

## Note from the Editor

The publication of this issue is late largely because of my indisposition. During the third week of May I suddenly came up with a very high fever accompanied by tremendous aches of the body and the joints. Normally, I am resistant to most such ailments and have not had a fever in ages, I could not even remember the last time I had one. So, this was a bit surprising to say the least. The fever subsided on the fourth day but the aches continued to tie me to the bed. Indeed it was an experience, not comparable to any I had nor did anyone else I knew, such excruciating pain in the joints and muscles. I could not move even while lying in bed let alone stand and up as a result could not go to the doctor either. The end of fever was a relief and I managed to get to the doctor finally, who tried a few regular tests and in the end only suggested a pain killer.

Little did I know then, nor did anyone else, including my doctor, that I was afflicted with a viral disease known as *Chikungunya*, about which the World Health Organization (WHO) simply states that, "There is no cure". But that was only the beginning, for more than the next six weeks I could barely walk with joints swelling up and little or no taste for any food and started to lose weight fast. It is only now, end of August, after suffering for three months that I feel I am getting back to normal life.

The reason I am narrating this personal experience is that very soon I learnt that the affliction was no longer an isolated incident and within the next month or so, hundreds of thousands got infected, including everyone in a family in some cases, and chikungunya got into the vocabulary for the first time in this disaster and disease prone country. The whole of Dhaka, a city of nearly 20 million people was in panic as it took the form of a pandemic. Everyone you met and everywhere you looked you could see chikungunya written all over. By the time the government machinery moved it was already too late and could do very little to contain the disease or comfort the sick.

Obviously, people started looking for causes and cure and soon all sorts of theories started flying around, as to how to treat the sick with little or no science behind them and how the disease got to become such an epidemic, including the all expected "conspiracy theories" that stated that the disease was manmade, in the labs during the cold war era and now released in Bangladesh, often citing this or that country, particularly the neighbouring ones, as the culprit. It did not help much by the knowledge acquired soon that the next door neighbor, India, had already been suffering for the last few years, (indeed that reinforced the conspiracy theory) or that the disease had been noted in 60 different countries so far. The mass hysteria and the blame game continue unabated.

Mosquito borne diseases, malaria, dengue, zika and now chikungunya are too common in Asia, Africa and Latin America and people have to live with the threat of fatalities they bring about. According to WHO there were 214 million malaria cases in the world in 2015, with nearly half a million deaths! Malaria, being prevalent for a long time now has been somewhat contained in Asia and Latin America but is a vivid reality in Africa where 90% of all malaria deaths occur and that too mostly among

children under 5 years (nearly three hundred thousand deaths), while the drug resistant varieties are coming back with vengeance.

The later three diseases are new, and hence the conspiracy theories, definitely in Bangladesh where, dengue is barely a decade old and zika has yet to make its mark in any major way here. But chikungunya in this one season only has deranged the lives of millions in Bangladesh and as WHO reports also in 60 other countries including in North America over the past few decades. According to WHO before 1970 only 9 countries had experienced severe dengue that kills but now there are one hundred countries where dengue is endemic with a total of more than 3.2 million cases in 2015 and killing thousands in some countries like the Philippines.

Mosquitos, specially the *aedes aegypti* mosquitoes, the carriers of the new varieties of diseases is thus an added burden on the already losing battle fighting the malaria carrying mosquitoes. Most poor countries have to spend a substantial amount of the health budget to combat the menace. Hence, mosquitoes eat into the growth potential of these countries while they depopulate a whole continent.

Malaria, the ever present menace took a wild turn in Bangladesh during the colonial period when the British built railroads blocking natural flows of most water bodies and creating stagnations, the ideal grounds of mosquito breeding. The mosquitoes got a further boost with the plantation of jute, again introduced by the British, whose production required weeks of rotting the plant in stagnant water for extraction of the fibre. Even an innocent act of exporting frogs from Bangladesh, definitely a well needed money earning project, also increased mosquito production as it tipped the ecological balance in favour of the mosquitoes by eliminating their number one enemy.

Similarly, in an ironic way, the current spread of chikungunya, and dengue in the past years, has been linked to the relative prosperity of some sections of the population as the breeding ground of the *aedes* mosquitoes have been traced to the water expelled from the air conditioners and water in the flower vases and flower pots. This is attested by the far larger number of cases in the more affluent areas of the city. Unfortunately for me, I happen to live in one of these affluent areas.

Bangladesh has, however, been fighting the menace in earnest for more than half a century with limited success. Beginning in the 1950s all kinds of mosquito killing efforts have been attempted over the decades including aerial spraying of the whole city, putting at risk not only the environment but the populace too. Unfortunately, largely because of a lack of sustained effort the battle is never concluded and newer varieties of the diseases are getting a foothold with little or no warning for the people who are caught absolutely unaware of the causes and consequences. Even my doctor told me that he had read about chikungunya while in medical school but had no experience in dealing with it, I was his first case, as was true with all other health practitioners. This prompted all kinds of mumbo-jumbo suggested in the media for its treatment once the disease turned into an epidemic and creating not

only huge confusion in the minds of the citizens but also pushed the whole population into panic mode.

But mosquito is also good business. Mosquito coils, a mosquito repellent, invented as early as the 1800s in Japan, and later in Europe, are today a standard item in all households in Bangladesh as elsewhere in India, China and most other countries who have to deal with mosquitoes. Insecticides and other repellents, in various forms, are doing a billion dollar business in India alone and more so in China. The worldwide market share for the repellents only is over \$3 billion expected to rise to \$5 billion by 2022, Western manufacturers earn the bulk of that money.

Repellents may bring some relief to the people and other insecticides may have brought down the mosquito menace to some level of control but what is needed is a permanent solution to end the senseless deaths of millions. Attempts by the poor countries alone, who are by far the major victims, may be partially successful but it also puts money in the pockets of the people in the rich countries, who manufacture and sell these insecticides. As stated by the conspiracy theorists just selling pain killers is making some pharmaceutical companies super rich. So, there is again the rich and poor divide, and unless the more advanced countries with their science and technologies seek to assist in finding a solution rather than get richer by selling insecticide the problem may never be solved, may actually be aggravated, if we have to believe the conspiracy theorists.

That the richer countries when faced with the menace themselves may actually find a permanent solution far more quickly, as is noted in the recent hi-tech solution offered by the hi-tech giant Google to deal with the threat of zika virus. In an attempt to rid the Fresno area of California of aedes mosquitoes, Google have infected 20 million male aedes mosquito with naturally occurring bacteria that will, when they mate with female mosquitoes, result in sterile eggs, stopping the very birth of new mosquitoes. Some Chinese scientists are also working towards similar solutions. Perhaps, if such attempts can be replicated universally, the mosquito menace may be over in a few years. Of course, the impact on the environment and the ecological balance need to be studied fully before such actions are taken.

So, the good news is that, today the technology does exist which can eliminate mosquitoes forever, but will the African children be saved by that?