Current status of people with disabilities and the problems they encounter in an evacuation environment during a disaster situation

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Abstract

This research aims to clarify and discuss the current status of and problems encountered in the evacuation environment for people with disabilities based on information regarding evacuation to primary shelters after the occurrence of the disaster, the condition of their lives as refugees, and the status of their lives thereafter.

When a large-scale earthquake occurs, it is highly likely that the current barrier-free environment will fail. Roads will be severed, buildings may collapse, and people with disabilities will likely be unable to move even within their own homes. Thus, it is apparent that people with disabilities will need substantial support for their relocation to shelters. It is necessary to conduct barrier-free actions in non-disaster times so that people, either with or without disabilities, can take shelter immediately after a disaster occurs and stay safely and with less psychological and physical burdens at primary shelters even for a short period of time.

Introduction

Large-scale natural disasters have occurred all over the world, which makes us keenly aware of the threat that natural forces pose.

Five years have passed since the Great East Japan Earthquake in Japan. The number of evacuees in the disaster-afflicted prefectures including Iwate, Miyagi and Fukushima still exceeds 170,000 [(1)], and the impact of the disaster still lingers over the country [(1)].

Various activities have been conducted to deal with these large-scale disasters, including disaster preparedness activities on the part of citizens, and activities and research in medicine, health, welfare, engineering and other fields on the part of researchers [(2-4)]. However, there have been substantial delays in the development or refinement of evacuation measures in the fields of medicine, health and welfare for people with physical disabilities. Very few activities or studies have clarified how people with disabilities were evacuated during or after the Great East Japan Earthquake, how they lived as refugees in primary shelters, and how they have regained their life in the five years that have passed since the earthquake.

Under these circumstances, this research aims to clarify and discuss the current status of and problems encountered in the evacuation environment for people with disabilities based on information regarding evacuation to primary shelters after the occurrence of the disaster, the condition of their lives as refugees, and the status of their lives thereafter.

The disabilities of those people disaster refugees are generally divided into orthopedic, visual, auditory, intellectual, and mental disabilities. This research specifically focuses on orthopedic disabilities.

Evacuation status of people with disabilities

When the Great East Japan Earthquake occurred, many people with disabilities who require assistance during a disaster were killed by the tsunami because of their impaired mobility [(5)]. Moreover, among wheelchair users, many were killed by this disaster because of the problems encountered in the physical

environment even if they were capable of judging situations carefully.

The fatality rate of physically disabled persons was reportedly 1.3 times higher than that of intellectually disabled persons. Among people with disabilities, the intellectually disabled generally use welfare services and thus were afforded the opportunity to evacuate through appropriate guidance of the service staff [(5)].

For the physically disabled persons who were able to evacuate to shelters by car, many faced various environmental barriers in the primary shelters, namely those related to movement, using the bathroom and bathing, and consequently had to relocate to different shelters.

Furthermore, the fatality rate of physically disabled persons was twice that of non-disabled people (Table 1).

As a background to this fact, cases have been confirmed where physically disabled persons were unable to evacuate to shelters and died at home without receiving support, and where the living environment at shelters posed many burdens to the physically disabled in terms of hygiene and environment that ultimately led to their death, which was recorded as being associated with the disaster.

People with disabilities face an extremely harsh environment in a disaster situation that is already difficult for people without disabilities, and are therefore considered to need a significant amount of support.

Problems encountered in the evacuation environment

The environment surrounding the life of people with disabilities has been improved by laws, including the new barrier-free act and the building code of the Ministry of Land, Infrastructure, Transport and Tourism [(6)]. For instance, barrier-free design has been introduced to roads, public transportation, schools and other public buildings to help people with disabilities lead a better life.

However, some architectural or environmental features of shelters designed according to the building code, such as school gymnasiums designated as emergency shelters, are not sufficiently equipped, considering they are used by people with disabilities. Specifically, there are insufficient numbers of floors without level differences, handrails, toilets for the disabled with handrails and transfer space, and toilets for the disabled designed for repeated use by disabled refugees. Some people with severe disabilities had to lie on cardboard on the floor in shelters after the Great East Japan Earthquake [(5)].

When a large-scale earthquake occurs, it is highly likely that the current barrier-free environment will fail. Roads will be severed, buildings may collapse, and people with disabilities will likely be unable to move even within their own homes. Thus, it is apparent that people with disabilities will need substantial support for their relocation to shelters [(7)].

Table 1. Comparison of death tolls (2012.2.28)

	Number of residents	Number of deceased persons	Mortality rate(%)	Number of handicapped persons	Number of deceased persons	Mortality rate(%)
Ishinomaki-City	160394	3182	2.00	7683	402	5.2

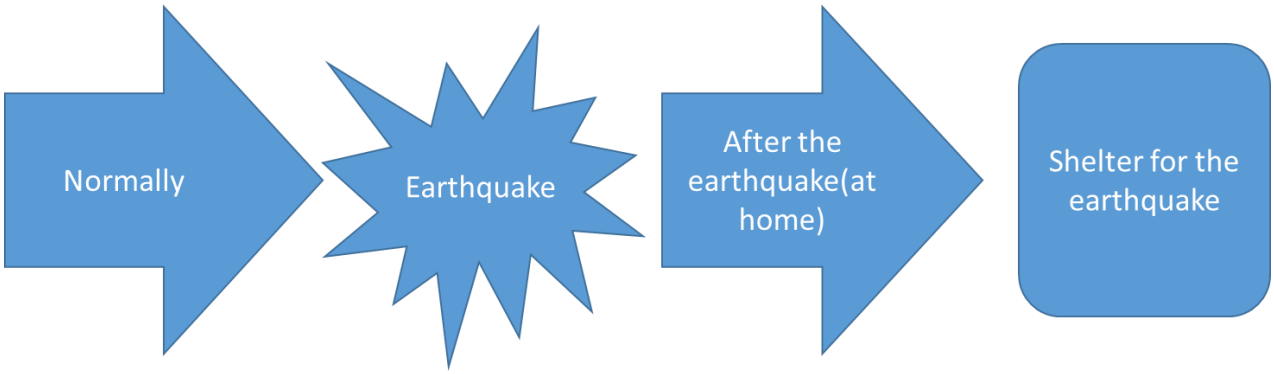

Figure 1. It is necessary to conduct barrier-free actionsin non-disaster times so that people.

Support for evacuation of people with disabilities started a few days after the Great East Japan Earthquake, but that delay greatly affected their medical conditions, disabilities and living functions [8]. Therefore, it is necessary to conduct barrier-free actions in non-disaster times so that people, either with or without disabilities, can take shelter immediately after a disaster occurs and stay safely and with less psychological and physical burdens at primary shelters even for a short period of time (Figure 1).

Conclusion

It is necessary to conduct barrier-free actions in non-disaster times so that people, either with or without disabilities, can take shelter immediately after a disaster occurs and stay safely and with less psychological and physical burdens at primary shelters even for a short period of time.

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