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The February 2023 earthquakes in Syria and Türkiye

The earthquakes that hit southeast Türkiye and northwest Syria in February 2023 have been the most devastating among several earthquakes witnessed globally in the past decades (1). As of 28 February 2023, it had caused the death of over 50 000 people and affected more than 18 million others (2,3). In northwest Syria alone, the earthquakes affected at least 96 communities and 35 sub-districts, damaging or destroying more than 10 000 buildings, including 48 health facilities, and leaving over 11 000 people homeless (4). More than 45 000 deaths and 85 000 injuries have been reported in Harim, Afrin and Jebel Saman districts, and at least 50 000 families displaced in Aleppo, Homs, Hama, and Latakia.

Earthquakes are often catastrophic with long-term impact on lives and livelihoods. The death toll continues to increase with time and more people become exposed to the risks of homelessness, disability and disease. An earthquake in a conflict zone such as Syria exacerbates suffering among populations who have already been plagued with hunger, starvation, instability,

insecurity, and other socioeconomic vices for over 10 years (3).

Impact on health systems in Syria

The WHO Eastern Mediterranean Region (EMR) accounts for 66% of the world's refugees, due to protracted conflicts and forced displacements (5). The Syrian Arab Republic has experienced multiple, concurrent and complex health and humanitarian crises for the past 12 years (3,4). Before the earthquake, about 7 million Syrians had been internally displaced and more than 5 million were living as refugees in neighbouring countries, especially Egypt, Iraq, Jordan, Lebanon, and Türkiye (4). An estimated 15.3 million already needed humanitarian assistance.

The continued conflict in Syria has had severe impact on healthcare and healthcare infrastructure. Large numbers of people are living in overcrowded refugee camps and shelters with insufficient infrastructure and care and lack of safe drinking water, thereby exposing them to diseases and epidemics (6).

In August 2022, Syria reported a cholera outbreak and by December, more than 70 000 cases of acute watery diarrhoea or suspected cholera, with 98 associated deaths, had been reported in the northwest and northeast (6). There have also been reports of measles, trauma, acute malnutrition, mental/psychological illness, cutaneous leishmaniasis, other communicable and noncommunicable diseases, all associated with the conflicts.

The health impact of earthquakes, emergencies and disasters is huge. They increase the demand for healthcare services and put undue pressure on the healthcare system. Demand for blood transfusion, surgical procedures, trauma and intensive care, and emergency obstetric care are often increased, as well as for care for paediatric anaemia, haemoglobinopathies, malnutrition, waterborne diseases such as cholera and typhoid fever, infectious respiratory diseases such as influenza, and other medical conditions (7,8). These cause serious interruptions to routine healthcare services and make service delivery more challenging.

The damage and destruction of health facilities have limited access to services and increased mortality and morbidity, causing serious setbacks to efforts towards achieving the national, regional and global health targets. It may also cause further emigration of the already depleted health workforce.

United Nations and WHO response

Soon after the first earthquake, the United Nations (UN), its agencies and partners mobilized resources for immediate response. From its Central Emergency Response Fund, the UN allocated US$ 25 million for initial response in the affected region, with additional US$ 25 million specifically for Syria, and launched a US$ 1 billion humanitarian appeal to assist 5.2 million affected people (3). WHO launched a US$ 84.5 million appeal to respond to the health needs of affected populations, UNHCR launched a US$ 51.3 million appeal to assist 385 000 individuals in Syria, and UNFPA launched a US$19.7 million appeal to reach 1.5 million individuals (3,9,10). Several other organizations have been responding and have launched appeals for funds.

Under the coordination of the WHO heath emergency experts, and in collaboration with several partners, the WHO/EMRO regional trauma initiative and the WHO logistics hub in Dubai deployed personnel and delivered critical life-saving health supplies and medicines to the affected areas, including surgical supplies, essential medicines, equipment for the treatment of injuries, electricity generators, medicines for chronic diseases, cholera treatments, and patient monitors (3,11). Services are being provided to prevent further loss of lives, disability and exposure to public health risks, and to individuals requiring maternity and childcare, elderly people, trauma and post-trauma rehabilitative care, treatment for chronic diseases such as diabetes, mental health, and psychosocial support, etc. WHO deployed mobile clinics to reach those who cannot access the available health facilities. An assessment of the health needs of affected communities has been conducted and a comprehensive response strategy is being developed (3,11).

Strategies to enhance preparedness, response, recovery, and rebuilding

Considering the enormity of the damage and destruction, response is still at infancy; a lot more needs to be done and this will require huge financial, human and technical resources. Only a little fraction of the funds required has been raised, thus leaving a huge funding gap to be filled.

As already emphasized during the COVID-19 pandemic, countries must invest in building resilient health systems that are disaster-responsive and can withstand and respond quickly and adequately to emergencies and long-term disruptions (12,13). This is the time to revisit, enhance and accelerate implementation of several regional and national health system frameworks to make them more prepared, resilient and more responsive to the needs of our populations (7,8). We need to capacitate all categories of healthcare professionals so they can respond to large-scale health emergencies by integrating disaster health education into their formal and informal training curricula (14–17).

In accordance with our regional "Vision 2023: Health for All by All" agenda, the Regional Health

Alliance needs to step up efforts to foster partnerships at all levels to enhance healthcare for populations in distress, including refugees, migrants and those affected by disasters (5).

Citizens' involvement should be promoted as a key component of strategies to reduce risk and improve preparedness for emergencies at the community level (18). We can minimize casualties from future disasters by educating communities about disaster preparedness and response. Setting up and equipping multisectoral, interdisciplinary community disaster monitoring and mitigation teams as first responders would be very helpful.

Adequate knowledge about emergencies and disasters can influence risk perception and adherence to precautionary measures at the community level (18). Many buildings in Türkiye and Syria were destroyed because they did not conform to earthquake resistance regulations. This highlights the need for governments, including municipal governments, and regulatory agencies to intensify efforts in enforcing and monitoring compliance to safety guidelines for construction projects.

The COVID-19, conflicts, earthquakes, disasters, and the refugee crises in the EMR all reinforce the need to strengthen our collective defence against emergencies. As already being advocated, we need a comprehensive, multisectoral, long-term, integrated, regional disaster risk reduction and management framework in line with the new global pandemic accord being negotiated with the support of WHO and partners (19,20). This will help us build more effective, more efficient, more secure, and more resilient health systems needed to achieve the Sustainable Development Goals and maintain healthy communities.

Rebuilding is a must, and urgent, to provide decent shelter for those who have suddenly become homeless and reduce their exposure to environmental risks. We must expedite action to restore and rehabilitate damaged infrastructure so that millions can regain access to healthcare services. Clean water provision must be restored urgently to forestall the outbreak of diseases such as cholera, typhoid fever, etc. which are often associated with contaminated water.

EMR countries should accelerate the development of high-grade digital infrastructure needed to support healthcare delivery in routine and emergency care as indicated in the "Regional strategy for fostering digital health in the Eastern Mediterranean Region (2023–2027)", endorsed by the Sixty-ninth Session of the Regional Committee for the Eastern Mediterranean (21,22). Investments in digital platforms have the potential to improve the resilience of health systems

and enhance their capacity to provide quality healthcare even during emergencies.

Finally, the earthquakes have once again brought to the fore the conflicts in Syria and other EMR countries. Conflicts and disasters weaken health systems and heighten risks of disease outbreaks, deaths and disabilities. The difficulties experienced in accessing some of the affected areas in Syria due to the ongoing conflict means many people have died because aid could not, or was too slow to, reach them. Beyond the medical and humanitarian aid currently being provided, Syria and the other countries in crises in the EMR need urgent interventions that will bring political solutions to the crises. The international community cannot continue to watch if we want sustainable reconstruction and development (20).

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