

Transmission of DHF at Home or School

Jeffrey L. Lennon 

Foundation University, College of Education, Dumaguete City, Philippines
and
International Technical Assistance Group, Seattle, WA, USA

Dear Editor: I agree with Sujariyakul et al. [Transmission of Dengue Haemorrhagic Fever: At Home or School?, Volume 29 (2005)] that communities should not be ignored at the expense of schools in dengue control programmes.^[1] However, likewise, schools also should not be ignored as potential breeding sites for dengue-carrying mosquitoes, nor de-emphasized in dengue control programmes.


Sujariyakul et al. found that the odds ratio of dengue cases to fellow students in their classroom or adjacent classrooms was not significant, whereas the odds ratio of schoolchildren to neighbours in the community living within 100 metres was significant.^[1] This could be due to the vigilance of school-related environmental clean-up and anti-dengue programmes, a function of students' presence in the location during mosquito-biting time, and the lack of inclusion of exposure to other students beyond the adjacent classrooms. A misinterpretation of the authors' fine work could have the effect of de-emphasizing the control of mosquito-breeding sites in schools, which, in turn, could increase the risk of dengue to students in the schools, and also to the surrounding community.

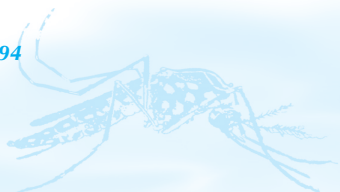
Dengue control should not be only at home or at school. It should include both the school and the surrounding community. The school may act as a model for the surrounding

community. Teachers may train their students in mosquito larvae source-reduction/dengue-control practices. The students may continue to follow these practices at home. This approach to utilize students in dengue control activities has been conducted in the Philippines,^[2,3] the Caribbean, Latin America and other parts of South-East Asia.^[4] Also, schools have been utilized by parents-teachers groups,^[5] and community meetings on dengue control.^[6]

A future case-control study to further examine the relationship of dengue risk between school and home should include:

- The control will be within a year's age of the case. This should be done in order to avoid an unequal balance of elementary and high school students. If ages and school settings differ, then this may be reflective of possible differing immunity levels and also differing environmental exposures.
- School times from beginning to end of school day should be the same for cases and controls.
- School exposure to dengue risk should take into account possible exposures beyond the classrooms. These exposures may involve contact with

 jeffchona2@yahoo.com



students from beyond their classroom, or adjacent classrooms. Such exposure sites many include the restrooms, canteen, physical education activities and flag ceremonies.

- The history of environmental clean-up campaigns or activities on the premises of the schools in future study should be noted.
- The percentage of *Aedes* mosquito biting time spent in the home and at school should be indicated.
- Dengue cases within 100 metres of the school may be noted as possible study variable confounders.

Sujariyakul et al. acknowledged the presence of mosquito in schools, and also acknowledged the significant risk of dengue to water jars/tanks in schools.^[1] Schools in the tropics have other possible *Aedes* larva sources. These include ponds on campus, drains, canals and flower vases, to name a few. Some Thai schools may have a long history of involvement in school-based dengue control.^[7] However, this may not be the norm for other parts of the world. Consequently, I affirm the value of the inclusion of schools for national dengue control programmes not only for social mobilization^[8] but also as the schools themselves may be the venues for dengue transmission.

References

- [1] Sujariyakul A, Prateepko S-w, Chongsuvivatwong V, Thammapalo S. Transmission of dengue haemorrhagic fever: At home or school? *Dengue Bulletin* 2005;29:32-40.
- [2] Lennon JL, Gonzales JCP. The utilization of college of education students in a dengue health education campaign. *Philippine Journal of Education* 1995;73:393,421,425-426.
- [3] Lennon JL. Knowledge of dengue haemorrhagic fever by Filipino university education students. *Dengue Bulletin* 1996;20:82-86.
- [4] Parks WJ, Lloyd LS, Nathan MB, Hosein E, Odugleh A, Clark CG, Gubler DJ, Prasittisuk C, Palmer K, San Martín J-L, Siversen SR, Dawkins Z and Renganathan E. International experiences in social mobilizing and communication for dengue prevention and control. *Dengue Bulletin* 2005;28(suppl):1-7.
- [5] Lennon JL. Knowledge of dengue hemorrhagic fever by parents-teachers group in a Filipino high school. *Silliman Journal* 1994;37:27-40.
- [6] Toaliu H, Taleo G. Formation of community committees to develop and implement dengue fever prevention and control activities in Vanuatu. *Dengue Bulletin* 2004;28(suppl):53-56.
- [7] Swaddiwudhipong W, Chaovakiratipong C, Nguntra P, Koonchote S, Khumklam P, Lerdlukanavongse P. Effect of health education on community participation in control of dengue hemorrhagic fever in an urban area of Thailand. *Southeast Asian J Trop Med Public Health* 1992 Jun;23(2):200-6.
- [8] WHO. Guidelines for conducting a review of a national dengue prevention and control programme. Geneva: World Health Organization; WHO/CDS/CPE/PVC/2005.13.

