

## The Knowledge Regarding Management Of Dengue Fever

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### **Abstract:**

Dengue fever is a rapidly spreading mosquito-borne disease, especially in tropical and subtropical regions like India. Effective community-level knowledge and participation are critical in managing and preventing its spread. This study aimed to assess the knowledge regarding the management of dengue fever among adults residing in selected villages of Waghodia Taluka. A descriptive research design with a quantitative approach was used. A total of 100 adults were selected using a convenience sampling technique. Data were collected through a structured questionnaire covering five domains: preventive, home-based, medical, environmental, and dietary management. The findings revealed that 47% of participants had good knowledge, 44% had average knowledge, while 8% demonstrated poor knowledge. Statistically significant associations were found between knowledge levels and variables such as education, monthly income, drainage system, and source of health information. However, no significant association was found with age, gender, or occupation. The results highlight a need for improved health education interventions, particularly tailored toward individuals with lower education and income levels. This study recommends community-specific awareness campaigns, focusing on early symptom recognition and preventive practices, to reduce morbidity and mortality associated with dengue fever. The findings serve as a baseline for future nursing interventions and public health planning in similar settings.

**Keyword:** Assess, Knowledge, Management, Dengue Fever, Adults, Community Area,

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### **INTRODUCTION:**

Dengue fever, caused by the dengue virus and spread mainly by *Aedes aegypti* mosquitoes, is a major global health concern. It is endemic in over 100 countries and affects millions annually. According to the WHO, around 390 million infections occur each year, with many progressing to severe forms like dengue haemorrhagic fever or shock syndrome, which can be life-threatening if not managed promptly. The rising cases strain healthcare systems, especially in tropical and subtropical regions where mosquito breeding is common.<sup>1</sup>

Dengue cases in India are rising due to rapid urbanization, increased mobility, and poor vector control. According to NVBDCP, over 136,000 cases were reported in 2021, though actual numbers may be higher due to underreporting. Symptoms range from mild flu-like illness to severe forms like dengue haemorrhagic fever and shock syndrome, which can be fatal without proper management.<sup>2</sup>

In India, the prevalence of dengue fever has seen a marked increase over the last two decades. Urbanization, population growth, and inadequate sanitation infrastructure are key contributors to the proliferation of breeding sites for *Aedes* mosquitoes.<sup>3</sup> Improper water storage practices and poor waste management in both urban and semi-urban settings provide ideal environments for mosquito breeding. The seasonal nature of outbreaks is closely linked to the monsoon period, where rainfall leads to accumulation of stagnant water in containers, discarded plastic, and open drains, all of which act as breeding grounds for mosquitoes.<sup>4</sup>

Despite these efforts, knowledge gaps persist. For example, a study in Tamil Nadu found that although 87% of respondents had heard of dengue, only 41% knew that mosquitoes could breed in clean water.<sup>5</sup> In Delhi, another study showed that while most residents were aware of mosquito bites as the transmission mode, less than half were able to correctly identify early symptoms of the disease.<sup>6</sup> These findings underscore the need for targeted assessments and locally adapted interventions to improve awareness and disease management outcomes.

Communities play a central role in the fight against dengue. The domestic nature of the mosquito vector means that control efforts must begin at the household level. Practices such as regular cleaning of water containers, using mosquito repellents, installing window screens, and wearing long-sleeved clothing are

essential in reducing mosquito-human contact.<sup>7</sup> However, these practices depend heavily on individual and community-level knowledge, attitude, and behavior. Misconceptions or gaps in knowledge can hinder effective prevention and early treatment-seeking behavior.<sup>8</sup>

From a community health perspective, adults play a crucial role in dengue prevention through decisions on sanitation, water storage, and healthcare. However, studies show many adults in India still lack adequate knowledge about managing dengue.<sup>9</sup>

In such changing circumstances, a well-informed community becomes a vital asset in controlling disease outbreaks. Educating adults about environmental management and empowering them with the knowledge to identify and eliminate mosquito breeding sites is one of the most cost-effective ways of preventing dengue.<sup>10</sup>

## MATERIAL AND METHODOLOGY:

The present study utilized a descriptive research design with a quantitative approach to assess the knowledge regarding the management of dengue fever among adults in selected villages of Waghodia Taluka. The study population included adults aged 18 years and above residing in the rural community. A sample size of 100 participants was selected using a convenience sampling technique, allowing the researcher to select participants who were readily available and met the inclusion criteria. The inclusion criteria involved adults who were permanent residents of Waghodia Taluka, aged 18–60 years, able to understand Gujarati or English, and willing to participate. Those excluded were healthcare workers, temporary residents, individuals unable to provide consent, or those who had previously suffered from dengue fever. Data were collected using a structured questionnaire, divided into two sections: demographic data and a knowledge questionnaire covering preventive, home, medical, environmental, and dietary management. Data analysis involved descriptive and inferential statistics.

## RESULTS:

### 1. Frequency and percentage distribution of demographic variable of Knowledge Regarding Management of Dengue Fever.

The study included adults from diverse age groups, with the highest proportion aged 29–39 years (30%), followed by 40–50 years (25%), 18–28 years (24%), and 51–60 years (21%). Males accounted for 56% of the sample, while females made up 44%. In terms of occupation, most participants were in elementary jobs (34%), followed by agriculture and fishery workers (15%), professionals and skilled workers (14% each), clerks (10%), technicians (9%), and a few in trade-related roles (4%). Educationally, 33% held a primary school certificate, 30% were graduates, 20% had a high school certificate, and smaller portions had middle school (8%) or diploma (9%) qualifications. Housing types varied, with 55% living in pakka houses, 28% in semi-pakka, and 17% in kaccha houses. The largest income group earned ₹37,325–₹62,272 (36%), with fewer in higher and lower brackets. For drinking water, 47% used municipal supply, followed by wells/boreholes (26%) and bottled water (21%). Closed drainage systems were more common (64%) than open (36%). The internet and social media (38%) were the most common sources of dengue-related information, followed by television/radio (31%) and newspapers (15%).

### 2. Frequency and percentage distribution of Knowledge Regarding Management of Dengue Fever.

N=100

| Level of Knowledge                      | Level of Knowledge |    |
|-----------------------------------------|--------------------|----|
|                                         | f                  | %  |
| Poor Knowledge score (0- 6 Score)       | 08                 | 08 |
| Average Knowledge score (7-12 Score)    | 44                 | 44 |
| Good Knowledge score (13-18 Score)      | 47                 | 47 |
| Very good Knowledge score (19-24 Score) | 01                 | 01 |

The data shows that the majority of participants (47%) had good knowledge of dengue fever management, scoring between 13–18 on the knowledge scale. This was closely followed by 44% of participants who demonstrated average knowledge, with scores ranging from 7–12. Only 8% of the respondents had poor

knowledge, scoring between 0–6. Notably, just 1% of the participants exhibited very good knowledge, achieving a score between 19–24.

### 3. Association between knowledge score with selected demographic variables.

In this study, a significant association was found between knowledge levels and the variables of education, monthly family income, type of drainage system, and source of information. Participants with higher education, better income, closed drainage systems, and reliable sources like internet or television demonstrated better knowledge regarding dengue fever management. On the other hand, age, gender, occupation, type of housing, and access to drinking water showed no significant association with the knowledge level of the participants.

## DISCUSSION:

The study utilized a quantitative, descriptive design to evaluate the knowledge of 100 adults regarding management of dengue fever in selected community area, using convenience sampling. Participants were predominantly aged 29–39 years (30%), Males accounted for 56%, the most common level was Primary School Certificate (33%), worked in elementary occupations (34%), and earned monthly family income around was Rs. 62,272 – 37,325, comprising 36%, more than half of the participants (55%) lived in Pakka houses, the majority relied on Municipal Water Supply (47%), most participants had access to Closed drainage (64%), The most common source was the Internet and Social Media (38%). A similar study by Meshram et al. (2020) assessed the impact of community-based awareness programs in rural areas and found that baseline knowledge was low. However, after implementing interactive workshops and demonstrations, knowledge scores improved by 37%, and over 60% of households adopted source reduction practices. This supports the present study's conclusion that community-specific, face-to-face education is effective in improving dengue-related knowledge and behaviors.<sup>11</sup>

A comparable study by Lavanya K. M. et al. (2022) assessed the knowledge and practices related to dengue fever among 280 urban slum dwellers in Andhra Pradesh. The study found that 75.4% of participants had good awareness about dengue, with females (69.6% of the sample) demonstrating significantly higher recognition of symptoms than males. In contrast, the present study conducted in selected villages of Waghodia Taluka revealed that only 25% of adults had good knowledge, 60% had average knowledge, and 15% had poor knowledge regarding dengue management. Furthermore, Lavanya's study reported no statistically significant association between awareness and demographic factors, whereas the present study found a significant relationship between knowledge levels and variables such as age and education. In terms of practices, both studies identified gaps—Lavanya et al. noted partial improvement in mosquito control measures, while the current study reported that only 55% of participants followed regular preventive practices like using repellents and eliminating stagnant water. This comparison underscores the need for intensified, demographically tailored educational strategies, especially in rural settings.<sup>12</sup>

## CONCLUSION:

The study revealed that while most adults in the selected community had average to good knowledge regarding the management of dengue fever, there remain noticeable knowledge gaps, particularly among those with lower education and income levels. Statistically significant associations were found between knowledge and factors such as education, income, drainage type, and source of information. These findings underscore the importance of strengthening community-based health education programs, especially targeting less informed groups, to improve early recognition and prevention of dengue fever.

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