

Letter to the Editor

Plan for blood banks to protect blood donors and healthcare workers during COVID-19 pandemic



Dear Editor,

Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) emerged from Wuhan Province of China in November, 2019 in the form of viral respiratory disease. As of May, 2020, 4,030,750 positive cases and 277,455 deaths have been reported across the globe due to Coronavirus Diseases 2019 (COVID-19). According to previous researches, approximately 84% of the infected patients do not possess any symptoms and remain unnoticed. These individuals are the source of local transmission within the community.

Under such circumstances, every part of the healthcare system has taken special measures to adapt themselves. SARS-CoV-2 RT-PCR test emerged as the ray of hope to isolate the infected ones from a healthy population. The test was technology-dependent, time taking, expensive, and limited to nasal or throat swabs. Recently, progress towards more sophisticated testing has been made. Rapid testing emerged as a novel idea. Serological tests are used to screen individuals for IgG and IgM within the blood samples,¹⁻³ while Rapid Molecular tests can produce results within 1 h.⁴⁻⁶ The testing by these methods does not require a high-tech laboratory and can be carried out within clinics, blood banks, schools, hostels, airports, and door to door campaigns by trained healthcare workers.

We are currently working in a 1200 bedded tertiary care hospital in Karachi city, Sindh. Karachi is the largest city of Pakistan and the seventh-largest city in the world with a population of approximately 19.1 million. 39 registered blood banks are currently operating within the city with a daily output of 1300 blood products per day. Our blood bank is considered as one of the largest blood banks in the city with a daily average output of 103 blood products and average daily blood donation of 70 bags in the month of January, 2020. However, a drastic decrease in blood donation was noticed in March, 2020 after the first COVID-19 diagnosis on 26th February, 2020 with the daily average blood donor input of 18 bags which further decreased to 11 bags per day in April, 2020. On 23rd April, 2020, two employees of the blood bank were also tested positive for SARS-CoV-2 who were working in the Donors' Area which further raised concerns over the health of healthcare work-

ers. The administration called every donor who donated blood within the past 14 days and found that two donors were tested positive for COVID-19 by RT-PCR nine days ago. The event led to complete closure of the blood bank for 3 days while every employee was tested for SARS-CoV-2 while the donors were counseled to isolate themselves and get tested.

After this event and absence of workflow model in recently published blood banking-related articles,⁷⁻⁹ the authors took the initiative to propose a working model for blood banks to overcome the risk of transmission of COVID-19 from donors to donors and staff. Utilization of every possible way to overcome the risk of local transmission is the key factor to eliminate COVID-19 pandemic. Blood banks can play a crucial role by providing safe and healthy blood along with the screening of their asymptomatic donors. The strategy is produced as per the American Association of Blood Banks (AABB) guidelines that supported the initiatives taken by blood banks to safeguard their staff and donors.

We recommended body temperature measurements during physical examination. Following questions were added in donor history taking:

- 1 Fever or history of fever within the past 28 days?
- 2 Sore throat or history of sore throat within the past 28 days?
- 3 Dry cough or history of dry cough within the past 28 days?
- 4 Any close contact with COVID-19 patients within the past 21 days?
- 5 Any travel history within the past 28 days?

The donors should be deferred if they respond positively to any of the above questions. After risk screening, blood donors are screened by employing rapid testing methods for COVID-19. Donors should wait until the test results are obtained. If the donor comes out to be negative, blood donation was carried out as per normal protocol while the positive donors should be deferred till two negative COVID-19 results are obtained (Fig. 1).

Sterilization of blood bank was the other task. We proposed telephonic appointments and history taking by making phone calls to the donors to reduce the number of donors present in the premises at one time and their exposure with the staff.

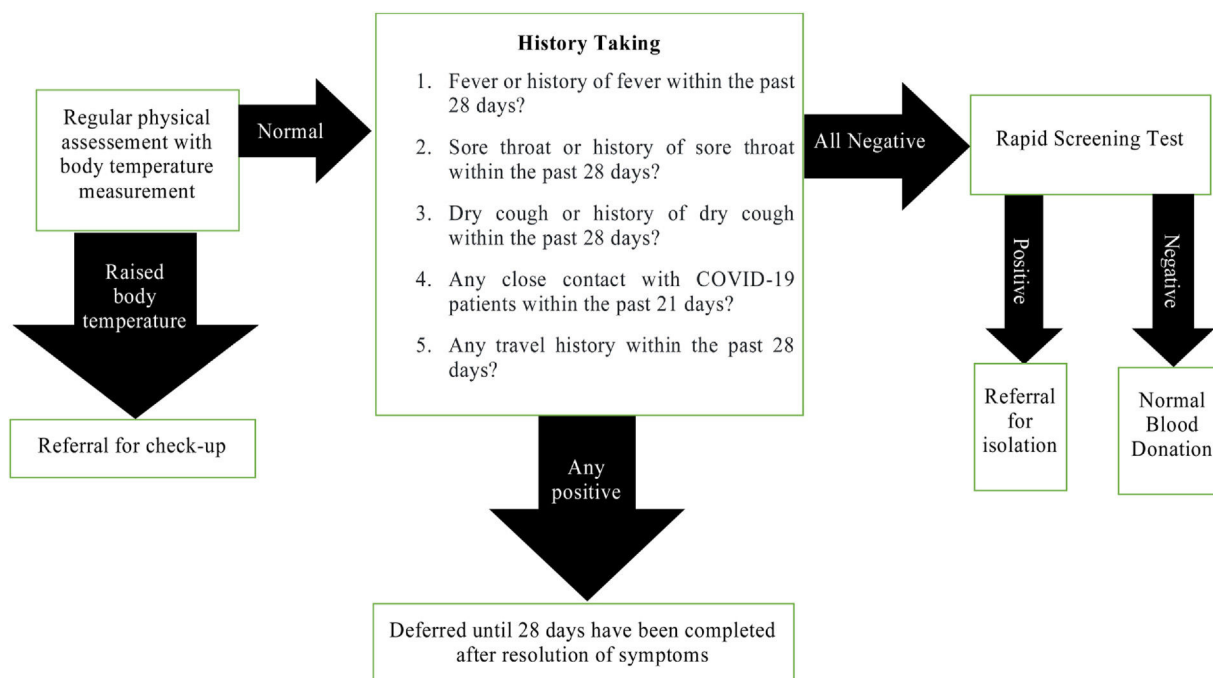


Fig. 1 – Strategic Plan for Blood Donors.

They were also informed to wear masks and gloves while posters were also placed on blood bank walls to ensure this. The couches were placed at a distance of 9 feet from each other and wiped with 72% alcohol solution while bedsheets were changed after each blood donation session to eliminate the risk of surface transmission. The healthcare staff were provided with personal protective equipment (PPE).

Our model was successful as no staff contracted SARS-CoV-2 while the blood donation increased to 42 bags in May, 2020 which is roughly four times of blood donation in April 2020. We would request the researchers to conduct the clinical trials to reach a conclusive guideline regarding the safety assurance of donors and staff working within the blood banks.


Conflicts of interest

The authors have no conflicts of interest to declare.

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