SEROPREVALENCE STUDY OF SARS-COV-2 IN THE GENERAL POPULATION, IN SIAU TAGULANDANG BIARO, NORTH SULAWESI

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ABSTRACT

Background: COVID-19 pandemic has impacted worldwide. Indonesia is one of the Southeast Asian countries most affected by the pandemic. However, seroprevalence studies on COVID-19 infection in the general population in Indonesia are lacking. Serological examination of severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) can identify the infection status and detect antibodies produced by the natural infection and vaccination. Understanding how many people have been infected with SARS-CoV-2 is an urgent priority for controlling COVID-19 pandemic. This study aimed to determine seropositive estimates of SARS-CoV-2 infection in the general population living in Siau Tagulandang Biaro, North Sulawesi.
Subjects and Method: This was a cross-sectional study conducted at Siau Tagulandang Biaro, North Sulawesi, in August to September 2022. A random sample of 99 people without COVID-19 symptoms were selected for this study. Analysis of serological data began with taking a 5 ml blood specimen and examined by the Chemiluminescent immunoassay (CLIA) method. Then serum titers of SARS-CoV-2 IgG, IgM, and Neutralizing antibody (NAb) were measured quantitatively. The cut-off for SARS-CoV-2 IgG and IgM titers was 5.0 AU/mL. The cut-off for NAb was 37.375 AU/mL.
Results: The average age of subjects was 42.86 years. As many as 62 (62.63%) were male, and 37 (37.37%) were female. As many as 32 (32.32%) of the sample had a history of COVID-19. As many as 13 (13.13%) had received COVID-19 vaccine 2 times or less. As many as 77 (77.78%) subjects were reactive for IgG SARS-CoV-2, and 26 (26.26%) subjects were reactive for IgM SARS-CoV-2. As many as 99 (99%) subjects were reactive for NAb.
Conclusion: About three-quarters of the population in Siau Tagulandang Biaro, North Sulawesi in August to September 2022 had developed antibodies to SARS-CoV-2.

Keywords: Seroprevalence, IgG, IgM, NAb, SARS-CoV-2.

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