

ORIGINAL ARTICLE

A Research Study on the Disaster Consciousness of Employees of Rehabilitation Facilities for the Disabled in Japan

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ABSTRACT

This study aimed to improve the ability of employees of rehabilitation facilities for the disabled to cope with disaster situations by understanding and analyzing their disaster consciousness through questionnaire survey. The questionnaire survey had been conducted for employees of rehabilitation facilities for the disabled in Japan for three months.

Among 932 rehabilitation facilities for the disabled, 41.8% answered that the areas where facilities reside are relatively safe from flood damages and 59.8% answered that they are relatively safe from earthquakes or their secondary damages, e.g., fire. This kind of results may be considered to reflect the insensibility of safety. To protect the disabled who are vulnerable to unexpected disasters, the awareness of disasters of employees needs to be increased, the dangerous areas need to be identified and the efforts to find more effective methods for evacuation need to be made. Therefore, to improve the disaster consciousness of facilities' employees, countermeasures such as regular scheduled training and evacuation guidelines need to be developed. High percentage of facilities answered that they have not promoted the importance of early evacuation of disaster-vulnerable people. Besides, in disaster situation, the network with facilities, organizations in community and community residents is critical.

< Key-words >

Employees of rehabilitation facilities for the disabled, actual condition of disaster prevention, disaster consciousness

Received

August 20, 2013

Accepted

October 12, 2013

Published

October 30, 2013

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Asian J Human Services, 2013, 5:1-11. © 2013 Asian Society of Human Services

I . Background

Japan, which is composed of islands and surrounded by seas, has experienced frequent small and great disasters due to natural conditions such as geographical position, topographical conditions, geological condition and weather conditions. Most recently in March of 2011, the Great East Japan Earthquake and its secondary disaster, the tsunami, had occurred and besides of them, typhoons, flood due to heavy rain, eruption of active volcano and avalanche also have caused considerable damages^{1),2)}.

However, Japanese disaster consciousness has remained low, even though they have been in the threat of disasters throughout their history. White Paper on Disaster Management by Japanese Cabinet office in 2013 reported that 56.7% of facilities have prepared potable radio, flashlight and medical supplies, 34.2% have appointed evacuation shelters for disaster situations and 33.4% equipped with emergency food and water; the percentages have increased 7.5%, 5.5% and 7.8% respectively. And also, even though the degree of disaster consciousness has increased, the percentage of the facilities that answered they prepared potable radio, flashlight and medical supplies, which was the highest percentage among the items of preparations, still remains under 60%³⁾. Currently the disaster prevention education of Japan only includes simple and temporary measures such as evacuation drill and emergency rescue training, but there are no strategic measures to enable community residents to support disaster-vulnerable people by helping community residents acknowledge the necessity of self-help and mutual assistance and assisting facilities⁴⁾. Even though guidelines⁵⁻¹⁰⁾ for supporting evacuation and evacuation drills for disaster-vulnerable people have been provided, the studies to identify the problems and discuss the countermeasures in the aspects of the disaster consciousness of community residents or facilities' employees, who are supposed to closely assist disaster-vulnerable people in person have not been reported.

The damages caused by natural disasters drastically change living environment and put people into an unexpected life. In this situation, employees of welfare facilities have to take a great responsibility to take care of disaster-vulnerable people. In disaster situation, employees of facilities have to deal with unexpected situations and may be in a panic. However, despite of the chaotic situation, they have to be calm and cool, try to understand situations and secure the safety of disaster-vulnerable people quickly and properly⁸⁾. To cope with disaster situations properly, the degree of disaster consciousness needs to be identified and what kind of problems can be expected according to the degree of disaster consciousness and what kinds of countermeasures can be taken need to be understood.

In disaster situation, late judgments and lack of disaster consciousness of employees may result in heavy casualties. The complacency that there had been no great disasters in the past may cause hasty judgments and, in disaster situations, e.g., heavy rain, as time goes, the evacuation of the disabled or the elderly may be much more difficult.

Without specific knowledge that what kinds of disasters apt to frequently occur in the location where a facility reside and how much risk the facility may have the possibility of collapse due to earthquakes, the safety may not be secured. Because, even though evacuation may be implemented safely, all the people including healthy people, sick people and the disabled have to live in one or limited space, employees of rehabilitation facilities need to divide people by their needs and the types of disabilities and to take care of them according to them⁹⁾. Therefore, even though natural disasters that overwhelm the prediction may not be prevented, the improvement of disaster consciousness is indispensable to mitigate their damages.

Therefore, this study aimed to improve the ability of employees of rehabilitation facilities for the disabled to cope with disaster situations by understanding and analyzing their disaster consciousness through questionnaire survey.

II. Research Overview

For this study for the disaster consciousness of the employees of rehabilitation facilities for the disabled in Japan, the data from 932 facilities were analyzed; 31 facilities in Hokkaido(3.3%); 65 in Tohoku(7.0%); 259 in Kanto(27.8%); 183 in Chubu (19.6%); 158 in Kansai(17.0%); 65 in Chugoku(7.0%); 45 in Shikoku(4.8%); 118 in Kyushu(12.7%); and 8 in Okinawa(0.9%).

The survey had been conducted for three months from December, 2009 to February, 2010. Questionnaires were sent to 2,455 facilities and the return rate was 38.0%.

Among 932 facilities, there were 176 long-term care facilities for the physically disabled (18.9%), 124 commutable workplaces for the physically disabled(13.3%) and 68 welfare centers for the physically disabled (7.3%) in descending order (See table 1).

The questionnaire was composed of 42 questions including socio-demographic information(8), the experience of natural disasters(4), the current situation of disaster prevention(27) and disaster consciousness(3). The data was analyzed through PASW(SPSS) Statistics 20.0.

This research was conducted only for the facilities that agreed to respond the questionnaire after reading the purpose of this research and the policy of privacy protection

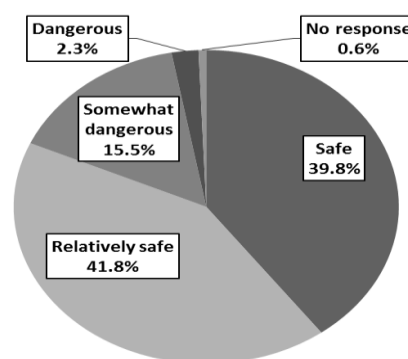
<Table 1> Types of Facilities

Types of Facilities	Number of Facilities	Percentage (%)
Long-term care facility for the physically disabled	176	18.9
Rehabilitation Facility for the physically disabled ¹	25	2.7
Commutable workplace for the intellectually disabled ²	40	4.3
Support center for community living for the mentally disabled	10	1.1
Commutable workplace for the physically disabled	124	13.3
Day service facility for home care for the disabled	66	7.1
Welfare workshop for the physically disabled	7	0.8
Commutable workplace for the mentally disabled	8	0.9
Welfare center for the physically disabled	68	7.3
Braille library for the blind	29	3.1
Welfare home for the physically disabled	19	2.0
Others	385	41.3
Unable to classify	33	3.5
Total	932	100.0

III. The Results of the Research on the Disaster Consciousness

1. The Safety of the Areas from Disasters Where the Facilities Reside

Among 932 rehabilitation facilities for the disabled, as for flood damages, the number of facilities that they are safe was 371(39.8%) and that of facilities that they are relatively safe was 390(41.8%). 144 facilities(15.5%) answered that they are in somewhat dangerous area and the number of facilities that they are in dangerous are was 21(2.3%) (See Figure 1).

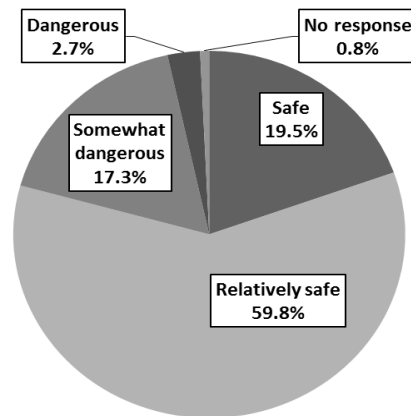


<Figure 1> The Safety of the Areas Where the Facilities Reside from Disasters

¹ This rehabilitation facility has the function to lead the disabled into the right path as well as to provide them with safe place to stay.

² Commutable workplace for the disabled is the workspace where the disabled work while commuting from their home.

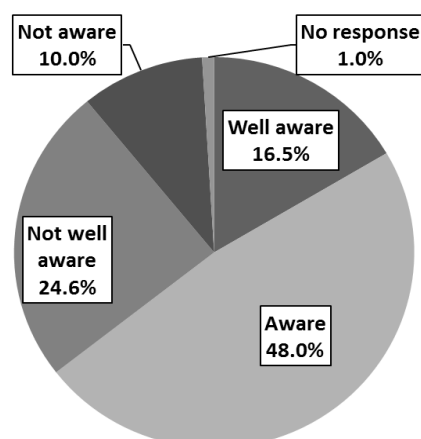
As for earthquakes and their secondary damage, e.g., fire, the number of facilities that they are safe was 182(19.5%) and that of facilities that they are relatively safe was 557(59.8%). The number of facilities that they are somewhat in danger was 161(17.3%) and that of facilities that they are in danger was 25(2.7%) (See Figure 2).



<Figure 2> The Safety of the Area Where Facilities Reside from Earthquakes and their Secondary Damages, e.g., Fire

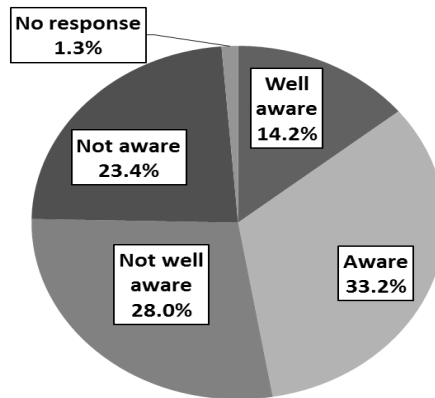
2. The Identification of Dangerous Areas around Facilities

As for the dangerous areas around facilities, 154 facilities(16.5%) answered that they are well aware of dangerous areas around facilities and 447 facilities(48.0%) answered that they are aware of dangerous areas. The number of facilities that they are not well aware of dangerous areas around facilities was 229(24.6%) and that of facilities that they are not aware of dangerous areas was 93(10.0%) (see Figure 3).



<Figure 3> Whether to Be Aware of Dangerous Areas around Facilities in Disaster Situations

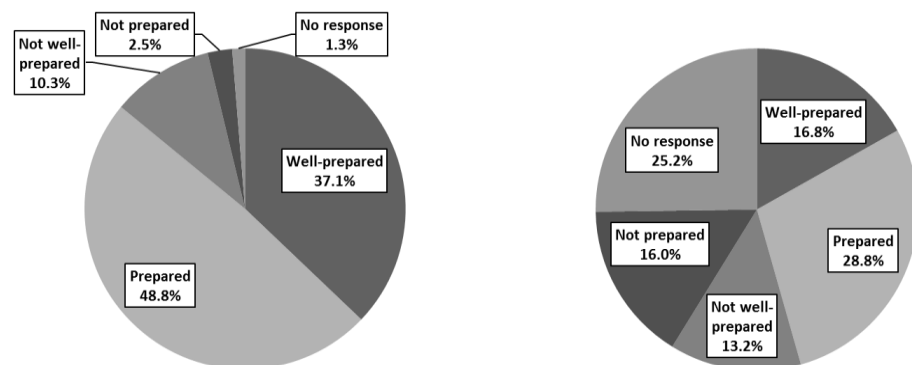
As for flood prone areas, 132 facilities(14.2%) answered that they are well aware of flood prone areas around facilities and 309 facilities(33.2%) answered that they are aware of flood prone areas. The number of facilities that they are not well aware of flood prone areas around facilities was 261(28.0%) and that of facilities that they are not aware of flood prone areas was 218(23.4%) (see Figure 4).



<Figure 4> Whether to Be Aware of Flood Prone Areas in Disaster Situation

3. The Plan for Safe Evacuation in Disaster Situation

As for the plan for safe evacuation during daytime in disaster situation, 346 facilities(37.1%) answered that they well prepared the plan for safe evacuation and 455 facilities(48.8%) answered that they prepared it. 96 facilities(10.3%) answered that they did not well prepare the plan for safe evacuation and 23 facilities(2.5%) answered that they did not prepare it (See Figure 5, left). As for the plan for safe evacuation during nighttime in disaster situation, 157 facilities(16.8%) answered that they well prepared the plan for safe evacuation and 268 facilities(28.8%) answered that they prepared it. 123 facilities(13.2%) answered that they did not well prepare the plan for safe evacuation and 149 facilities(16.0%) answered that they did not prepare it (See Figure 5, right).

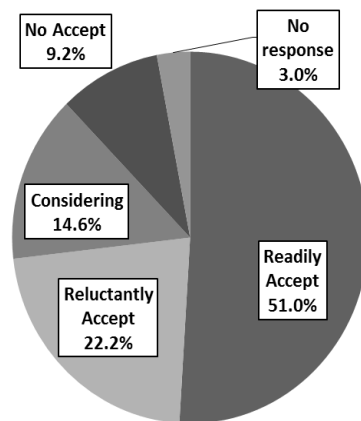


<Figure 5> The Plan for Safe Evacuation in Disaster Situation
(Left for daytime and right for nighttime)

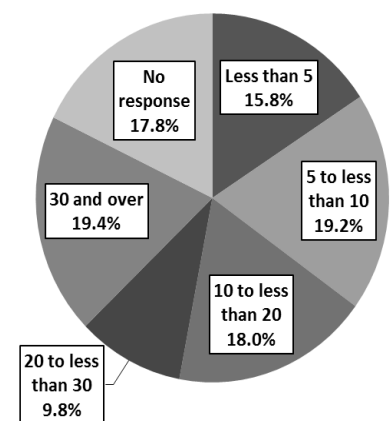
4. The Capacity to Accommodate People in Disaster Situations

In disaster situations, 475(51.0%) rehabilitation facilities for the disabled answered that they will readily accept evacuees temporarily and 207(22.2%) answered that they will reluctantly accept them. The number of facilities that they are considering whether they accept evacuees was 136(14.6%) and that of facilities that they will not accept them was 86(9.2%)(Figure 6). As for the capacity, the number of the facilities answered that they have the capacity of 30 persons was the highest and then the number of the facilities answered that they have the capacity of 5 to less than 10 persons was the second highest (see Figure7 and 8).

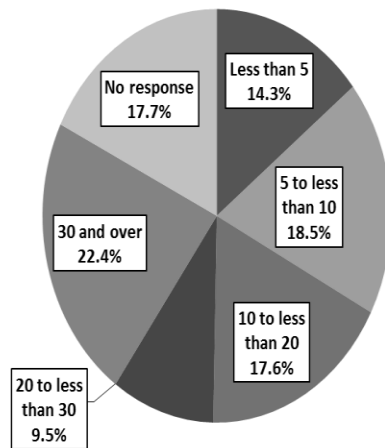
As for the period possible to provide accommodation, 467 facilities(50.1%), which account for the majority of respondents, answered that they can provide accommodation for less than one week, 175 facilities(18.8%) answered that they can do for one week to less than two weeks, 17 facilities(1.8%) answered that they can do for two weeks to less than three weeks, 38 facilities(4.1%) answered that they can do for three weeks to less than one month and 45 facilities(4.8%) answered that they can do for over one month(see Figure 9).



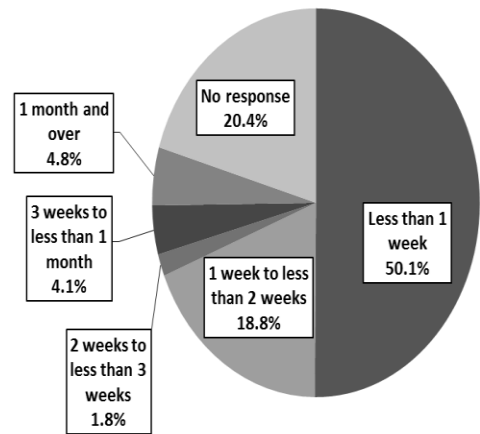
<Figure 6> Whether to Be Able to Be a Shelter in Disaster Situations



<Figure 7> The Capacity to Accept Evacuees



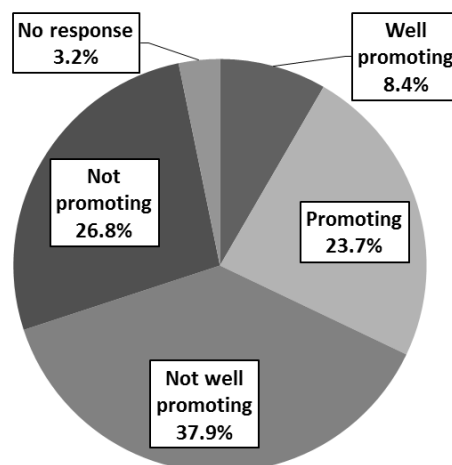
<Figure 8> The Space to Be Used as a Shelter in Disaster Situations



<Figure 9> The Period to Be a Shelter in Disaster Situations

5. The Promotion of the Importance of Early Evacuation of Persons Requiring Protection in Disaster Situations

78 facilities(8.4%) answered that they have well promoted the importance of early evacuation of person requiring protection in disaster situations and 221 facilities(23.7%) answered that they have promoted it. 353 facilities(37.9%) answered that they have not well promoted it and 250 facilities(26.8%) answered that they have not promoted it(see figure 10).



<Figure 10> The Promotion of the Importance of Early Evacuation of Persons Requiring Protection in Disaster Situations

IV. Considerations and Conclusions

For this study, the research was conducted to improve the disaster consciousness to cope with disaster situations of employees of rehabilitation facilities for the disabled in Japan.

The results are as followed;

First, as for the safety of the areas from disasters where the facilities reside, the percentage of facilities that answered that they are safe was 39.8% and that of facilities that answered that they are relatively safe was 41.8%. As for earthquakes and their secondary damage, e.g., fire, the results were similar with the results about the safety of the areas; the percentage of facilities that they are safe was 19.5% and that of facilities that they are relatively safe was 59.8%. Considering the results, the percentages of the facilities that answered that they are resided in safe or relatively safe areas were overwhelmingly higher. However, this kind of thoughts may be considered as the insensibility of safety. That is, it may have people make wrong judgments or cause the lack of disaster consciousness of employees of facilities in disaster situations, which may cause heavy casualties. Therefore, the efforts should be made to improve the disaster consciousness of employees to arouse their attention to safety. Moreover, the research on the safety of areas where facilities reside as well as the disaster consciousness of employees need to be implemented.

Second, as for the dangerous areas around facilities, 16.5% of facilities answered that they are well aware of dangerous areas around facilities and 48.0% of facilities answered that they are aware of dangerous areas. The percentage of facilities that they are not well aware of dangerous areas around facilities was 24.6% and that of facilities that they are not aware of dangerous areas was 10.0%. As for flood prone areas, 14.2% of facilities answered that they are well aware of flood prone areas around facilities and 33.2% of facilities answered that they are aware of flood prone areas. And the percentage of facilities that they are not well aware of flood prone areas around facilities was 28.0% and that of facilities that they are not aware of flood prone areas was 23.4%.

Third, for the emergency evacuation required during daytime, 37.1% of facilities answered that they are well prepared for the plan for safe evacuation during daytime and 48.8% of facilities answered that they are prepared for it. When emergency evacuation is required during nighttime, 16.8% of facilities answered that they are well prepared for the plan for safe evacuation during nighttime and 28.8% of facilities answered that they are prepared for it. And the percentage of facilities that they are not well prepared for the plan for emergency evacuation was 13.2% and that of facilities that they are not prepared for it was 16.0%. Even though the majority of facilities answered that they are aware of dangerous areas around facilities, over 30% of facilities has not still identified the dangerous areas, which is the figure that cannot be ignored. Moreover, over 30% of facilities do not have the plan for emergency evacuation. Because it is important to be

aware of dangerous areas around facilities during emergency evacuation, the specific information on the dangerous areas and the plan for effective evacuation need to be studied. Therefore, the regular-scheduled training and the development of guideline for disaster situations are considered to improve the disaster consciousness of employees of facilities.

Fourth, 51.0% of rehabilitation facilities for the disabled answered that they will readily accept evacuees temporarily and 22.2% of facilities did that they will reluctantly accept them. The percentage of facilities that they are considering whether they accept evacuees was 14.6% and that of facilities that they will not accept them was 9.2%. As for the capacity and spaces to provide accommodations to evacuees, the number of the facilities answered that they have the capacity of 30 persons was the highest and then the number of the facilities answered that they have the capacity of 5 to less than 10 persons was the second highest. As for the period possible to provide accommodation, the percentage of facilities(50.1%) answered that they can provide accommodation for less than one week was the highest; 175 facilities(18.8%) answered that they can do for one week to less than two weeks; 17 facilities(1.8%) answered that they can do for two weeks to less than three weeks; 38 facilities(4.1%) answered that they can do for three weeks to less than one month; and 45 facilities(4.8%) answered that they can do for over one month. As for the capacity that facilities can accept in disaster situations, the majority of facilities answered that they will provide accommodation to evacuees and the percentage of facilities that they may have over 30 persons of capacity was the highest. However, most of facilities answered that they can provide accommodation for less than one week.

Fifth, 8.4% of facilities answered that they have well promoted the importance of early evacuation of persons requiring protection in disaster situations and 23.7% of facilities answered that they have promoted it. 37.9% of facilities answered that they have not well promoted it and 26.8% of facilities answered that they have not promoted it. As for the promotion of the importance of early evacuation of persons requiring protection in disaster situations, the percentage of facilities that have promoted it to community residents was less than 50%.

In conclusion, in disaster situations, one week is not enough that government provides aids and evacuees recover their feet. Therefore, in disaster situations, in the aspect of the position of facilities in community, the network with facilities, community organization and community residents can be considered as so important. However, given the results of survey, the preparation for disaster situations has not reach the level that strategic measures are come up with by promoting the participation of community residents, who are considered as the main agent of local disaster prevention, and by having them support disaster-vulnerable people. To prepare strategic measures, the network between facilities and community has to be actively supported and more comprehensive approach needs to be applied to help facilities promote the importance of early evacuation, network community and provide shelters in disaster situations. The improvement of disaster

consciousness that includes the network with community may improve the training system for disaster prevention.

Unfortunately, this study didn't deal with the actual status of disaster prevention, even though it dealt with the disaster consciousness of employees of rehabilitation facilities for the disabled. Therefore, there may be the gap between actual status of disaster prevention system and the disaster consciousness. To build better system for disaster prevention, the gap between disaster consciousness of employees and actual status of disaster prevention system needs to be examined in the future.

Reference

- 1) Kobayashi M. (2011) A Study of special activities contributing to disaster prevention. *The bulletin of the Graduate School of Education of Waseda University. Separate volume*, 19(1), pp.181-190.
- 2) Kitagawa K, Kim MJ, Lee SH, Han CW. (2013) A research study on the disaster prevention and disaster risk reduction of the rehabilitation facilities for the disabled. *Asian Journal of Human Services*, 4, pp.1-13.
- 3) Cabinet office, Government of Japan (2013) White paper on disaster management 2013 edition.
- 4) Otsuki S, Hoshino O, Shirotaki M, et al (2008) A study of development and evaluation of disaster mitigation gamming to promote awareness for community based disaster mitigation. *歴史都市防災論文集*, 2, pp.77-84.
- 5) Niigata Prefectural Government, Division of nuclear safety (2010) 自主防災会 防災訓練実践マニュアル.
- 6) Bureau of Social Welfare and Public Health, Tokyo Metropolitan Government (2012) ~災害の発生に備えて~東京都における障害者団体調査の結果.
- 7) Saitama Prefectural Government, Department of Welfare, Division of Social Independence for the disabled (2011) 障害者施設災害対応マニュアル.
- 8) Fukuoka Prefectural Government, Welfare and Labor Department (2012) 障害者福祉施設等防災計画策定のためのマニュアル.
- 9) Yamanashi Prefectural Government, Public Health and Welfare Department, Welfare Division for the Disabled (2005) 障害者と高齢者のための災害時支援マニュアル.
- 10) Cabinet office, Government of Japan (2006) 災害時要援護者の避難支援ガイドライン.

Received

August 20,2013

Accepted

October 12,2013

Published

October 30,2013