

# Akurasi Diagnostik RT-PCR Saliva Dibandingkan Usap Nasofaring untuk Diagnosis COVID-19 = Diagnostic Accuracy of Saliva RT-PCR Compared to Nasopharyngeal Swab for COVID-19 Diagnosis

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## Abstrak

Latar Belakang. Coronavirus Disease-19 (COVID-19) sampai sekarang masih menjadi ancaman kesehatan global. Baku emas diagnosis COVID-19 adalah pemeriksaan RT-PCR dari sampel usap nasofaring. Pengambilan sampel dengan cara ini memiliki kekurangan seperti rasa tidak nyaman pada pasien, risiko perdarahan, dan risiko paparan pada tenaga medis. Saliva merupakan salah satu alternatif sampel yang bisa digunakan untuk tujuan ini. Tujuan. Mengetahui sensitivitas, spesifisitas, nilai duga positif, nilai duga negatif, dan akurasi RTPCR saliva. Metode. Penelitian potong lintang pasien dewasa suspek COVID-19 pada April-Juni 2021 di instalasi gawat darurat rumah sakit Siloam Lippo Village. Pasien yang memenuhi syarat dan menyatakan setuju dilakukan pemeriksaan RT-PCR dari sampel usap nasofaring dan saliva. RTPCR dikerjakan dengan menilai gen N dan gen ORF1AB menggunakan alat Rotorgen QPlex-5Plus dengan batas positif CT Value < 40. Hasil. Sebanyak 126 pasien suspek COVID-19 yang eligible ikut penelitian selama periode studi. Enam pasien menolak mengikuti penelitian. Analisis akhir dikerjakan pada 120 pasien dengan proporsi laki-laki 42,5% dan median usia 50 tahun. Hasil RT-PCR positif ditemukan pada 69 (57,5%) sampel saliva dan 75 (62,5%) sampel usap nasofaring. Sensitivitas uji RT-PCR COVID19 dari sampel saliva adalah 86,67% (95% CI 76,84- 93,42), spesifisitasnya 91,11% (95% CI 78,78- 97,52). Nilai NDP yang didapat adalah 94,20% (95% CI 86,39-97,65) dan nilai NDN yang didapat 80,39% (95% CI 69,57-88,03). Akurasi yang didapat adalah 88,33% (95% CI 81,2093,47). Rerata CT value RT-PCR dari sampel saliva lebih tinggi dibandingkan sampel nasofaring, baik pada gen N (mean saliva 26,22 vs nasofaring 22,18; p= 0,01) maupun ORF1AB (mean saliva 26,39 vs nasofaring 23,24; p= 0,01). Simpulan. Saliva yang diambil dengan metode drooling merupakan sampel yang akurat untuk pemeriksaan RT-PCR COVID-19.

.....Background. Coronavirus Disease-19 (COVID-19) is still a global health problem. Diagnostic gold standard for COVID-19 is RT-PCR of the nasopharyngeal swab specimen. However, this method has several issues such as patient's discomfort, risk of bleeding, and risk of exposure to examiner. Saliva is a viable alternative sample for this examination. Aim. To find out the sensitivity, specificity, positive predictive value, negative predictive value, and accuracy of saliva RT-PCR. Method. Crosssectional study in adult patient with suspect of COVID-19 during April-June 2021 in emergency unit Lippo Village Hospital. Eligible and agreed patient are examined with RT-PCR from nasopharyngeal swab and saliva. RT-PCR was done by targeting gene N and ORF1AB using Rotorgen QPlex-5-Plus with CT value cut off 40. Result. A total of 126 suspected COVID-19 cases were admitted to ER during study period. Six patients were disagree to join. Final analysis was carried out on 120 patients (42.5% male, media age 60). Positive RT-PCR was found in 69 (57.5%) saliva specimens and 75 (62.5%) nasopharyngeal specimens. Sensitivity of saliva specimens was 86.67% (95% CI 76.84- 93.42), with specificity of 91.11% (95% CI 78.78-97.52). NDP of saliva was 94.20% (95% CI 86.39-97.65) with NDN of 80.39% (95% CI 69.57-88.03). Saliva's accuracy was 88.33% (95% CI 81.20-93.47). Mean CT value of saliva specimens was higher than nasopharyngeal

specimens in both gene N (mean saliva 26.22 vs nasopharyngeal 22.18;  $p= 0.01$ ) and ORF1AB (mean saliva 26.39 vs nasopharyngeal 23.24;  $p= 0.01$ ). Conclusion. Saliva collected with drooling method is an accurate sample for COVID-19 RT-PCR.