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THE NEED FOR CONTROL OF VIRAL ILLNESSES IN INDIA: A CALL FOR ACTION

*C Lahariya, UK Baveja*

Centuries have passed since bacteria and viruses have made life difficult for human being by causing diseases and, contributing to a large proportion of total burden of diseases. In the ancient times, there is a recorded history that whole population has been wiped out by bacterial and viral epidemics. The last century has witnessed a kind of victory when antibiotics were discovered and a large number of diseases were controlled. However, in the absence of any effective measure to contain viruses, this victory remains incomplete. In the present century, the viruses appear to be a new threat; HIV, Hanta Virus, Avian flu, SARS, Dengue and Chikungunya are a few examples of emerging or re-emerging viral illnesses and, major public health threats in this century.

These viruses are entering into new territories, are more virulent than earlier and becoming endemic in new regions. Classical example of Dengue, which was almost non-existing in India in 1996, when an outbreak occurred in Delhi and it became a frequent visitor across the country ever since. Similarly, Chikungunya emerged after 32 years in 2005 and cases are still being reported in 2007. Besides, observations with Dengue show that while earlier outbreaks used to be with single strain, the most recent epidemic was due to all the four Dengue virus sub-types attributing to high morbidity and fatality rates. Japanese Encephalitis (JE), almost unheard of till a decade earlier and restricted to smaller regions in the country, kills hundreds of children every year in India. Out of the three viral illnesses, JE, Chikungunya and Dengue (JCD), at least one is reported from all parts of the country. Even though, the magnitude of these illnesses is surveillance system efficiency-dependent, the presence of illnesses is an accepted fact.

The viral illnesses, most of the times are mild in nature, have no effective treatment and are usually self-limiting. The limited laboratory diagnosis and treatment modalities are other aspects. These are further complicated by secondary infection; single infection rarely gives lasting protection from next attack.

Not surprisingly, India was caught unaware when Chikungunya attacked the country in the late 2005. The ill preparedness of the country can be understood by the fact that it took a national laboratory to confirm a sample for Chikungunya, full 2 months. Furthermore, once it was confirmed as Chikungunya, most efforts were targeted against general mosquito-control measures such as fumigation and bed-net distribution without understanding that these two are not effective against Culex and Aedes mosquitoes, which are evening biters and exophilic.

There are some other practical issues involved in viral illnesses. The private practitioners, the major service provider in India and a frontline to control any disease hardly see any benefit in guiding people to take preventive measures for mosquito breeding and biting and resided on curative treatment, knowing quite well that the role of clinical management is very limited.

Although, laboratory diagnosis is not required as management is only symptomatic. Early confirmation of a few cases can give an opportunity for early control measures, as it was done in Avian flu report in Nandurbar, Maharashtra in February 2006. The experience underlines the need for strengthening of public health surveillance for viral illnesses with good laboratory facilities. The aim should not be the clinical confirmation of every case, but to report a few cases to detect possible outbreak/occurrence of the prevalent viral illnesses at the regional level. The precious time saved can be utilized in intensifying the efforts for control measures and public education.

The answer to the question, do we need to search for effective vaccine or drugs, is definitely affirmative. However, vaccine itself is not a solution as delivering an effective vaccine to the community up to a level, which will be useful is a Herculean task and difficult to achieve even in resource-rich settings. Vaccine has its own place in control; however, it is of lesser importance for preventive measures. Both clinicians and microbiologists, should be involved in educating public on preventive issues such as self-protection, control of mosquitoes, etc. The active role of microbiologists, public health experts and clinicians need to be understood and utilized to the full extent.

Public health authorities need to strengthen the mechanism for improving the awareness about mosquito control and public education. The active cooperation of private practitioners is a prerequisite for any such public health effort and their active participation should be sought.

The gain made by control of kala-azar, filariasis and may be malaria, as MDG envisages and is possible in foreseeable...
future, may be undone by the havoc played by the deadly combination of viruses and mosquitoes in India. The funding for vaccine and drug research is necessary; however, if only a part of this money is spent on public health measures, the situation would be far better.

There is heavy economic loss by these viral illnesses and important opportunity cost involved. These diseases incapacitate the person and impact a poor family when all adult members are affected (as is the case a number of times) and their earning is stopped. The opportunity cost and economic loss, considering the large section of population is affected, further support for immediate need in the area.

From the control point of view, Malaria and JCD should be seen as two groups of diseases with only commonality that both have mosquitoes as vector. Malaria, a protozoan disease, is spread by the anophelene mosquitoes and has relatively effective treatment if diagnosed early. JCD are viral illnesses, spread by genus Culicine mosquitoes and have no effective treatment available. Their natural histories are partially understood and effective treatment is not available.

The Government of India has national vector-borne disease control programme, which is an umbrella for all vector-borne diseases, but for malaria and to some extent kala-azar, rest of the diseases have not been given enough priority. The current scenario favours that there should be separate public health efforts targeted upon control of viral illnesses in the country.

To conclude, the experiences from last few years with viral illnesses, specifically emergence of Chikungunya, have a few lessons for programme managers in India. First, strengthening of surveillance efforts and, control measure for viral illnesses. Second, need for more research to understand their natural history to make control efforts. Third, improved and widespread laboratory network with necessary equipments for early diagnosis. Fourth, research on effective medicines and vaccines. Fifth, it is not clinical but public health approach, which may control these diseases. And finally, there is a felt need for a separate programme for effective control of viral illnesses in the country.

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