The Extent of Musculoskeletal System Injuries After the Earthquake: Demographic and Clinical Characteristics of Earthquake Victims and Their Functioning Status 8 Months Later

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BACKGROUND: Earthquakes are natural disasters that disrupt the normal order of life in the society and result in long-term disability for the survivors. On February 6th, 2023, two earthquakes with 7.7 and 7.6 magnitude occurred in Southeast Anatolia, Turkey affecting 10 provinces and 13 million people.

AIM: The aim of this cross-sectional study was to describe the demographic and clinical characteristics of earthquake victims who were admitted to Ankara University Hospitals and were consulted/referred to the Department of Physical Medicine and Rehabilitation. A second aim was to determine their functioning status at 8 months after the earthquake.

METHOD: Eighty earthquake survivors were included. Patients' demographic data, time under debris, and type, location and number of injuries were recorded. Patients were contacted by phone 8 months after the earthquake to assess their functioning in terms of activities of daily living (Modified Barthel Index: MBI) and working/educational status. 12 patients could not be reached, 2 patients had died. Therefore, information was obtained from 66 patients. All patients were questioned by MBI except 2 children at preschool age (< 6 years old).

RESULTS: Of the 80 patients assessed for rehabilitation needs; 47 (58.8%) were female, 33 (41.2%) male with a mean age of 29.4 years (min-max: 1-75). 26 patients (33%) were younger than 18 years old. Mean time getting out of the rubble was 34 (min-max: 0-183) hours. 48 (60%) patients had axial skeletal and extremity fractures, 33 (41.2%) had fasciotomy, 31 (38.8%) had crush syndrome, 23 (28.8%) had amputation, 15 (18.8%) had nerve damage, 6 (7.5%) had traumatic brain injury and 1 (1.3%) had spinal cord injury. 34 patients had multiple fractures, mostly located on the foot and ankle, lumbar vertebrae, ribs and pelvis-sacrum regions. Amputation levels were mostly transfemoral and transtibial. Of the 23 amputations, 7 had bilateral limb amputations. All patients were enrolled in a rehabilitation program. At the 8 month, of the 66 patients who were contacted, 14 (21.2%) were still continuing outpatient/inpatient rehabilitation. 22 (88%) out of 25 patients who were previously working could not return to work, and 7 (29.2%) out of 24 patients in education had to interrupt their education. Of the 64 patients assessed by MBI; only 34 were independent, whereas 14 were slightly, 11 were moderately, 4 were severely, and 1 patient was totally dependent.

DISCUSSION AND CONCLUSION: Our earthquake survivors were mostly young and women. Mostly encountered musculoskeletal injuries were fractures, fasciotomies, crush syndrome, amputations and peripheral nerve injuries. Most of the patients had more than one type and one site of injury. After 8 months, one fifth of the patients still needed rehabilitation. 88% of the working group could not return to work and almost one third had to interrupt their education. Just over half of the group was independent in activities of daily living whereas 25% were moderately/severely/totally dependent. Our results revealed the early and long-term devastating effects of the earthquake on survivors. In spite of the commencement of early rehabilitation programs, almost half of the patients had some level of disability 8 months after the earthquake.