A cross-sectional Study on Knowledge, Attitude and Practice Regarding Dengue & Preventive Measures practiced in urban slums of central India

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Abstract
Background: Dengue is common & rapidly spreading mosquito-borne viral disease in the world. As there is no vaccine to protect against dengue, great emphasis is placed on control and preventive measures. Our aim is to create the awareness among people about dengue disease.

Objective: To determine knowledge, attitude and practice (KAP) regarding dengue fever in residents of urban slums.

Method: A cross sectional study was conducted among 100 willing families residing in randomly selected urban slums of a metro city of central India. This study was conducted between months of May-June 2018 in urban slum of the city.

Result: A total of 319 respondents were successfully inter-viewed out of which 30.72% (maximum) respondents belonged to the age group of 26-35 years. With regards to the knowledge about dengue 52.98% respondent knew that the vector for dengue is a mosquito and 43.57% respondents knew about breeding places of mosquitoes. Maximum (57.37%) respondents were relying upon mosquito mats/coils/liquid vaporizer and 34.80% were used mosquito spray.

Conclusion: Good dengue prevention demands the involvement of the community. Better information is needed to guide dengue prevention programs in their efforts to engage with the community.

Keywords: Dengue fever, KAP study, Dengue prevention, Mosquito control, Central India.

Introduction
Dengue is common & rapidly spreading mosquito-borne viral disease in the world. There are four antigenically distinct dengue virus serotypes (DEN-1, DEN-2, DEN-3 and DEN-4). The dengue virus is transmitted by bites of Aedes aegypti and Aedes albopictus mosquito.¹⁵⁻⁷

There are two main forms of dengue disease, DF and the more severe dengue haemorrhagic fever (DHF). Infection with dengue virus can produce a broad range of clinical manifestations including asymptomatic infection, mild flu-like symptoms & more severe haemorrhagic fever. After Second World War, dengue has become a global problem
and is endemic in more than 110 countries. 2.5 billion people, living in tropics and sub-tropics regions are estimated to be at risk of acquiring dengue infections. Estimated that more than 50-100 million infections with about 500,000 cases of severe dengue are reported annually. The case fatality rate of DHF and DSS is around 5 to 7%. In India, major epidemics have been reported in the years 1967, 1970, 1982, 1996 and 2003. DF treatment entails mainly supportive therapy. In previous studies, significant independent association of male gender with DHF has been observed. A higher mortality rate was however seen in females. A shift in the age distribution of affected individuals has also been noted; children being affected less in later studies. As there is no vaccine to protect against dengue, great emphasis is placed on control and preventive measures. It is unfortunate that no major steps have been taken to promote awareness and precautionary attitude in the community with regards to dengue fever despite the ostensible burden of disease. Our aim is to create the awareness among people about dengue disease.

Objective
The study was planned with an objective to determine knowledge, attitude and practice (KAP) regarding dengue fever in residents of urban slums.

Methodology
A cross sectional study was conducted among residents of urban slums of a metro city of central India. This study was conducted between months of May-June 2018 in a randomly selected urban slum of the city. A total of 100 willing families were assessed for their knowledge, attitude and practice (KAP) regarding dengue fever. Data was collected using a pre-design interviewer administered questionnaire. The questionnaire covered the following areas (1) demographic information - age, gender, occupation, education. (2) Knowledge about Dengue-mode of spread, symptoms, breeding place. (3) Attitudes towards Dengue. (4) Preventive practices against Dengue. (5) Source of information. Informed consent was taken from all the respondents and confidentiality was ensured throughout the study. Data analysis from the questionnaire were coded and entered into a computerized data base.

Results
A total of 319 respondents were successfully inter-viewed and data so obtained was used for the primary analysis. 30.72% (maximum) respondents belonged to the age group of 26-35 years, and 6.27 % (minimum) respondents were >55 yrs. 52.99% respondents were male and 42.01% were female and 31.35 % respondents were high school certificate. With regards to the knowledge about dengue 52.98 % respondent knew that the vector for dengue is a mosquito. Whereas 45.77 % respondents knew that human to human spread occurs in dengue and mainly transmitted by mosquito bites. Table 2 shows the Data revealing the knowledge of cause of dengue, transmission, its symptoms and preventive measure. Regarding knowledge about breeding, 43.57% respondents knew about breeding places of mosquitoes. About the timing of the mosquito biting habits, 56.58 % respondents indicated that it is day time, while about 38.53 % respondents thought it is at night. The attitudes of the respondents were assessed using a set of questions regarding dengue. 78.99 % respondents strongly agreed and agreed that dengue is a serious illness. Only 47.02 % respondents strongly agreed and agreed that they are at risk of getting dengue. 73.04 % respondents strongly agreed and agreed that DF can be prevented. 76.49 % respondents strongly agreed and agreed about need for treatment and hospitalization for DF. 86.58 % respondents had a consensus that the government has the prime responsibility to control mosquito breeding. Regarding personal protection against mosquito bite, (80.56%) were relying upon mosquito nets, 57.37 % respondents were relying upon mosquito mats/coils/liquid vaporizer and
34.80% were used mosquito spray (Table 3). majority of the respondents were relying upon mosquito nets followed by mats/coils/vaporizers and mosquito sprays. Regarding the source of information (Table 4) on DF, 50.16% came to know about DF through television followed by newspaper (40.13%) followed by Friends/relatives (6.27%).

Table 1: Socio-demographic characteristics of study population

| Gender          | Frequency | %     |
|-----------------|-----------|-------|
| Males           | 185       | 57.99%|
| Females         | 134       | 42.01%|
| Total           | 319       | 100.00%|

| Occupation                  | Frequency | %     |
|-----------------------------|-----------|-------|
| Government employee         | 18        | 5.64% |
| Non-government employee     | 35        | 10.97%|
| Self employee               | 17        | 5.33% |
| Student                     | 74        | 23.20%|
| House wife                  | 89        | 27.90%|
| Retired                     | 85        | 26.65%|
| Unemployed                  | 1         | 0.31% |
| Total                       | 319       | 100.00%|

| Level of education          | Frequency | %     |
|-----------------------------|-----------|-------|
| Illiterate                  | 53        | 23.51%|
| No formal education         | 0         | 0     |
| Till class 5                | 40        | 12.54%|
| Till class 10               | 100       | 31.35%|
| Till class 12               | 51        | 15.99%|
| Graduate and above          | 75        | 23.5% |
| Total                       | 319       | 100.00%|

Table 2 Knowledge about Dengue Fever

| Knowledge about Dengue Fever | Frequency | %     |
|------------------------------|-----------|-------|
| A. What is Dengue            | YES       | 95.92%|
|                             | NO        | 4.08% |
| B. Spread of Dengue          | YES       | 45.77%|
|                             | NO        | 54.23%|
| C. Biting time               | YES       | 57.55%|
|                             | NO        | 42.45%|
| D. Breeding place            | YES       | 43.57%|
|                             | NO        | 56.43%|
| E. Symptoms                  | YES       | 32.92%|
|                             | NO        | 67.08%|
| F. Treatment                 | YES       | 41.69%|
|                             | NO        | 58.31%|
| G. Preventive measure        | YES       | 60.82%|
|                             | NO        | 39.18%|

Table 3 Practices to Prevent Dengue Spread

| Practices to Prevent Dengue Spread | Frequency | %     |
|------------------------------------|-----------|-------|
| A. Use of mosquito net/coil        | YES       | 80.56%|
|                                   | NO        | 19.44%|
| B. Cleaning of cooler/container    | YES       | 77.43%|
|                                   | NO        | 22.57%|
| C. Cover tank/water container      | YES       | 70.53%|
|                                   | NO        | 29.47%|
| D. Use of liquid vapouriser/cream  | YES       | 57.37%|
| /spray                            | NO        | 42.63%|
| E. Spraying of insecticide in the  | YES       | 34.80%|
| community                         | NO        | 65.20%|

Table 4 Source of information

| Name of source | Frequency | %     |
|----------------|-----------|-------|
| Television     | 160       | 50.16%|
| Newspaper      | 128       | 40.13%|
| Posters        | 11        | 3.45% |
| Others         | 20        | 6.27% |
| Total          | 319       | 100.00%|

Conclusion

Good dengue prevention demands the involvement of the community. Better information is needed to guide dengue prevention programs in their efforts to engage with the community. In urban slums there is a lack of depth of knowledge regarding dengue in the community and observation methods revealed that more efforts to be done by community members themselves to prevent the spread of Aedes mosquitoes. Fortunately, the majority of the community believes they need more information about dengue. These results will guide future research in this area and help to instruct dengue prevention programs.

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