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# Rehabilitation Needs After Earthquakes

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Natural disasters can have catastrophic social, psychological, medical, and public health consequences. Earthquakes can result in severe property devastation and the disruption of critical community services. They frequently strike parts of the world with little capacity to deal with mass casualties.<sup>1</sup>

A severe earthquake struck the south and southeast of Türkiye and the north and west regions of Syria on February 6, 2023. The first earthquake occurred 34 kilometers west of Gaziantep, the region's largest city, at 04:17 AM (local time), with a magnitude of roughly 7.8. Then, unexpectedly, about nine hours after the first shock, a second independent earthquake occurred in the region, 95 kilometers northeast of Kahramanmaraş. Two earthquakes caused widespread damage across ten provinces in Türkiye, resulting in thousands of deaths and injuries. The earthquakes and subsequent aftershocks devastated buildings, and rescuers scrambled over concrete rubble to find survivors. In addition, the quakes were felt across a vast geography, including Palestine, Cyprus, Lebanon, and the Black Sea coast.<sup>2,3</sup>

Disaster plans for earthquakes should cover prevention strategies, first aid, fundamental education principles, coordinating relief operations, medical care, and various rehabilitation needs. Once the initial shock has passed, the disaster is bound to leave many people disabled in the short and long term. Major groups in need of physical rehabilitation will be amputees, patients with traumatic brain injury, spinal cord injury, peripheral nerve injury, brachial plexopathy, pediatric disabilities, musculoskeletal disorders, and fractures.<sup>4</sup> The aim should be to provide comprehensive rehabilitation treatments to this patient group using a multidisciplinary approach. In addition to rehabilitation specialists (physiatrists) and physiotherapists, the involvement of orthopedic surgeons, neurosurgery specialists, and neurologists in the team will be beneficial in managing the rehabilitation process. Opinions from different disciplines should be obtained when deemed necessary. The incorporation of electrodiagnosis and urodynamics departments into rehabilitation centers has a positive impact on the treatment process and rehabilitation strategies. Establishing an orthopedic technology workshop attached to rehabilitation units and producing tailored orthoses and splints for the spine and upper-lower extremities boosts the efficiency of rehabilitation. The three areas of attention will be neurological, orthopedic, and amputee rehabilitation. Using computer-aided modeling systems for amputees improves orthotic and prosthetic fitting and efficiency. Robotic-assisted devices and virtual reality applications can improve rehabilitation effectiveness, particularly for neurological rehabilitation patients. The rehabilitation process for pediatric patients should be made as enjoyable as possible. For this purpose, game-based

physiotherapy programs and group exercises will be useful. Each person has a different disability and hence requires a unique rehabilitation program. Nevertheless, rehabilitation protocols should incorporate pressure ulcer prevention, individual and group physiotherapy sessions, transfer-gait practices, development of wheelchair mobility skills, neurogenic bladder and bowel management, psychological support, counseling, and education sessions. Range of motion, stretching, strengthening exercises, balance-coordination and gait training, physical therapy modalities, and fine skill exercises are among the interventions to be emphasized in the first place. Long-term goals should be independence in daily living activities and return to work. It is critical to underline that the first three months of rehabilitation are essential for preventing contractures and other problems and maintaining flexibility and limb preservation. In this regard, the prompt availability of orthotics and mobility devices is critical, but rehabilitation management does not necessarily imply the rapid provision of prostheses and orthotics.<sup>5</sup>

The earthquake heavily impacted Syria. Considering the current condition of the war, it is evident that Syria requires more international support for rehabilitation. In this context, international organizations and volunteers should take action for Syria.

Inevitably, disasters such as war, earthquakes, floods, and pandemics affect the psychological state of individuals.<sup>6</sup> How successfully a person is reintegrated into society has a significant impact on how successful their rehabilitation is. Reintegration primarily depends on the patients and their support networks and the effectiveness of physical therapy.<sup>7</sup> The psychological effects of earthquakes go beyond coping with death and disability and can become huge barriers that impede rehabilitation. Earthquakes leave deep wounds on society, and individuals with disabilities face the loss of family members, friends, homes, and property. In this context, there is a great need for comprehensive psychological support alongside physical rehabilitation after an earthquake, and just having a competent professional around offers them hope and bravery.

Returning to the pre-disaster routine can be a long process. In the meantime, different interim measures can be tried. The benefits of the Internet should be maximized to overcome geographical limitations. The use of social media channels for education and scientific cooperation should be utilized as much as possible.<sup>8</sup>

A new process is beginning for Türkiye. The immediate priority will be helping the injured, but thousands of people who have been physically and psychologically harmed will need to be dealt with in the long run. Healthcare system managers should take note of this scenario as soon as possible and make the required arrangements considering the requirement for rehabilitation. The emphasis should be on reorganizing rehabilitation departments. Again, getting support from experienced health professionals and organizations in Türkiye and abroad will be beneficial. Türkiye is experiencing one of the biggest natural disasters in its history, and a short-term crisis can be expected. Planning is critical to preventing this crisis from escalating into a long-term problem.

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