diseases. WHO Report 2009. 8.The indian news. 74 more cases of dengue in New Delhi, total 1491; 2010 September.
8. World Health Organization. Weekly epidemiological record. Dengue vaccine: WHO position paper – July 2016.
9. 9.World Health Organization. (2017). Dengue guidelines for diagnosis, treatment, prevention and control. A joint publication of the World Health Organization (WHO) and the Special Programme for Research and Training in Tropical Diseases (TDR). WHO/HTM/NTD/DEN/2009.1
10. 10.Vazquez-Prokopec, G. M., Chaves, L. F., Ritchie, S. A., Davis, J., & Kitron, U. (2010). Unforeseen costs of cutting mosquito surveillance budgets. *PLoS Neglected Tropical Diseases*, 4(10), e858. doi: 10.1371/journal.pntd.0000858.PubMedCrossRefGoogle Scholar
11. 11.Dengue and severe dengue (Fact sheet). World Health Organization, Geneva, Switzerland, 2016 [cited 18 August 2016].
12. Ashwini Kumar, Vinay Ramakrishna Pandit, Sirish Shetty. A profile of dengue cases admitted to a tertiary care hospital in Karnataka, southern India. 2010 Jan;40(1):45-6.
13. Nahla Khamis Ragab Ibrahim , Adnan Al-Bar, Mohamed Kordey, Ali Al-Fakeeh. Knowledge, attitudes, and practices relating to Dengue fever among females in Jeddah high schools. 2019;2(1):30-40.