New kit uses saliva drops to identify HFMD

Linette Lai
Health Correspondent

Scientists from the National University of Singapore (NUS) have found a way to identify children with hand, foot and mouth disease (HFMD) from just a few drops of saliva, even before symptoms show.

They hope to eventually make HFMD test kits commonplace in preschools and childcare centres so cases can be picked up early to prevent the disease from spreading.

They will first have to test the kits on a large group of children and get approval from the Health Sciences Authority for their use here.

Associate Professor Justin Chu, who is one of the lead researchers, said yesterday that most doctors diagnose HFMD by checking if a child has symptoms such as mouth ulcers, rashes or a fever.

At the same time, many childcare centres and preschools try to prevent the disease from spreading by conducting regular temperature checks and getting children to clean their hands properly.

"But it seems that this is not highly efficient, because we still see 20,000 to 30,000 cases every year," said Dr Chu, from the NUS Yong Loo Lin School of Medicine’s microbiology and immunology department.

He added that some children may be infected even if they have no symptoms, or after symptoms have subsided. "One way to do more is to strengthen diagnosis."

The test was developed by NUS as part of a collaboration with the Institute of Molecular and Cell Biology at the Agency for Science, Technology and Research, KK Women’s and Children’s Hospital and Taiwa’s Chang Gung University.

Earlier this month, the number of HFMD cases hit a weekly high, with 1,249 infections reported between July 29 and Aug 4. There have been around 28,000 HFMD cases this year, more than half of all last year.

The new test works by picking up the body’s reaction to being infected with HFMD. This reaction remains the same even if the virus strains change, said Dr Chu. It delivers results within two hours.

The test was tried on 82 children who had picked up HFMD cases with around 96 per cent accuracy. It was around 90 per cent accurate at identifying Taiwanese cases.

The difference could be due to genetic differences or slightly different methods of processing the saliva samples, Dr Chu said.

To refine the test, his team is now using the kit to test 1,000 children in Vietnam and China.

"The next step, as led by Dr Chu, is to develop a simple test strip that will change colour in minutes if a child has HFMD," said Mr Goh, whose four-year-old son contracted HFMD recently.

"It is frustrating to hear from my general practitioner that they have no physical signs to look for HFMD. This test could help stop the spread of the disease.

"It’s good news for children, but we still have to be vigilant," he added. "This test will not only help us to detect HFMD, but also help to educate parents about the disease and make sure the children are well."