Sensitivity of RSUP Dr Sardjito's Covid Score to Positive PCR Swab Test Results as A Diagnostic Tool

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KEYWORDS	ABSTRACT
RSUP DR SADJITO, RSS, COVID-19, early scoring,	Coronavirus disease 2019 (COVID-19) is a newly discovered disease that has spread throughout the world so that it is considered a pandemic. Effective initial screening in patients is important to determine the need for diagnostic and therapeutic measures. Until now, there have been no screening tools that have been designated as gold standards so that RSS was developed based on the manifestation of COVID-19 as an early scoring tool. Assess the sensitivity of RSS scoring to confirm PCR COVID events. A case control study was conducted on patients from March to April 2021 at RSUP dr. Sardjito. A total of 50 respondents were randomly screened using RSS tools and confirmed with PCR. Then the prevalence of positive cases is calculated based on RSS scoring with patients who are positive based on PCR of the 50 respondents examined, 45 people were declared confirmed with COVID-19. The number of patients with high probable criteria who confirmed COVID-19 was 37 people. The number of patients with moderate probable criteria who confirmed COVID-19 was 9 people. Based on the formula, the sensitivity of RSS to confirmed COVID-19 is 97.72%. Dr Sardjito's SOP r scoring sensitivity to confirmed COVID-19 was 97.72%. Thus, Dr Sardjito's SOP r scoring sensitivity to confirmed COVID-19 was 97.72%. Thus, Dr. Sardjito's Covid R SUP Scoring can be used as a tool to assess high risk confirmed COVID-19 patients in early screening.

Introduction

Coronavirus disease 2019 (COVID-19) is a newly discovered disease. The first case was found in Wuhan caused by the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) virus (Susilo *et al.*, 2020). WHO announced the coronavirus (COVID-19) pandemic on March 11, 2020. A study states that people infected with SARS-CoV-2 show symptoms such as dry cough, fatigue, fever, and dyspneu (Nasir & Nurmansyah, 2020). As of April 23, 2021, the total confirmed cases of COVID-19 globally are 144,358,956 cases with 3,066,113

deaths (WHO, 2021). Meanwhile, in Indonesia, the COVID-19 confirmation rate is 1,632,248 with a death rate of 44,346 (WHO, 2022).

Currently, the diagnosis of COVID-19 relies primarily on the detection of nucleic acid SARS-CoV-2 using RT-PCR in patients showing clinical symptoms, a history of epidemiological exposure and confirmed by manifestations of tomography (CT) (Handayani et al., 2020). However, in patients with atypical early clinical symptoms, an unclear history of epidemiological exposure,, and a picture of imaging results similar to other diagnoses bring difficulties to the patient's initial screening (Song et al., n.d.). Therefore, alat effective and simple multi-parameter diagnostics is in demand (WHO, 2020).

Clinical prediction scores support patient assessment in emergency settings to determine the need for further diagnostic and therapeutic measures. During the COVID-19 pandemic, doctors in emergency rooms in many hospitals have quite a lot of higher patient burdens and need to decide in a short time who to be hospitalized (Levenfus et al., 2020).. The absence of a screening tool used as a *gold standard* initiates researchers to create a scoring system based on manifestations that appear in COVID-19 patients (Harapan et al., 2020).

Research Methods

A *case control* research design was carried out on patients at RSUP dr. Sardjito from March to April 2020. patient. In a number of specified samples, a scoring check with *RSS tools* was then confirmed using RT-PCR. The Covid score (RSS) sensitivity to the incidence of COVID-19 confirmed PCR is calculated by the formula:

$$\text{True positive:} \quad \frac{\text{True positive}}{\text{True positives + false negatives}} \times 100\%$$

Results and Discussion

From patients from March to April 2021 who show symptoms of COVID-19 at RSUP dr. Sardjito, a total sample of 50 people was obtained. 28 people are male and 22 are female. From the RSS results, 1 person was low probable, 10 moderate probable, and 39 *high probable* people. Of the 50 people, 45 were declared confirmed with COVID-19. The number of patients with *high probable* criteria who confirmed COVID-19 was 37 people. The number of patients with moderate probable criteria who confirmed COVID-19 was 9 people (Parikh et al., 2020).

Based on the formula, it is found that the sensitivity of RSS to confirmed COVID-19 is as follows:

$$\text{Sensistivity} = \frac{\text{True positive}}{\text{True positive + false negatives}} \times 100\%$$

$$= \frac{43}{43 + 1} \times 100\%$$

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$$= 97,72\ \%$$

The COVID-19 outbreak is intensifying around the world. Effective early detection and quarantine of patients in close contact patients has so far proven effective enough to suppress the rate of increase in cases. However, in practice in the field, there are relatively many shortcomings of SARS-CoV-2 examination kits and the presence of false negatives caused by various reasons such as the quality of the samples, the number of viral loads, and the stage of the disease. Several studies and medical personnel in the field propose that it is necessary to carry out screening with thoracic CT in high-risk COVID-19 patients. however, quite a few patients with confirmed COVID-19 with insignificant, atypical or even normal thoracic CT images at the time of the initial emergency examination. This shows that the initial diagnosis of COVID-19 is quite difficult to establish (Song et al., n.d.).

Researchers developed one of the screening models based on clinical manifestations that often appear in COVID-19 patients. Scoring RSS assessments are made with a scoring system and then classified into low probable, moderate probable and high probable. Tested using the formula for the number of high-risk patients based on RSS compared to confirmed COVID-19 patients, sensitivity results were obtained by 97.72%. This figure is quite high and can be used as an early warning for patients suspected of COVID-19, especially if access to RT-PCR is limited or other supporting data such as thoracic CT, Thorax Xray and laboratory results show results that are not in accordance with the patient's clinical manifestations (Hidayani, 2020).

Conclusion

The sensitivity of the Covid RSS Scoring to confirmed COVID-19 was 97.72%. Thus, RSS Covid Scoring can be used as a tool to assess *high-risk* confirmed COVID-19 patients in early screening. Covid RSS scoring allows COVID-19 to be detected more quickly and relatively accurately, especially when RT-PCR capacity takes longer or is limited.

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