

An Interventional study conducted on Dengue fever in the Urban field practice area of Siddhartha Medical College, Vijayawada

Dr. Dava Swetha¹, Dr. Purnamma R²

¹.Post-Graduate Department of Community Medicine, Siddhartha Medical College, Vijayawada,

². Associate Professor, Department of Community Medicine, Siddhartha Medical College, Vijayawada

Corresponding Author: Dr. Dava Swetha

Abstract:

Background: Dengue is the most common disease among all the arthropod-borne viral infection. It has emerged as a significant public health concern in recent decades due to the rapid increase in the human population, lack of awareness, environmental changes, and increased breeding places of vector mosquitos. Present study has been conducted in the urban field practice area of Siddhartha medical college, Vijayawada, to create awareness among people on dengue fever.

Methodology: An Interventional study done among 170 people residing in the urban field practice area of Siddhartha medical college, Vijayawada, from April 2019 to September 2019. A pre-tested closed-ended questionnaire was used to collect data. The health education program was conducted, and after five months, their improvement in the knowledge on dengue fever was recorded using a post-test questionnaire. Data collected was analyzed in SPSS V.20.

Results: After health education program knowledge on dengue fever was improved significantly ($p < 0.05$)

Conclusion: After the awareness program, There was a 62.90% improvement in knowledge on dengue fever. IEC activities should focus on educating people regarding breeding sites and encouraging them to use preventive measures.

Keywords: Awareness, dengue fever, Health education, urban field

Date of Submission: 08-10-2019

Date of Acceptance: 24-10-2019

I. Introduction

Dengue is an outbreak prone seasonal viral disease, which is transmitted by bites of female adult Aedes mosquito. There are four serotypes of the dengue virus (DENV-1 TO DENV-4) belonging to the family Flaviviridae. Dengue fever is an acute febrile illness of 2-7 days with two or more manifestations like headache, retro-orbital pain, myalgia/arthritis, rash, hemorrhagic manifestations, and leukopenia.

The incidence of dengue has increased in recent decades. According to the National Health Profile 2018, the number of dengue cases is raised more than 300 spikes from 2009-2017(60,000-188,401)¹. Dengue is endemic in Andhra Pradesh, the number of dengue cases is increased to 4844 in 2017 to 3417 in 2016¹. Most commonly occurs in the rainy season, Heavy rainfall leads to artificial collection of water in discarded coconut shells, tires, and other materials. Neglected tropical diseases such as dengue, chikungunya, zika have been emphasized in Sustainable Developmental Goals (SDG 3.3)- 25% reduction in the number of dengue cases by 2020 compared with 2010².

As there is no specific treatment is available for dengue, the only way is prevention and control, for that we need to create awareness among people. So, the present study has been conducted in the urban field practice area of community medicine department of Siddhartha medical college to create awareness among people.

Primary objective: To create awareness on Dengue fever.

Secondary objective: 1) To assess the level of awareness on Dengue fever.

2) To find out the effectiveness of the health education program.

II. Materials And Methods

Study design: Interventional study

Study period: April 2019 and September 2019.

Sample size: Based on previous study (KS jogdand, et.al) done in Guntur, Andhra Pradesh $p=10.27$ $q=89.73$ $d=5$, $N=4pq/d^2 = 147$. The minimum sample size required is 147, and considering a 10% non-response rate, the total sample size obtained was 170.

Sampling technique: Systematic random sampling method.

Out of 2239 houses 170 houses were selected by systematic random sampling method. Every 13th house was taken. In the chosen house, an adult member in the family, who was present at the time of the visit, was interviewed for a collection of information.

Study tool: Pre-tested, closed-ended structured questionnaire.

Inclusion criteria: Those who are above 18 years and willing to participate.

Exclusion criteria: Those who are not willing to participate in the study.
Houses which are locked.

Statistical Analysis: Data analysis was done in SPSS V.20. simple proportion, paired t-test was done

III. Results

A total of 170 have participated in the current study. Table-1 shows 58% of the respondents were aware that mosquito bites spread dengue, and the awareness improved to 94% after health education.

Table-1: Distribution of respondents based on the mode of transmission of dengue.

Mode of transmission	Pre-Test	Post-Test
Mosquitos	58%	96.5%
Waterborne	18%	3.5%
Blood transfusion	5%	0%
Airborne	19%	0%

Table-2: Distribution of respondents based on knowledge regarding symptoms of Dengue.

Symptoms	Pre-Test	Post-Test
Fever	76.5%	95%
Headache	55.9%	79%
Muscle/Joint Pains	54.1%	72%
Rash	11%	30%
Retro-orbital pain	4%	7%

Awareness on the symptoms of dengue fever among the study subjects improved to more than 20% after health education.

Table-3: Distribution of respondents based on awareness regarding breeding sites.

Breeding sites	Pre-Test	Post-Test
Dirty water	71%	37.8%
Clean stagnant water	24%	61.2%
Don't know	5%	1%

Only 24% of the participants aware that clean stagnant water is the primary source of the breeding place of the Aedes mosquito, and the awareness was improved to 61.2% after health education.

Table-4: Distribution of respondents based on awareness regarding mosquito biting habits.

Biting Habits	Pre-Test	Post-Test
Day time	11%	63.5%
Any time	33%	11.2%
Nighttime	57%	25.3%

Regarding mosquito biting habits, only 11% were correctly answered, after health education awareness improved to 63.5%.

Fig-1 Shows a major source of information is Television (62%) followed by health care worker (20%)

Fig-1: source of information

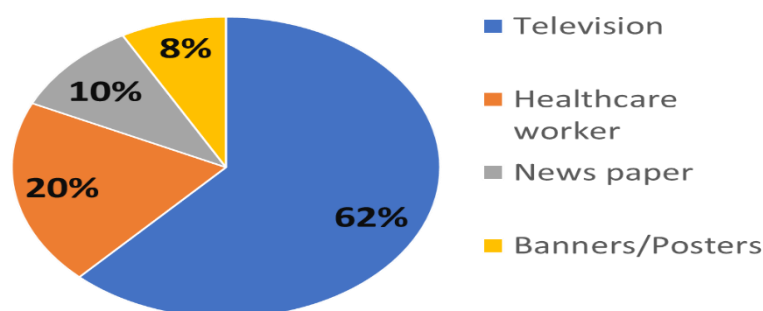
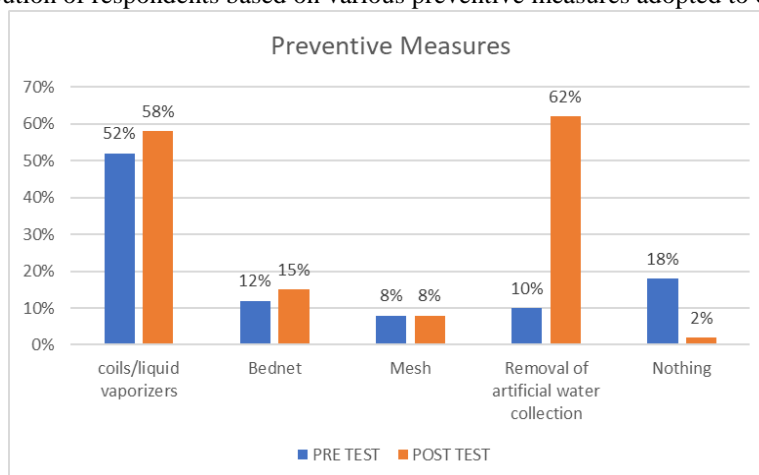
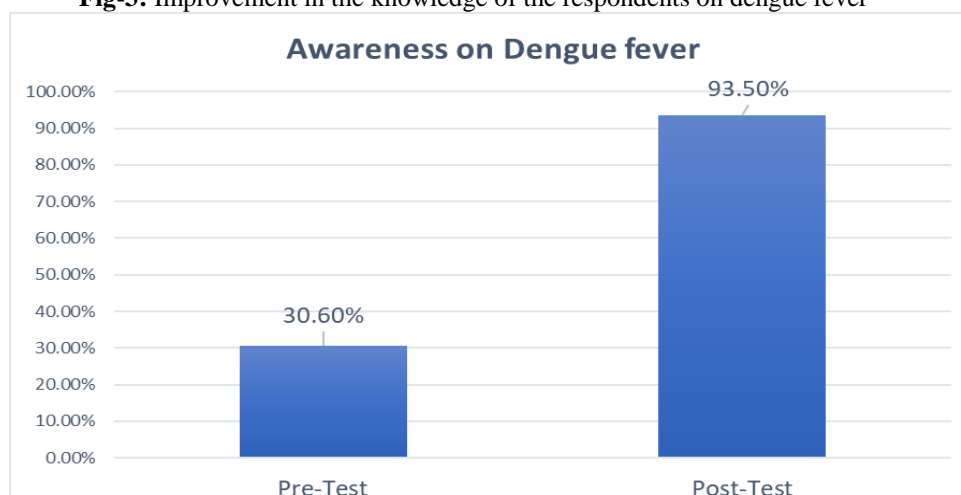


Fig-2 Distribution of respondents based on various preventive measures adopted to control dengue



In our study most commonly used preventive method was coils/liquid vaporizers (52%), followed by bed nets(12%).18% of the respondents not using any preventive method; after health education, this was reduced to 2%.

Fig-3: Improvement in the knowledge of the respondents on dengue fever



There was a 62.90% improvement in knowledge of dengue fever after the health education program.

Table-5: The impact of health education on dengue fever among study subjects

	Mean score	P value
Pre-Test	2.92	0.000
Post-Test	5.05	

After the health education program, there is a significant improvement in knowledge of dengue fever among the study participants($p < 0.000$).

IV. Discussion

In the present study,170 subjects were interviewed. In our study, 58% of the respondents were aware that dengue is spread by mosquito bite, and the awareness improved to 94% after health education. In the study done in south Delhi, 55% knew that it spreads through a mosquito bite, and in another study done in Haryana, 72.62% of respondents mentioned mosquito bite as a cause of dengue.

The most common symptoms of dengue fever are high fever, severe headache, retro-orbital pain, muscle/joint pains, rash, and mild bleeding. In our study, more than half of the respondents were aware of symptoms like fever (76.5%), headache (55%), muscle/joint pains (54%). Very few were aware of rash, and retro-orbital pain after health education awareness on symptoms was improved significantly ($p < 0.05$).

Clean stagnant water is the breeding place for Aedes mosquito.it is a container breeder. In our study, only 24% of the respondents aware of it, findings similar to the research done in Coimbatore (22%)³, contrast to study done in Guntur (74.59%)⁴ after health education awareness was improved to 61.2%.

Regarding biting habits, Aedes mosquito bites during day time. In our study, A large number of respondents don't know the active biting time of Aedes mosquito, similar to the study done in Haryana (4.5%)⁵. Television was the most important source of information, and findings are similar to a study done in Coimbatore (55%)³ & Chittoor (47%)⁶. In the current study, coils/liquid vaporizers are the most commonly used preventive measure followed by bed nets. Although 24% of the respondents aware of clean stagnant water is a breeding place for Aedes mosquito, only 10% of them were practicing the removal of stagnant water. In our study, people are more focused on preventing mosquito bite rather than eliminating the source.

V. Conclusion

In our study, it was observed that more than 50% of people are aware of the mode of transmission and symptoms but not aware of breeding places and active biting time. Among the respondents, 30% of the people had a good knowledge regarding dengue fever, which was significantly improved to 93.5% after Health education.

VI. Recommendations:

There is a need to conduct frequent awareness programs. IEC activities should more focus on educating them about mosquito breeding sites and create awareness regarding dry day and encourage them to practice it as source reduction is the best way than taking precautions from a mosquito bite.

References

- [1]. National Health profile 2018 [Internet]. Central Bureau of Health Intelligence; 2019 [cited 14 October 2019]. Available from: <https://cbhidghs.nic.in>
- [2]. Raviglione M, Maher D. Ending infectious diseases in the era of the Sustainable Developmental Goals. Porto Biomedical journal 2017;2: 140-2. doi: 10.1016/j.pbj.2017.08.001
- [3]. Suguna Devi G, Dharma raj A. An awareness program on dengue fever among adults residing in an urban slum area, Coimbatore. Int J Res Med Sci 2017; 5:52426
- [4]. Jogdand KS, Yerpude PN. The Community Knowledge and Practices Regarding Dengue Fever in an Urban Slum Area of South India. People's J Sci Res. 2013; 6(1):13-5.
- [5]. Malhotra G, Yadav A, Dudeja P. Knowledge, awareness and practices regarding dengue among rural and slum communities in North Indian city, India. Int J Med Sci Public Health 2014;3:295-299.
- [6]. Nagoor K, Babu SD, Reddy BN, Kahn S, Kalluri RJ, John KR. Knowledge, attitude, and practice on dengue fever and its prevention and control measures in urban slums of South India. Int J Community Med Public Health 2017; 4:3013-7.

Dr. Dava Swetha. "An Interventional study conducted on Dengue fever in the Urban field practice area of Siddhartha Medical College, Vijayawada." IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 10, 2019, pp 54-57.