

Challenges for dengue control in Brazil

The fight against the *Aedes aegypti* mosquito vector is the only link that is susceptible to intervention for dengue control, since there is still no vaccine or specific treatment for the disease. Due to socio-environmental conditions and vector control inefficiency in many Brazilian cities, the endemic/epidemic process has been modulated by the exhaustion of susceptible individuals in the population at risk, rather than by vector control itself.

The huge complexity of the manmade environment makes it essential to rethink Brazil's vector control strategy. The mechanism producing the disease requires adopting integrated policies among various sectors, and not only health. In addition, policies to combat the disease must extend beyond the municipal sphere in the large metropolitan areas. We must be humble enough to admit that the current strategy has failed (at least in the large Brazilian cities) and have the courage to change it. This requires mobilizing the academic community and health professionals to develop innovative and intelligent vector control strategies, adapted to our reality. Our country needs a better grasp of knowledge on all aspects of the problem at its different levels: virological, entomological, epidemiological, and social. Research agencies and the Ministry of Health should induce the creation of research networks among the various institutions in order to optimize this process.

Some recent epidemic processes have been characterized by severity of cases and a proportional increase in children. This pattern is characteristic of hyperendemic regions like Southeast Asia. Nothing suggests that this process is specific to a given region. On the contrary, this change in the disease pattern could be reproduced in various other regions of Brazil in the future. Thus, health team training and prior organization of health services are critical to deal with this new situation. If it proves impossible to detain the epidemic process, we should have the ethical and moral commitment to avoid death from the disease.

There is currently a discussion as to whether virus serotype 4 has already entered Brazil. The first report occurred in the epidemic in Boavista, Roraima State, in 1981/1982, which was produced by viruses 1 and 4, although virus 4 has not spread to other regions of the country. Researchers in Manaus, Amazonas State, recently performed gene sequencing of the dengue virus in local residents and detected the virus 4 genome. Regardless of the controversy surrounding these findings, we cannot close our eyes to a reality, namely that virus 4 will reach Brazil, although it is impossible to predict when. This means that effective vector control measures must be taken, since the introduction of this serotype has the potential to trigger explosive epidemics in various regions, with a large susceptible population contingent that has been immunized by infections with one or more of the other three serotypes already circulating in the country. Thus, the risk of occurrence of the severe form of the disease tends to increase.

Given such a daunting scenario, Brazilian society can no longer tolerate quarrels over who is responsible for the mosquito. It is crucial to build a solid alliance among all sectors, above and beyond any disagreement or vanity. After all, the common enemy has proven more competent in its struggle for survival, even though involuntarily causing suffering and death in humans.

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