



# COVID-19 Pandemic: A Blessing in Disguise?

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**Commentary**

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## Abbreviations

COVID-19: Corona Virus Disease of 2019; AATM: Association to Advance Blood and Biotherapies; GTF: Global Transfusion Forum; AABB: Association to Advance Blood and Biotherapies; LMICS: Low- and Middle-Income Countries; WHA: World Health Assembly; WHO: World Health Organization; PDMP: Plasma-Derived Medicinal Products; PPE: Personal Protective Equipment; BSS: Blood System Self-Assessment; CCP: Collected Covalent Plasma.

## Introduction

The corona virus COVID-19 (a SARS-2 virus) exploded in 2019 with an epic centre in China and spread in a few months pandemically over the entire globe. A group of international researchers and scientists (virologist and others) concluded that an animal market in Wuhan, China very likely is the source of the SARS-CoV-2-virus and its consequent transmission to humans [1]. Geographical clustering of the earliest known COVID-19 cases and the proximity of positive environmental samples to live-animal vendors suggests that the site of origin of the COVID-19 pandemic was the Huanan Seafood Wholesale Market in Wuhan, China.

Despite the extreme and catastrophic misery and mortality it rapidly caused and still causes, the pandemic also generated quite some scientific research wide spread over the world and scientific disciplines [2]. It thrillingly uncovered the brittle weakness of healthcare and blood supply systems, particularly in the less developed part of the world, home to 84 % of the global population [3]. And caused a severe shortage in the availability of blood and

blood products affecting the clinical safety of the transfusion practice and generated under treatment of patients in need.

## Response

There is still a wide spread scientific response on going, focusing largely on the pathophysiology, patient care and treatment modalities including convalescent plasma. Vaccines were developed in an attempt to prevent and mitigate the disease conquering back from the pandemic normal life for so many.

Research is not only done by individual scientist related to institutions, universities, companies and others. But also by organizations and organizational groups e.g. Asian Association of Transfusion Medicine (AATM) and the Global Transfusion Forum (GTF) of the Association to Advance Blood and Biotherapies (AABB). These two Associations launched a survey; AATM did that in an early stage (2019) of the pandemic among representatives of their 25 country members and focused on handling and challenges in the blood supply. The AABB started in 2020 with their survey sent to 111 blood collection institutions in 26 selected Low- and Middle-Income countries (LMICs). Their survey focused on characterizing the challenges experienced during the earlier days of the pandemic and the resilience and adaptations of the responding institutions to the pandemic.

WHO in Geneva responded at the 73rd World Health Assembly (WHA) May 2020 with the Resolution WHA73.1 'COVID-19 Response' which states among others 'Recognizing the need for all countries to have unhindered, timely access to quality, safe, efficacious and affordable diagnostics, medicines and vaccines, and essential health technologies, and their components, as well as equipment, in order to mount the COVID-19 response' [4]. That included the blood supply and blood transfusion. Against the background of the observed



and prolonged challenges in the blood supply, particularly in low- and middle-income countries, an 'Action framework to advance universal access to safe, efficacious and quality assured blood and blood products 2020-2023' was developed to support these countries with a set of six Strategic Objectives related to the challenges [5]. Each objective ends with a series of high-level expectations as outcomes'.

The dominant challenges existing are:

- Deficiencies in National Policy, Governance and Sustained Financing.
- Insufficient Supply of Safe, Effective and Quality-Assured Blood and Blood Products for Clinical Transfusion.
- Deficiencies in Blood Product Safety, Effectiveness and Quality.
- Insufficient Plasma-Derived Medicinal Products (PDMP) due to Chronic Lack of Quality Plasma Production.
- Suboptimal Clinical Prescription and Transfusion Practices of Blood Components.
- Had Insufficient Quarantine etc. Facilities to Mitigate Spread of The Disease and Insufficient Access to Products During Disaster and Emergency Situations.
- And above all Poor Quality, Environment and Climate, and Consistency of Education at all Levels.
- Over The Past Decade Unfortunately, These Challenges have not Changed and Therefor Need a Different Approach.

## Outcomes

### The Outcomes of the Surveys (AATM and AABB) were Interesting Though Different

AATM – published by Choudhury N, et al. [6], response 92%; preparedness – ranges/1000: hospital beds, intensive care/isolation beds and ventilators resp. 0.5-82; 0.019-18 AND 0.007-111. All but 3 countries had adequate personal protective equipment (PPE) and blood testing facilities, where all but one country provided their challenges and response showing positive resilience. The most common challenges and approaches were shortages in blood donors, staff safety and mass media education and awareness campaigns (lock down). Additionally they experienced a growing shortage in staff education on safety practices and universal precautions (keeping personal distance). AABB – published by Barnes LS, et al. [7], response 27.9%; family/replacement donation 27%; considerable decline in blood availability ranging from 10-50% with major contributing factors including fear of COVID-19 infection 87.5%, logistics (transportation) 58.3% and cancelled blood drives 66.7%.

Adaptations included collaboration 62.9%, donor eligibility changes 67.7% and social media or telephone promotion 56.4%. Fifteen respondents (48.4%) reported

convalescent plasma (CCP) donations although CCP transfusion occurred only with 6 (19.4% of the respondents). The dominant barrier at the bedside was engaging recovered patients for donation (46.6%).

WHO experienced a slow blood supply progress pre-COVID-19 pandemic, which was further affected in most low- and middle-income countries (LMICs) and an increase in existing challenges. Most of these countries showed difficulties implementing the Strategic Objectives of the Action framework 2020-2023. In support WHO responded with a series of Guidance documents [8] based on the most prominent outcome of each Strategic Objective, and a special 'Guidance to identify barriers in blood services using the blood system self-assessment (BSS) tool and the Blood System Self-assessment tool developed in collaboration with USAID and the Boston Consulting Group [9,10].

## Conclusion

The devastating and paralyzing effect of the exploding COVID-19 pandemic on the health care and its supporting services like the blood supply initiated globally several responses. The signals on which these responses were based are reflecting scientific curiosity, resilience, and humanitarian support and help. That is positive and discloses a 'blessing in disguise' phenomenon of the COVID-19 pandemic.

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