

HEADQUARTERS

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THALASSAEMIA INTERNATIONAL FEDERATION POSITION STATEMENT

COVID-19: Inclusion of thalassaemia and Sickle Cell Disease patients in the high risk population

Addressed to:

World Health Organisation
The European Union
Ministries of Health
National/Regional/International Health Bodies

The Thalassaemia International Federation (TIF) ¹ in the context of its mission being the promotion and safeguarding of the rights of patients with Haemoglobin Disorders (transfusion and non-transfusion thalassaemia and Sickle Cell Disease) globally and in view of the Covid-19 pandemic, is advocating for the following position as described below.

This position will contribute significantly to the safeguarding of the health of patients with these haematological disorders which are associated with multiple and complex medical and public health challenges and immense social and economic repercussions if their prevention and management is not appropriately addressed by national health systems.

The SARS-CoV-2 infection presents particular challenges and great risks to patients with haemoglobin disorders and, if their appropriate clinical management as described in international Guidelines² is not safeguarded in the context of national policies developed for fighting COVID-19, their health and quality of life will be tragically impacted while in addition and considering their worldwide occurrence, an immense strain will be posed to the health care and public health system of every country.

¹ ***The Thalassaemia International Federation (TIF), is an international non-profit, non-governmental organization based in Cyprus since its establishment in 1986. It is an umbrella Federation whose membership boasts 132 National Thalassaemia Patients' Associations from 60 countries in the world. Its mission is to promote optimal quality care for all patients with thalassaemia across the world. TIF maintains official relations with the World Health Organization (WHO) since 1996. As of 2017, TIF is in Special Consultative Status with the United Nations Economic and Social Council (ECOSOC).***

² ***Guidelines for the Management of Transfusion Dependent Thalassaemia, 3rd Edition, Issued by Thalassaemia International Federation***

In this regard, TIF encourages National Health Authorities of every country across every Region of the world, in the context of their national fight against the COVID-19 pandemic, to promote and adopt the following policies in relation to the protection of the health and lives of individuals with haemoglobin disorders:

I. **The inclusion of patients with Haemoglobin Disorders - thalassaemia and Sickle Cell Disease (SCD) – amongst the high risk/vulnerable groups of patients**

Sickle Cell Disease (SCD) affects hundreds of thousands in the USA, Europe, Middle East and India with the biggest patient community in the African continent.

A major cause of morbidity and mortality in the individuals is Acute Chest Syndrome (ACS) which is a term used for a constellation of clinical findings that includes chest pain, cough, fever, hypoxia and lung infiltrates. ACS may be the result of sickling in the small blood vessels, pulmonary infarction/embolic or viral or bacterial infection. The management of ACS is challenging. There is a significant concern that the overlap of lung disease from COVID-19, in the setting of sickle cell lungs already primed for and scarted from ACS may result in significant complications and amplification of healthcare utilisation. In addition, many other co-morbidities and the patients' compromised in function spleen (consequent to the underlying pathology of SCD), may contribute or trigger a more serious evolution of the infection than in individuals without haemoglobin disorders. Moreover, individuals with SCD have high utilisation of acute care services including emergency departments and hospitals and often present with fever, signs and symptoms of pneumonia or evolving ACS, as well as acute sickle cell pain requiring parenteral therapy. Thus, there may be specific diagnosis, treatment and logistical challenges in meeting healthcare needs of this population in the context of the COVID-19 pandemic.

In **thalassaemia** (in both transfusion dependent and non-transfusion dependent), the following factors may be associated directly or indirectly to the triggering of a very serious clinical outcome of the COVID-19:

- Iron overload consequent to the pathophysiology, but mainly to the regular, lifelong blood transfusion therapy that these patients receive, is directly related to the development of many co-morbidities including but not restricted to, heart, liver and endocrine pathologies including heart failure, arrhythmias, ventricular dysfunctions, liver cirrhosis/liver malignancies, diabetes, hypothyroidism and subclinical adrenal insufficiency. Moreover, pulmonary hypertension, more often encountered in non-transfusion dependent patients, is a complication that makes these patients particularly vulnerable to the more serious progression of this respiratory viral infection.

These complications increase with age and in Europe, now the epicentre of the COVID-19 pandemic, the mean age of patients is over 40 years especially in the Mediterranean member states. Nevertheless, patients in the European continent represent less than 4% of the global thalassaemia population, which is, in the greatest majority, very suboptimally treated and thus serious medical complications, such as those mentioned above, are common consequent mainly to iron load.

- Splenectomy – Many, mainly older, patients in the Western world and a great majority across ages in the rest of the world are splenectomised rendering them extremely vulnerable to secondary bacterial infections, due to a more compromised immune system.
- Ageing - Older patients with thalassaemia syndromes are now presenting complications of age, that were not seen in younger patients. These include co-morbidities such as atherosclerotic cardiovascular disease and its consequences, thrombo-embolic events, malignancies, especially hepatocellular carcinoma (now up to 6% of deaths) and renal disease.
- Iron chelation – Raised temperature (fever) may be related to specific infections or drop of white cells as adverse effects (albeit not very common if appropriate monitoring is in place) of certain iron chelators placing patients at higher risks of severe COVID-19 progression and in addition posing significant diagnostic challenges to the health care professionals in emergency units addressing their fever. Hence it is extremely important to maintain at ALL TIMES close collaboration and ongoing communication of all health care professionals with the treating physicians of the patients with haemoglobin disorders.
- The shortage and risk of blood safety affects mainly the transfusion dependent thalassaemia patients but in addition a proportion, which is no longer insignificant, of non-transfusion dependent thalassaemia and SCD patients that require complication(s) based transfusions. Many SCD patients require blood, for the control or prevention of specific complications especially those with recent stroke, progressive or critical neurovascular disease and those with repeated acute chest syndrome.

Blood donation for obvious reasons has already been affected during this pandemic in many countries despite the desperate voice by patients and their families, at national and by TIF at the international level, and the ongoing efforts of the health care professionals, National Transfusion Centres, the World Health Organisation (WHO), the Centers for Disease Control and Prevention (CDC) in the USA, the European Centre for Disease Prevention (ECDC), the AABB (formerly known as the American Association of Blood Banks), the European Blood Alliance (EBA), the International Society of Blood Transfusion (ISBT) and other European and international decision making health bodies. Under-transfusion, not satisfying each patient's real needs and keeping haemoglobin levels below those described in international guidelines, has serious consequences, especially in regularly transfusion dependent cases. These include bone marrow expansion, bone disease, extramedullary haemopoiesis and anaemia with increased stress on heart function.

The adoption of those policies and recommendations offered by experts and official health organisations as mentioned above with regards to securing adequate and safe supplies of blood including more stringent application of clinical use of blood, provision of safe and mobile environment of blood donors, creation, where possible, of family/friends pools of donors for the individual needs of the patients and strengthening of existing, or development of a robust haemovigilance programme should be meticulously followed and adopted.

II. The adoption of safety processes in the clinics/centres for both the health care professionals and patients in the areas of transfusions requires specific planning and collaboration with hospitals administration and the national health care system in general. The patients with haemoglobin disorders are regular 'visitors' of the hospitals and Emergency Units, not by choice but by necessity.

Although the impact of the infection with SARS-COV-19 is not to date well established in the thalassaemia or SCD environment, the complications described above with the potential impact on the immune system and vital organs' damage and/or dysfunctionality the presence of the virus may lead to even more serious consequences.

It is our kind request to exert extra caution by including, amongst other national policies against COVID-19, thalassaemia and SCD syndromes in your list of high-risk groups in the population. This will also lead to increased vigilance and prevention measures in treatment centres, which these patients, by the nature of their condition must visit more than once each month and lessen the burden on the health care systems and public health services, that these disorder pose.

This position has been prepared in collaboration with international experts in the field of haemoglobin disorders and in recognition that many aspects of the clinical impact of the COVID-19 as well as its appropriate prevention and treatment remains todote UNKNOWN