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Needs assessment of the serious injuries following the September 1999 earthquake in Taiwan

Yen-Hsiung Liao

Department of Health Sciences, School of Public Health, Kaohsiung Medical University, Kaohsiung, Taiwan
Email: bany0309@yahoo.com.tw

Abstract

Purpose To investigate the basic and medical needs of 258 serious injuries in the Chi-Chi earthquake. Approach Subjects were collected from the Department of public Health Bureau, Nantou County Government. The participants were asked to complete the questionnaire about the basic and medical needs 5 months after the earthquake struck. Results There were 13 died, 8 still in hospital, and 250 discharged of the 271 serious injuries. Among the 250 discharged persons, 28 (11.2 %) needed home rehabilitation, 206 (82.4 %) needed hospital rehabilitation routinely, and 16 (6.4 %) cases were cured. The unemployment got the living fee less self-reliant than the employment (odds ratio = 214.67, 95 % confidence interval = 53.22 – 865.83). The unemployment needed the employment service more than the employment (odds ratio = 5.37, 95 % confidence interval = 1.20 – 23.94) also. There were no difference between the unemployment and employment for the needs of home rehabilitation, mental counseling, financial support, vocational training, and accommodation service. Conclusion These analyses suggested that provides both the extent rehabilitation service and job service for the still unemployed as the major strategies for serious injuries in Taiwan.

Keywords*: Needs, Serious Injuries, Rehabilitation Service. Job Service.*

1 Introduction

On 21 September 1999, at 1 h 47 m, an earthquake of magnitude 7.3 on the Richter scale struck the central area of Taiwan [1]. As a result of the earthquake, 824 people were killed, and 2421 people injured, of whom 271 were seriously injured in Nantou County that the most severe destruction occurred and near the epicenter [2].

Some past investigations reported the emergency activities of serious injuries in disaster management [3-5]. A number studies suggested the rehabilitation needs including mental support [6-7], social support [8-9], and increasing employment opportunities [10] after the earthquakes. However, the experience on management of serious injuries after a devastating earthquake is lacking in Taiwan. To develop appropriate health care projects, we must rely on the more knowledge about the basic and medical needs for the serious injuries.

2 Methods

A structural questionnaire was conducted to interview with the 258 discharged serious injuries. The questionnaire included physical health status, medical and rehabilitation needs, current living condition, working status, financial support, needs of mental counseling, vocational training, job services, and accommodation service. Cross-tabs with chi-square analysis were used to compare the difference of medical and basic needs of the unemployment, and employment serious injuries.

3 Results

There were 13 died, 8 still in hospital, and 250 discharged of the 271 serious injuries. Among the 250 discharged persons, 28 (11.2 %) needed home rehabilitation, 206 (82.4 %) needed hospital rehabilitation routinely, and 16 (6.4 %) cases were

cured. For the current living status analyses, 97 (37.6 %) cases showed limitations and restrictions in their activities or self-care, 60 (23.2 %) cases needed help to the medical advice, 30 (12%) cases possessed physical disabled card, and 125 (83.9 %) cases were still unemployed.

Table 1 compares the medical and basic needs information for the reported 258 persons that divided into unemployment, and employment groups following the Chi-Chi earthquake. The unemployment got the living fee less self-reliant than the employment (odds ratio = 214.67, 95 % confidence interval = 53.22 – 865.83). The unemployment needed the employment service more than the employment (odds ratio = 5.37, 95 % confidence interval = 1.20 – 23.94). There were no difference between the unemployment and employment for the needs of home rehabilitation, mental counseling, financial support, vocational training, and accommodation service. The need of job service (67 %) was 4 folds the need of health service (17 %) for the unemployment.

Table 1: The comparisons of medical and basic needs for the 258 rehabilitated persons that divided into unemployment, and employment group following the Chi-Chi earthquake.

	Unemployment	**Employment**	**OR**
Living Fee			
Self-Reliant	3	23	1
Dependency	224	8	214.67 (53.22, 865.83)
Home Rehabilitation			
No	196	23	1
Yes	36	3	1.48 (0.4, 4.93)
Mental Counseling			
No	192	22	1
Yes	40	4	1.15 (0.37, 3.51)
Financial Support			
No	111	8	1
Yes	121	18	2.06 (0.86, 4.94)
Vocational Training for Working Age			
No	103	1	1
Yes	22	23	4.91 (0.63, 38.3)
Employment Service for Working Age			
No	41	2	1
Yes	84	22	5.37 (1.20, 23.94)
Accommodation Service			
No	208	23	1
Yes	24	3	1.13 (0.32, 4.05)

Working age: age ≧ 14 yrs & age ≦ 65 yrs

4 Discussion and conclusion

The results suggested that provides both the extent rehabilitation and job services for the still unemployed could be major strategies for the serious injuries in Taiwan.

Debarati et al showed that develop appropriate income-generating projects and health care for families made destitute as the effective rehabilitation measures by the disaster [11]. Our studies agreed with them.

In Haiti earthquake, there were 1500 people with amputations that significantly increased the proportion of Haitians living with permanent impairments thereby highlighting the tremendous need for rehabilitation services [12]. However, there were only 18 (6.98 %) people with amputations in Taiwan earthquake. This different condition could explain why the need of job service was more than health service for the unemployment group in Taiwan.

The government set up the ‘Rehabilitation Center of Serious Injuries, and took measures including the routine rehabilitation service, fixed place of rehabilitation, home rehabilitation routine, and the assistance in medical advice for the serious injuries after the result’s suggestions. According the rehabilitation initiatives, the record serious injuries declined from 271 in February 2000 to 127 in December 2001. The government offered totally 462 opportunities for the serious injuries before November 2003. Therefore, every serious injury could get at least 3 job opportunities during the rehabilitated period. The increased employment opportunities for the specific unemployed were of great importance in disabled health management. In other words, an unemployment rate for the serious injuries could be decreased certainly.

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References

[1] B.S. Huang, K.C.Chen, W.G.Huang, et al. Characteristics of Strong Ground Motion across a Thrust Fault Tip from the September 21 1999, Chi-Chi, Chinese Taipei Earthquake. Geophysical Research Letters 27 (2000) 2729-2732.

[2] Chi-Chi Earthquake Post-Disaster Reconstruction Commission. Important Statistics about the Chi-Chi Earthquake Disaster. http://www.921erc.gov.tw (in Chinese). Accessed January 30, 2000.

[3] W. Li, J. Chian, X. Liu, et al. Management of severe crush injury in a front-line tent ICU after 2008 Wenchuan earthquake in China: an experience with 32 cases. Crit Care 13 (2009) R178. Doi:10.1186/cc8160.

[4] H. Pu, X. D. Jin, Y. Y. Deng, et al. Characteristics and treatment of multiple organ dysfunction syndrome in patients with trauma in the Wenchuan earthquake on 12th May, 2008. Zhongguo Wei Zhong Bing Ji Jiu Yi Xue 21 (2009) 29-31.

[5] H. Kendo, Y. Keido, Y. Hirose, et al. Analysis of trends and emergency activities relating to critical victims of the Chuetsuoki Earthquake. Prehosp Disaster Med 27 (2012) 3-12.

[6] A. Lumeshor, D.U. Kapil, K. Frank. Mental health and psychosocial support aspects in disaster preparedness: Nepal. International Review of Psychiatry 18 (2006) 587-592.

[7] D.G. Nemeth, J. Kuriansky, K.P. Reeder, et al. Addressing anniversary reactions of trauma through group process: the Hurricane Katrina anniversary wellness workshops. Int J Group Psychother 62 (2012) 129-142.

[8] X. Ke, C. Liu, N. Li. Social support and quality of life: a cross-sectional study on survivors eight months after the 2008 Wenchuan earthquake. BMC Public Health 43 (2011) 573-583.

[9] A Rauch, M Baumberger, F.G. Moise, et al. Rehabilitation needs assessment in persons with spinal cord injury following the 2010 earthquake in Haiti: a pilot study using an ICF-based tool. J Rehabil Med 43 (2011) 969-975.

[10] Y. Li, F. Pan, Y. Li. Analysis of rehabilitation needs, measures taken, and their effectiveness for the wounded following the Wenchuan Earthquake. J Evid Bassed Med 2 (2009) 258-264.

[11] D. Guha-Sapir, M. F. Lechat. Information systems and needs assessment in natural disasters: An approach for better disaster relief management. Disasters 10 (1986) 232-238.

[12] M. D. Landry, C. O'connell, G. Tardif, et al. Post-earthquake Haiti: the critical role for rehabilitation services following a humanitarian crisis. Disability and Rehabilitation 32 (2010) 1616-1618.