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Letter to the Editor

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Low SARS-CoV-2 Antibodies in Blood Donors After the First 6 Months of COVID-19 Epidemic in the Tobruk Region, Eastern Libya

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Coronavirus disease 2019 (COVID-19) is primarily a respiratory virus, and there is no evidence of transfusion transmission for COVID-19[1,2]; however, estimation of the seroprevalence rate of antibodies to severe acute respiratory syndrome coronavirus 2 (anti-SARS-CoV-2) in blood donors' population reflects the progression of the epidemic in the region. It is unclear how many people have contracted the virus because only symptomatic cases have been registered. For this reason, and as a part of the National Centre for Disease Control preparedness plan to combat the spread of the COVID-19 infection in the Tobruk region, eastern Libya, we conducted a cross-sectional study between January 15 and February 15, 2021, six months after the identification of the first confirmed COVID-19 case in the region on July 23, 2020.[3]

The survey consisted of 200 healthy blood donors from the central blood bank in Tobruk, which is the main blood bank in the Tobruk region. The Ethical Committees of the Tobruk University, Libya, approved the study before collecting the blood samples (IRB No. MT-2021-03). The blood donors were informed about the study protocol and informed consent for anti-SARS testing was obtained for each donor. The obtained personal data and the results of the laboratory investigations of the participants were anonymous and the participants' data cannot be correlated to the results obtained. Venous whole blood samples were collected from participants. The SARS-CoV-2 antibodies analysis was performed in the laboratory of the National Centre for Disease Control, Tobruk, using immunoglobulin IgM-IgG combined antibody test for the qualitative detection of IgG and IgM antibodies (STANDARD Q COVID-19 IgM/IgG Duo, by SD Biosensor, Republic of Korea). The test was performed as per the manufacturer instructions. The data were analyzed using Microsoft Office Excel 2016 program.

Among the 200 healthy blood donors, all were male and mean age ± standard deviation was 38.13 ± 10.9 y. All of donors were from the Tobruk region. Among all participating blood donors, 8 (4%) were positive for combined anti- SARS-CoV-2 antibodies. No donor had reported COVID-19 infection before; however, 30 (15%) participants reported a history of common cold symptoms since July 23, 2020. Among the participants who reported a history of common cold symptoms, 6 participants tested positive for anti-SARS-CoV-2 antibodies, indicating the presence of unreported and asymptomatic COVID-19 infection in the general population that contributed to seroprevalence of SARS-CoV-2 antibodies.

It is noteworthy that this study examined SARS-CoV-2 seroprevalence in a sample of healthy blood donors during the COVID-19 outbreak within the region before the start of the national vaccination program in April 2021.[4] As per the study, approximately 6 months after the outbreak in the Tobruk region, approximately 4% of healthy adults donors were already positive for the combined SARS-CoV-2 antibodies. Estimating SARS-CoV-2 antibodies is also important to estimate the herd immunity of the population. Herd immunity is the immunity that develops among people when a sufficient percentage of the population has become immune to an infection either through natural infection or through immunization to the point the infection is significantly less likely to turn into large outbreaks.[5]

In conclusion, almost 4% of blood donors are now seroconverted for COVID-19 in the region. This reflects limited seroprevalence in the adult male population. However, comprehensive testing is required especially after starting the mandatory COVID-19 vaccination campaign in the region to evaluate the herd immunity of the population.

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Conflicts of interest. The authors declare that they have no conflicts of interest.

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