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READER'S FORUM

Letter in response to 'Saliva is inferior to nose and throat swabs for SARS-CoV-2 detection in children'

It is with interest that we read the article by von Linstow et al., which investigated the efficacy of saliva testing in comparison with nasal and oropharyngeal swabs (NOS) for the detection of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).[1] The authors highlighted interesting ideas about why NOS may be preferable in paediatric patients; we wish to evaluate their findings and suggest further avenues for investigation.

The gold standard for the detection of a positive sample of SARS-CoV-2 involves real-time polymerase chain reaction (RT-PCR) testing of a sample taken via NOS. Saliva testing is an increasingly commonly suggested alternative to NOS as it is less invasive and less dependent on the training level of the person taking a sample. The paper described sampling was performed by a trained project nurse, using both methods of sampling and further sampling before relying on parents of 20 children. This highlights an issue with consistency of sampling within this study, as there is no testing or training to check whether the parents of children could take adequate sampling beyond providing an instruction leaflet. Other studies have shown a much greater degree of similarity in positive sampling despite saliva samples having lower viral loads compared with NOS sampling (97.8% overall, $n = 93.3\%$ in children) where samples were taken in hospitals by trained staff and storage of all samples within a virus transport medium.[2] This highlights an issue in the von Linstow et al. study, where it was noted that saliva samples were not added to any virus transport media and that samples arrived an unspecified number of days after sampling. This could have resulted in degradation of any additional positive samples from saliva testing in addition to using parents rather than trained staff to collect samples.

The article did not break down the sample results by age, which is also something we believe should have been considered as a child aged 10 will react as differently to different sampling techniques as a child aged five or 16. With a median age of five, and a range of 6–17 years, it is hard to ascertain what age ranges positive samples were taken from and the variation between children of different ages, both in terms of efficacy, agreement between sampling techniques, preference of the children, and their ability to provide adequate samples. However, clarifying sub-groups of age ranges was shown in another study that saliva testing may be useful as an adjunct in children younger than 10, and stand-alone in older children.[3] This may be a more preferable approach to making a statement that saliva testing is inferior in children.

In our opinion, NOS is the standard for SARS-CoV-2 sampling, but it is also hasty to state that saliva is inferior without further investigations. The topic of paediatric COVID testing would benefit from studies with larger cohorts, more stringent and standardised sampling protocols and more in-depth demographic information to gauge the most appropriate methodology when testing children.

CONFLICT OF INTEREST

There are no conflicts of interest in connection with this paper.

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