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DENGUE OUTBREAK INVESTIGATION IN ECHANGADU, PUDUCHERRY, JUNE 2017

Community Medicine

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KEYWORDS

BACKGROUND:

Kirumampakkam is a village in Bahour Commune of Bahour taluk in the Union Territory of Puducherry, India. It lies on Cuddalore road (NH-45A) at a distance of 15 km from Puducherry. Echangadu is a small hamlet situated within the Kirumampakkam village. Around 743 individuals reside in 210 households in the area of Echangadu. Majority of the population belongs to lower socio economic class residing in semi-pucca houses with poor drainage facilities. The nearest public health facility is the Kirumampakkam PHC, which runs in collaboration with Department of Community Medicine, MGMC&RI.

The intimation regarding the dengue cases in Echangadu village was sent to the Kirumampakkam PHC by the NVBDCP office, Puducherry. Also, the villagers of Echangadu requested for remedial action from the PHC to combat the spread of disease in their locality. The Medical Officer of Kirumampakkam PHC sought help from Department of Community Medicine, MGMC&RI to provide health services in Echangadu Village. As Department of Community Medicine is an active partner in providing health care services in Kirumampakkam PHC, the department agreed to support the initiative by providing technical and manpower support.

Sequence of events:

A sixteen year old female Miss. Tamilarasi from Echangadu village was diagnosed with Dengue fever and was admitted in IGGGH&PGI, Puducherry. The intimation regarding the same case was sent to the Kirumampakkam PHC by the NVBDCP office, Puducherry on 05.05.2017. Another case of Dengue fever from same area got admitted in IGGGH&PGI on 17.05.2017 and even details of this case were intimated to Kirumampakkam PHC. Also, a relatively higher number of individuals from the same locality were seeking treatment for fever in Kirumampakkam PHC. In this regard Medical Officer of Kirumampakkam village planned for awareness campaign on Dengue fever and control of mosquitoes in Echangadu village on 18.05.2017.

Awareness camp was conducted by Kirumampakkam PHC team (Team comprising of 1 Medical Officer, 1 Health Inspector, 3 Health Assistants, 2 ANM) and 1 Junior Resident from MGMC&RI on 18.05.2017. During the awareness camp an outreach OPD was set up and individuals with fever were screened for dengue fever. Blood investigations were done for 23 suspected fever patients on the day of camp and were tested to be negative for malaria and dengue. Also, the awareness campaign was complemented with active source reduction campaign conducted by the health team of Kirumampakkam PHC. Source reduction and 2 phases of fogging were done during 18/05/2017 to 31/05/2017.

However, even after focussed effort from Kirumampakkam health team there was increase in number of fever cases in the area. During the period of 18/05/2017 to 31/05/2017, 12 confirmed cases of dengue were diagnosed and treated in different health care facilities. Therefore an epidemiological investigation was planned by IDSP, Puducherry with help from Kirumampakkam PHC team and Department of Community Medicine, MGMC&RI. With the effect from admission of Dengue fever and higher number of fever cases from the Echangadu locality, IDSP, Puducherry requested for epidemiological investigation from Kirumampakkam PHC. In this regard, a survey was conducted in collaboration with Department of Community medicine; to carry out epidemiological investigation for identifying potential sources, source reduction and also to identify the suspect cases in the area of Echangadu village.

METHODS:

It was decided to carry out a community based cross sectional survey with special emphasis on source reduction. The following arrangements were made to the survey.

1. Identifying available manpower – Postgraduate Resident of Department of Community Medicine, Interns from the Department of Community Medicine, IDSP Epidemiologist, Sanitary Inspector, Health Assistants and ANM.
2. Vehicle arrangement
3. Form for outbreak investigation
4. Team allotment - Based on number of streets

On the day of survey (09.06.2017), five teams were formed. The teams were instructed to mark all the houses and to indicate houses with potential sources/larva/pupa/suspected dengue cases with predefined symbols on the map.

All the houses in Echangadu were visited and the participants available at the time of survey were interviewed. The team members collected the socio-demographic details like name, age, gender and symptoms as per the case definition. Old cases of fever were also recorded.

Process involved in identifying potential sources:

Apart from the above mentioned details, all houses (including the surroundings and locked houses) were checked for potential sources of mosquito breeding and the presence of mosquito larva/pupa. The potential indoor sources of mosquito breeding like refrigerator, air coolers, air conditioners and other water containers were also looked for. If the house had any such source they were marked and subjected to source reduction.

Case definition:

An individual was considered to be a suspected case of dengue if he/she had fever with/without any of the following symptoms in last 30 days preceding the day of survey -

- Rash, Bleeding, Headache, Shock, Retro Orbital pain, Eschar.

RESULTS:

Out of total houses in Echangadu, 103 houses were interviewed. 10 houses were locked on the day of the survey. Among the 459 individuals in the 103 houses, 7 had symptoms of dengue. Those 7 suspected cases were tested for Ns1 antigen and the results awaited.

Survey findings of Echangadu (09.06.2017)

Area	No of Houses	Locked houses	Individuals	Fever cases
Pudhu theru street 1	13	9	60	1
Pudhu theru street 2	27	2	112	2
Mariamman kovil street 1	12	0	12	1
Mariamman kovil street 2	15	4	66	3
Veeraputhra nagar	11	1	46	4
Panithittu main road	25	0	112	1
Total	103	16	459	12

CONCLUSION:

The investigation carried out in Echangadu, revealed that approximately 7 patients of the villagers had symptoms suggestive of dengue fever.

Recommendations:

1. Health education should focus on the demonstrating the indoor water collection and make the public aware of the appearance of larva & pupa.
2. There is a need to emphasise on household source reduction.
3. Proper waste disposal
4. Lack of drainage facility in some houses