Table 1 World Health Organization Eastern Mediterranean Region survey on availability and safety of blood transfusion during humanitarian emergencies 2006–2016

Type of emergency
Natural – earthquake (n = 2), flooding (n = 4), drought (n = 1), landslide (n = 1), avalanche (n = 1), fire (n = 1)
Human-made – terrorism (n = 10), war (including war in neighbouring countries) (n = 9), insurgency (n = 2), blockade (n = 2)
These emergencies affect 20–100% of the community with estimated 10–85% of the injured requiring blood transfusion
Need for blood transfusion has increased in all countries due to the humanitarian emergencies
Type of emergencies has also changed over t he years – increasing conflicts and wars, explosions, acts of terrorism, refugees and population movements
Emergencies affect both military personnel and civilians – women, men, children and old people.
Main reasons for transfusion were:
– Trauma (armed conflict) (n = 11)
– Trauma (civil accident) (n = 9)
– Trauma (natural disaster) (n = 1)
– Obstetric (n = 6)
– Surgical (regular) (n = 6)
– Paediatric anaemia (e.g., malaria, thalassaemia and haemophilia) (n = 4)
– Other (oncology) (n = 3)
Current strategies
Seven countries have a national emergency plan and strategy
Potential blood donors are mobilized through:
– Public media (n = 11)
– Calling known donors (n = 5)
– Calling family/replacement donors (n = 3)
– Supply from neighbouring blood centres (n = 7)
– Other (n = 1) – inter country collaboration
Only in 7 countries does the plan include emergency stocks in the blood centres and hospitals
– Coordinated by ministries of health, provincial health departments, and NGOs
– All countries process blood and test for ABO antigens, Rhesus D antigen, HBV, HCV, HIV and syphilis before issuing except:
– One country where syphilis testing is not done
– Two countries issued blood with incomplete crossmatch
Operational cold chain in place for transportation of blood and blood products in 9 countries
Power supply during emergencies has variable reliability
Coordination and collaboration
Central coordinating organization is in place in 10 countries
Collaboration between different blood supply organizations and between the different medical and emergency providers is limited
In 8 countries, NGOs are involved in humanitarian emergency responses
Only in 5 countries are NGOs involved in blood supply and transfusion (including donor mobilization) – covering 20–30% of the total supply
Gaps and challenges
Most common weak points in the blood supply during emergencies are:
– Fragmented organization (n = 9)
– Shortcomings in numbers and competence of human resources (n = 9)
– Shortages in supply of consumables (n = 8)
– Shortcomings in infrastructure (n = 7)
– Transport and cold chain deficits (n = 7)
– Financial shortage (n = 7)
– Ineffective coordination (n = 6)

HBV = hepatitis B virus; HCV = hepatitis C virus; HIV = human immunodeficiency virus; NGO = nongovernmental organization.