



An Investigation into a Throat Swab Collection Device for Children

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To the Editor: With the rampant spread of COVID-19, the clinical demand for throat swab sampling has skyrocketed [1, 2], and sampling for nucleic acid testing in children is a critical and time-consuming task [3, 4]. The current common throat swab devices available in the market are not suitable for children. In this paper, we elucidate on a throat swab collection device designed specifically for children.

The collection device comprises: a container jar, a sealed cap, and collection sticks, wherein: a container jar, with a container opening at the top is used to hold and seal the stated collection stick; a sealed cap, removably mounted on the opening of the stated container, is used to seal the stated container jar, and the sealed cap further comprises a data line interface for data interaction with an external device *via* a data line, to capture the information input of the child from the external device and display the child information. The collection sticks, which are mounted at the bottom of the sealed cap, are used for collecting children's throat swabs.

The structure of the throat swab is improved, *for example*, the collection stick is made into various candy colors; the shape is designed into various shapes that children prefer. Furthermore, the sealed cap is labeled for displaying information about the child, reducing the difficulty in collecting such information at the time of sample collection (Supplementary Fig. S1).

This device meets the psychological needs of children, avoids directly triggering children's resistance. The device can reduce the risk of occupational exposure, lower the false-positive and false-negative rates, and improve the pass rate of specimen collection. Furthermore, it can increase the overall satisfaction of doctors and patients, and make the

collection of throat swab samples from children faster and more efficient and safe.

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Declarations

Conflict of Interest None.

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