



COMMUNITY PARTICIPATION IN DENGUE PREVENTION AND CONTROL IN A GOVERNMENT HOUSING COMPLEX, KOLKATA, INDIA

Healthcare

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ABSTRACT

In India, dengue fever is an emergent public health problem and the leading cause of hospitalization and death among children also. For sustainable prevention and control of dengue community participation is essential. The aim of the study is to explore social, economic and cultural factors that promote or discourage participation in these community activities to gain more participation from the community. A census survey was performed in a government housing estate of Kolkata city with face-to-face interviews, focus group discussion and observation. I found that in educated people also knowledge regarding prevention is very low. They had some half-knowledge or misconceptions which leads the worst condition. The attitude was mostly negative. Practices were deadly. Government and non-governmental organisations should be immediately proactive to motivate people for active community participation to prevent dengue.

KEYWORDS

community participation, Dengue fever, prevention, Kolkata

INTRODUCTION:

For sustainable prevention and control of dengue community participation is essential. Community participation is "a process whereby individuals, families and communities are involved in the planning and conduct of local vector control activities so as to ensure that the programme meets the local needs and priorities of the people who live in the community, and promotes the community's self-reliance in respect to development" (WHO, 2011.p. 65).

The global population at risk is estimated to range from 2.5 to 3 billion individuals living mainly in urban areas in tropical and subtropical regions. While dengue was formerly thought to be strictly an urban problem, it is now recognized as also being of significance in rural areas of South-East Asia. It is estimated that there are at least 100 million cases of dengue fever annually and 500,000 cases of Dengue which require hospitalization. Dengue Fever mortality rates average 5%, with approximately 25,000 deaths each year (WHO, 2022). There has been an increase in the proportion of dengue cases with severe disease, particularly in India, Sri Lanka and Myanmar. In semi-arid areas, i.e., India, *Ae. Aegypti* is an urban vector and populations typically fluctuate with rainfall and water storage habits (Kalra et al., 1968). In India now it is an emergent public health problem and the leading cause of hospitalization and death among children also. Delhi and many other states including Uttar Pradesh and West Bengal have seen a sudden spurt in dengue cases in the last couple of days (Business Standard, October 16, 2022). Dengue cases past 15,000 in West Bengal; govt opens fever clinics, reserves beds in hospitals (Indian Express, September 26, 2022; The Economic Times, September 27, 2022). The Mayor of Kolkata Municipal Corporation calls the dengue situation in Kolkata 'scary', with around 900 cases in 2022. He called Kolkata Municipal Corporation councillors to join the fight on the ground (The Telegraph, September 16, 2022). Dengue prevention and control need a more participatory approach at the local level, and key decision-makers need to forge partnerships with community leaders for better communication and collaboration. (WHO, 2012). Social, economic and cultural factors that promote or discourage participation in these community activities should be intensively studied in order to gain more participation from the community (WHO, 2011). So, it needs area and culture-specific study. A mega city like Kolkata has a 'distinct cultural identity and cosmopolitanism' (Ray 2005, 146). We need a focused study on the situation of community participation in this cosmopolitan culture.

Currently, Kolkata is facing an increasing number of dengue morbidity and mortality. So, this city needs sustainable dengue prevention and control through community participation. So, the main aim of this study is to understand the community participation situation in Kolkata regarding dengue prevention. It also assesses the cooperation and solidarity among the community.

Methods:

This is a descriptive, cross-sectional study performed in September 2022. Both quantitative and qualitative primary data were collected. One Government Housing Estate in North Kolkata had been taken as a study area for primary data collection. Some people in that housing

were hospitalised several times due to dengue fever. Government Employees belonging to the A and B categories live in this housing estate. So, income ranges are more or less the same. All employees were highly educated in different streams. They came here to live from different parts of West Bengal both rural and urban areas. All the households of the housing were taken as study participants. Thirteen doctors, nurses and other health workers were taken for Focus Group Discussion. The primary data were collected through an interview schedule and guided focus group discussion. The face-to-face interview and observation method was adopted to collect data from household heads.

Both quantitative and qualitative data were analysed in view of objectives. Quantitative data were tabulated with descriptive statistics using SPSS software. Qualitative data were interpreted based on the information collected from the field. Results from both types of data were triangulated for validation.

RESULT AND DISCUSSION:

Among the residents 45% were involved with an administrative job, 25% were involved with an education-related job and 30% were involved with a medical-related job. The age group of the head of the families was found that 30 years to 50 years people were 60%. And the rest is above 50 years.

Table 1. The Attitude Of Community People Towards Community Action To Prevent Dengue

Attitude	Frequency (Percentage %)
1. Community People only can protect themselves from a mosquito bite	39 (60)
2. Government and local authorities have all responsibilities	10 (15)
3. Community people have the responsibility to clean their home and surroundings	16 (25)
Total	65

very few study participants thought that the community have some responsibility to prevent dengue. In Cuba, 90% of community participation is performed. The government motivated people to participate in proactive ways (Andrade, 2007).

Table 2. The Practice Of Community People To Prevent Dengue

Practice	Frequency (%)
Mosquito repellent use for personal protection	yes 60 (92) No 5 (8)
Clean house and water pots properly	yes 36 (55) No 29 (45)
Dispose of wet garbage in a proper place with an airtight packet	yes 16 (25) No 49(75)
Clean up campaign regularly	yes 1 (2) No 64 (98)
Protest against open wet garbage throwing in the surroundings	yes 1(2) No 64 (98)

Solid waste buried in landfills	yes	0 (0)
	No	65 (100)
Chemical use without sufficient safety precaution	yes	49(75)
	No	16 (25)
Larvivorous fish (<i>Gambusia affinis</i> and <i>Poecilia reticulata</i>) or Two species of endotoxin-producing bacteria, <i>Bacillus thuringiensis</i> serotype H-14 (Bt.H-14) and <i>Bacillus sphaericus</i> used as control agents	yes	1(2)
	No	64 (98)

The majority of the study participants did not maintain the required good practices. More communication from authorities is needed to achieve a behavioural outcome in prevention programmes (Pan American Health Organisation, 2018; WHO, 2012). In Cuba, community-based environmental management embedded in a routine control programme was effective at reducing levels of *Aedes* infestation (Vanlerberghe, 2009).

Findings From The Focus Group Discussion (FGD):

Model 1. Nature of people in the community



Source: Author's analysis of data from focus Group Discussion taken in Community Behaviour Survey.

Model 1 has been developed from the information provided by FGD and it described the nature of community peoples' actions to prevent dengue. These factors should be addressed as priority measures. The factors which have been discussed by study participants as priority issues are listed below to assess the nature of the community people.

Many people are neutral they think they do not need any special action to prevent dengue. Government should take action; the community people do not have any responsibility. Some people do not clean their own houses. They are habituated in the dirt. They do not have the perception to clean. Some people clean their houses but they throw garbage in the surrounding area. They thought they were safe if the house is clean, and need not bother about their surroundings. Very few people were concerned about their surroundings. They tried to clean the surroundings on the basis of individual capacity, without any help from the community members. Some people have the knowledge, they tried to clean their surroundings but are afraid of negative reactions from other community members. They avoid interacting with other members regarding this community activity. Some people have half the knowledge, they create pressure sometimes on the local authority to use harmful chemicals without precaution which ultimately leads to other health hazards.

Findings from observation:

I found that though they were educated they did not have the required knowledge about the prevention of dengue. They were dealing with some common misconceptions like spreading bleaching powder on the fully covered cemented drain without safety precautions. They had some deadly practices like depositing wet garbage in the open dustbin; did not protest about piles of rubbish deposited for months in the field; throwing plastics, used-up masks, and tissue paper here and there in front of their houses, unplanned flower tree plantation which creates a favourable place for larvae. If anybody in this housing requested to stop the abovementioned practices majority of the residents reprimanded/ castigated against that person. They thought they can do everything that they want nobody should protest. Medical persons who had proper knowledge afraid of protest. There was no community solidarity in this housing estate. The housing administration was also not strong. So, due to malpractices, this housing was at high risk of dengue fever. Some residents were hospitalised but they did not want to get rid of fatal practices. A study in Pakistan said that mobilizing local communities and activating local leadership with the active participation of Government and non-government organizations for the initiation of preventive strategies is needed (Zahir, 2016). A community participation programme in Guerrero State found that

approximately 54% were clean and free of breeding sites (Tapia-Conyer, 2012). The Government of India, and local political authorities should be proactive.

Limitation

Only one government housing was studied. The number of study participants was less. So, generalisation is difficult from the result of this study. Even though, a glimpse of community action in Kolkata was received from this study.

Future Scope

More in-depth study is needed about how to handle community psychology and motivate them for positive community participation.

CONCLUSION:

Even educated persons lacked knowledge regarding prevention. They had some half-knowledge or misconceptions which leads the worst condition. The attitude was vague. Practices were deadly. Community solidarity was nil. Nobody accepted the official community leaders' leadership to do any action. There was no community leader. So, community participation could not be performed. Community awareness generation programmes with proper demonstrations to control individual behaviour are regularly required. Health education should be based on formative research to identify what is important to the community and should be implemented. Nongovernmental organisations (NGO) can help to motivate the community to change fatal practices. Legislative help is also required like: ordinances that require house owners to keep their yards free of junk, litter, and potential foci, under threat of civil penalty for the violators. By all means, community should be prevented from performing fatal practices to control dengue.

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