# Understanding patients' acceptability of self-collection of various clinical specimens to inform clinical diagnosis of COVID-19

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## Introduction

During the COVID-19 epidemic, different sampling approaches have been used for the diagnosis of COVID-19 infection [1]. Although self-collected posterior oropharyngeal saliva may confer the potential benefit of a reduced occupational risk exposure among healthcare workers and represented the most popular sampling approach for COVID-19 diagnosis in many countries, public understanding, capability and acceptability of this sampling approach remains largely unclear. The objective of this observational study was to compare the relative understanding, perception and preference of different sampling approaches for the diagnosis of community COVID-19 infections in the general community by conducted Tier 4 patients from the Accident & Emergency Departments (AED) in Hong Kong.

## Methods

A survey was conducted among adults ≥18 years of age presenting with respiratory symptoms to the AED and clinically classified as Tier 4 (clinically stable outpatients with fever or respiratory symptoms or new loss of taste/smell, shortness of breath, or gastrointestinal symptoms, with no travel or contact history) by the attending doctor and required to save a deep throat salivary sample for COVID testing were recruited. All participants were given a self-instructional manual and self-collected an early morning deep throat salivary sample, and also have another combined anterior nares/oropharyngeal (OP/Na) specimen collected by a health care worker. We examined their understanding, perception and preference basing on their experience on the two sampling approaches.

## Results

A total of 127 participants completed the survey and the collection of both specimens. Although acceptance of the two different sampling approaches appeared grossly comparable (52% vs 48%), the majority (78%) of respondents actually perceived pooled OP/Na swab to be a more accurate sampling approach for diagnosing COVID-19 in a primary care setting. Regarding the sample collection procedure, a large proportion of people (80%) were confident for the self-collection of saliva sample, whereas only 54% were confident that they can accurately perform a self-collection of pooled OP/Na swabs, with most individuals (84%) preferring the swabs to be collected by a HCW instead. Common concerns affecting the acceptability of different sampling approaches included accuracy of sampling procedure (46%), followed by ease of specimen collection (34%), procedural convenience (14%), comfortability (9%), and timeliness (3%). (Figure 1)

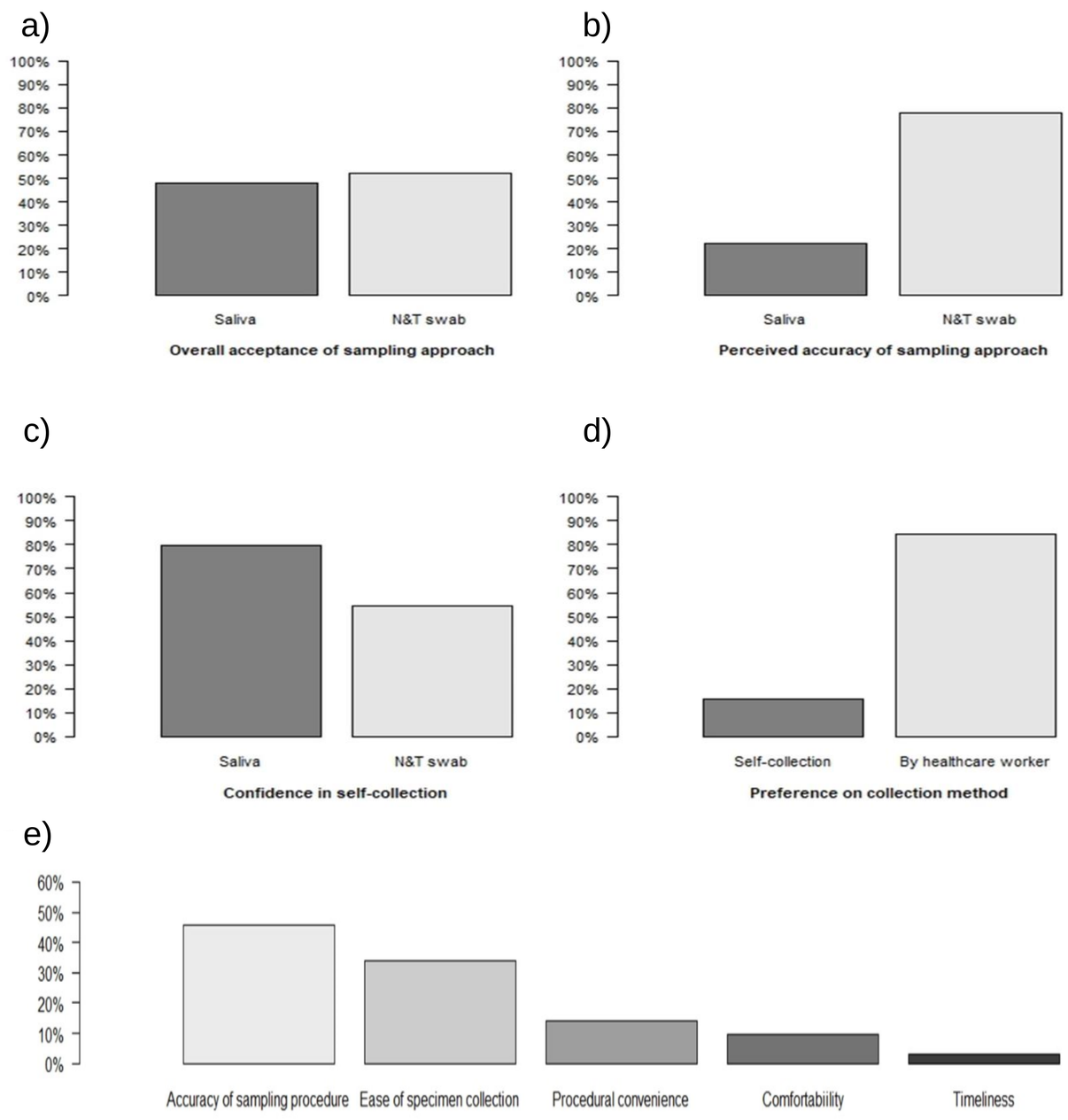


Figure 1. Performance and public preference on different sampling approaches for diagnosis of community COVID-19 infection. a) Overall acceptance of sampling approach b) Perceived accuracy of sampling approach c) Confidence in self-collection of saliva sample or nasal and throat swab d) Preference on collection method e) Determinants of public acceptance towards different sampling approaches

## Discussion

Although self-collected posterior oropharyngeal saliva is being widely employed for specimen collection in community COVID-19 infection screening, a sizable proportion of people preferred the use of OP/Na swab collected by healthcare workers. Although generally believed to be simple and straight forward, not all people perceived themselves as capable of performing the self-collection procedure under the guidance of the self-instructional manual. Further work will be needed to improve patients' understanding on the procedure and to ensure those samples are being collected in an appropriate manner for accurate diagnosis.

## References

[1] Kojima N, Turner F, Slepnev V, Bacelar A, Deming L, Kodeboyina S, et al. Self-Collected Oral Fluid and Nasal Swabs Demonstrate Comparable Sensitivity to Clinician Collected Nasopharyngeal Swabs for Covid-19 Detection. medRxiv. 2020:2020.04.11.20062372.

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