NIH STUDY: CURRENT DONOR SCREENING PRACTICES PROTECT BLOOD SUPPLY AGAINST SARS-COV-2

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A new study published in ***Transfusion*** suggests that trace amounts of SARS-CoV-2 RNA found in donor samples – approximately 0.001%, or about 1 in 100,000 – did not result in transfusion transmission of SARS-CoV-2. The findings confirm that current donor screening practices protected the blood supply.

In the study, conducted by the **NHLBI Recipient Epidemiology and Donor Evaluation Study (REDS) Program**, investigators tested 17,995 residual donor plasma minpools (MPs) of donated blood for SARS-CoV-2 RNA (vRNA). These MPs corresponded with 257,809 blood donations collected between March and September 2020 in six U.S. metropolitan regions.

Of these MPs, only three were reactive for vRNA – an estimated prevalence of 1.16/100,000 (95% CI 0.40, 3.42). In addition, the vRNA-reactive samples were non-reactive for antibody, and the estimated viral loads of the (presumed single) positive donations within each MP ranged from fewer than 1,000 to fewer than 4,000 copies/ml. Investigators observed no infectivity in inoculated permissive cell cultures when tested, suggesting that the likelihood of SARS-CoV-2 transmission by blood transfusion is "insignificant" compared with airborne transmission.

Notably, the findings support **blood donor eligibility considerations** provided by the Food and Drug Administration. The agency has consistently stated that "respiratory viruses, in general, are not known to be transmitted by blood transfusion. There have been no reported cases of transfusion-transmitted coronavirus, including SARS-CoV-2, worldwide." Current blood donor screening requirements do not include nucleic acid

testing for the SARS-CoV-2 virus but do require screening to confirm the donor is healthy and well on the day of donation. FDA also suggested donors “refrain from donating blood for at least 14 days after complete resolution of symptoms” of COVID-19.

The findings mirror the results of similar studies conducted in Korea, Pakistan, China and France, which found that among the rare cases in which SARS-CoV-2 was detected in a blood donation, it contained a low viral load and did not result in transmission of COVID-19.

“Other studies have shown that in rare cases where a blood sample tested positive, transmission by blood transfusion has not occurred,” **said Sonia Bakkour, PhD**, scientist at the Vitalant Research Institute and part of the research team that analyzed the blood. “Therefore, it appears safe to receive blood as a transfusion recipient and to keep donating blood, without fear of transmitting COVID-19 as long as current screenings are used.”