

Velocity and Transportation Ability of Transporting Vulnerable People during Tsunami Evacuation Drill in a Community

Outdoor evacuation with rollator, transport chair, wheelchair and cart in Shinyo Bokomi, Kobe, Japan

In this study, a method is established for planning the practical evacuations of residential areas. The emergency workers and caregivers in a community may use various instruments to transport vulnerable people while evacuating during a tsunami to minimize the number of fatalities. An evacuation drill was conducted in Shinyo Bokomi, Kobe, Japan, by simulating the occurrence of a tsunami. During this drill, the evacuation volunteers evacuated vulnerable persons to a safe destination using rollators, transport chairs, wheelchairs, or carts. Further, all the evacuation trials were completed before the estimated tsunami impact time. This study quantitatively analyzed the capacity and quantity of evacuation transportation. The average evacuation transportation capacities of the rollators, transport chairs, wheelchairs, and carts were 3.7 persons/km/h, 5.1 persons/km/h, 5.4 persons/km/h, and 4.6 persons/km/h, respectively. The debriefing meetings after the drills suggested that the written rescue instructions worked effectively in the drill. We indicate that the communities incorporate the usage of such instruments into their evacuation plans and implement the same for tsunami response.