



Letter From Kobe: Demands for Night-time Emergency Psychiatric Service Following the Great Hanshin Awaji Earthquake

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The Great Hanshin Awaji Earthquake struck Hyogo prefecture in Japan on January 17th 1995, forcing 310,000 homeless survivors to evacuate to 1,000 temporary shelters. The most serious problem was a lack of privacy in the shelters. Psychiatric problems such as anxiety, insomnia, and alcoholism were common, especially during the night. Since local psychiatric emergency services were affected by the disaster, ad hoc psychiatric emergency services were established. The services comprised three units -- the consultation unit, the night-time psychiatric visiting unit, and the night-time outpatient unit -- and were in operation from February 12, 1995 to April 30, 1995. The total number of admissions of psychiatric patients to psychiatric hospitals jumped some two-fold during the first month after the earthquake; admissions at night increased five-fold. These services provided relief not only to the homeless but also to medical and nonmedical volunteers and prevented unnecessary admissions to psychiatric hospitals during the postquake period. M&GS 1996;3:A8

In the early morning of January 17, 1995 the Great Hanshin earthquake struck Hyogo prefecture, including the city of Kobe (1). More than 6,300 people were killed and another 34,000 were injured. More than 500 surviving children lost their mother, their father, or both parents.

Among the many volunteer activities carried out on the site of the earthquake, was the provision of night-time emergency psychiatric services. The authors, among the first members of an ad hoc night-time psychiatric emergency service team, describe in this article how those services were delivered and what specific problems were encountered.

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Recommendations are made for the provision of similar services in future disaster situations.

Consequences of the Earthquake

Kobe is located about 310 miles west of Tokyo. The area affected by the earthquake was about 12 square miles and, at the time of the earthquake had a population of about 3,000,000 people. The shock waves from the 7.2 magnitude quake destroyed 160,000 homes in just 20 seconds; fire consumed 7,000 houses. As a consequence, approximately 310,000 people were made homeless.

During the first five days, food and water supplies were inadequate to meet daily needs. Distribution was extremely problem-

1. See Kunii O, et al. The Medical and Public Health Response to the Great Hanshin Awaji Earthquake in Japan: A Case Study in Disaster Planning. M&GS 1995:214-226.

atic due to badly damaged transportation and communication systems. Many area hospitals were unable to function effectively due to heavy damage. The homeless were forced to evacuate to one of 1,000 temporary shelters spread throughout the area. The shelters consisted of gymnasiums and classrooms in public schools, city halls, parks, and other public areas. During the cold winter nights temperatures in some of these shelters fell below freezing. The shelters themselves provided no privacy and psychiatric problems immediately arose among some of those forced to stay in the shelters.

Demand for a Night-time Psychiatric Emergency Visiting Service

The destruction of local mental health clinics and psychiatric hospitals created a need for the care of pre-existing psychiatric patients who had relocated to the shelters. There was also an increase in the number of homeless people who required psychiatric consultations for a number of reasons, including lack of privacy in the shelters, and the prevalence of anxiety, insomnia, alcoholism, and other problems. Medical personnel and psychiatric volunteers became overworked and needed help.

For these reasons the ministry of health and welfare made the decision to provide an ad hoc night-time emergency psychiatric service. The night-time emergency psychiatric service teams were sent from Kanagawa, which is an urban area of Tokyo. There were two principal reasons for dispatching teams from Kanagawa: first, the Kanagawa area was not affected by the earthquake at all; second, night-time emergency psychiatric service had not previously been provided in the Kobe area, whereas such service had been provided in Tokyo since 1978 and in Kanagawa since 1988. These services are provided by only seven of 47 local governments in Japan. The Kanagawa team had experience -- experience that suggested a substantial number of psychiatric doctors would be needed continuously to provide the required service in Kobe. The psychiatry departments of three medical schools (Kitasato University, St. Marianne University, and Tokai University) organized the service quickly in response to a request from the local government.

Objectives of the Night-time Psychiatric Emergency Services

The following objectives were identified:

1. to provide phone consultations during the night;

2. to provide consultations on site at the shelters, including treatment for those who required care during the night and transfer of patients to local psychiatric hospitals for further management;

3. to treat walk-in outpatients at the local psychiatric hospital.

Other objectives were added following initiation of the services on site. First, because of the lack of an efficient communications system, an effort to notify the homeless, local officials, and federal health care centers about the service during the day became necessary. Second, the mental health professionals participating in the program received many psychiatric consultations from nonpsychiatric medical service units and handling these consultations was an important priority.

Organization of Night-time Requests for Psychiatric Emergency Services

Services were initiated on February 12, 1995 -- about one month after the earthquake -- and continued for 11 weeks. Figure 1 [*no longer available*] shows how these three separate functional units were combined.

The night-time emergency psychiatric consultation unit was available for 11 weeks and its work was carried out by a team consisting of one local psychiatrist and one case worker. The night-time emergency psychiatric visiting unit was in service for the first six weeks after the earthquake. This unit comprised six teams, each consisting of two psychiatrists and one local case worker. At the conclusion of the six week period, the night-time emergency psychiatric visiting unit was replaced by the night-time emergency outpatient unit, which continued working for another five weeks. One doctor remained on duty and available, by rotation, at the psychiatric hospital. The cumulative numbers of doctors and case workers engaged were 36 and 43, respectively.

The role of the local case workers was very important because they frequently had information needed by local doctors and functioning hospitals when patients needed hospitalization.

The Structure of the Service

The team was able to provide services to about half of the city, throughout which some 400 shelters were spread over a range of 12 square miles. There were about 80,000 homeless people in the area. Other psychiatric services were available, including night-time services, in the rest of Kobe city, which was less affected by the earthquake.

During the initial six weeks the units

were ready and available at the local mental health center. Telephone and on site consultations were conducted. By this time, telephone lines were almost fully recovered. As shown in Figure 2 [*no longer available*], upon receiving a consultation the local doctor or local case worker would first give advice over the phone or would make a decision to send the visiting team. The services performed by the consultation unit included:

1. initial judgments about the need to dispatch the visiting unit;
2. directions to mental health clinics or psychiatric hospitals during the daytime;
3. advice to other medical staff about treatment for psychiatric patients,
4. advice to patients or families;
5. consultations about drug abuse, drug dependence, and drug induced psychosis;
6. other services as needed.

At the request of the consultation unit, the visiting unit would provide the following services on site:

1. counseling;
2. psychotherapy, pharmacotherapy;
3. arranging for visits to mental health clinics or psychiatric hospitals during the daytime;
4. transferring patients to local psychiatric hospitals.

During the last five weeks, when additional objectives were added, base units were transferred to the fully functioning prefectural psychiatric hospital, where the outpatient unit practiced, offering the following services:

1. treating walk-in outpatients;
2. arranging visits to mental health clinics or psychiatric hospitals during the daytime;
3. arranging for volunteer psychiatrists from other local governments to practice in local psychiatric hospitals.

Each visiting team carried an emergency kit containing oral and parenteral psychiatric drugs. These include antipsychotics, antianxiety drugs, sleeping drugs, and other necessary equipment and supplies. At the start of this service medical and nonmedical supplies were abundant, and therefore the visiting teams did not experience any shortage of drugs and other items. They were equipped

and the cost was covered by the prefectural mental health center.

Summary of Services

During 11 weeks of service, there were 80 phone consultations. The services of the night-time emergency psychiatric visiting units were required 21 times over six weeks and 12 walk-in outpatients were seen by the night-time emergency psychiatric outpatient unit during five weeks.

About 60% of the phone consultations required some action. Therefore the team felt these consultations by phone were important.

Among the 33 consultations that required examination of patients either by on site visit or in an outpatient clinic, 61% of the cases had histories of psychiatric disease and 39% did not. Of these 33 cases, 13 included schizophrenia, schizotypal, and delusional disorders [in the category designated F2 by the WHO International Classification of Diseases (ICD-10)]; seven included mental and behavioral disorders due to psychoactive substance use (F1); six included neurosis, stress-related, and somatoform disorders (F4); three comprised organic disorders, including symptomatic, mental disorders (F0); two were mood disorders (F3); and two were in other classifications. On site treatment was given to 74% of all patients, while 26% were transferred for admission to psychiatric hospitals.

The service was closed down when the number of homeless people decreased and local psychiatric medical functions recovered to take over the task.

Overall Characteristics of Psychiatric Problems During the Post-Earthquake Period

Figure 6 [*no longer available*] represents the number of admissions in the area during the postquake period, as determined from a survey by the Japanese Association of Psychiatric Hospitals [1]. Admissions of psychiatric patients peaked during the first month. As the center bars show, the total number of admissions jumped some twofold, from 160 admissions per week to 330 immediately after the earthquake.

Admissions at night, shown on the left, increased fivefold, from 7.5 to 43 per week. These figures clearly illustrate why the night-time emergency service was required in the disaster area immediately after the earthquake. The number of discharges, shown on right, did not increase relative to the number of admissions. Thus, because of overwhelming admissions and the destruction of some

hospitals, occupancy rates of local psychiatric hospitals exceeded 100% for the first month of the post-earthquake period. The number of admissions during the first three weeks after the earthquake is shown in Figure 7 [*no longer available*]. The number was extremely high during the first two weeks [2]. From these observations, the authors conclude that many more patients could have been treated had the service commenced earlier.

The incidence of psychiatric disorders in the entire Hyogo prefecture during the post-earthquake period is shown in Figure 8 [*no longer available*]. The majority of cases came from ICD-10 category F2, as was also true of the emergency service (Fig 7). F0, mainly dementia, was next in frequency. It should be emphasized that most of these patients had been cared for at home before the earthquake. The loss of their homes -- or people who cared for them -- forced them to relocate to hospitals. There were many cases of these patients who could not adapt to conditions in the densely populated temporary shelters. The problems of these patients also tended to present themselves during the night. ICD-10 category F1, mainly alcoholism, was also important and shortages in the supply of liquor aggravated the problems of some patients. Long term evacuation to shelters, as well as anxiety from other disaster-related causes, created new patients. There were substantial numbers of new patients with ICD-10 F3 and F4 category disorders as well. Fewer post-traumatic stress disorders than expected, however, were reported. The reasons may be a characteristic of the Japanese people to endure hardship, and a cultural prejudice against psychiatric diseases, which deters potential patients from consulting a psychiatrist. This latter issue needs to be addressed in the future.

Summary

The Great Hanshin Earthquake evoked demands for night-time emergency psychiatric services which had not previously been provided in the area. The major night-time services provided included consultation by phone, treatment by visit, and outpatient clinics. This service provided relief not only to the homeless but also to other medical and nonmedical volunteers and prevented unnecessary admissions to psychiatric hospitals, which otherwise might be expected to happen during the postquake period. The service included management of psychiatric patients

with preexisting conditions and treatment of new patients who developed psychiatric problems due to the disaster and to prolonged evacuation and relocation in shelters.

Despite the cultural prejudice mentioned above, more patients might have been seen by psychiatrists had more people known about the availability of the service. Informing the public about available mental health care is essential, as is providing correct information and a more balanced understanding of psychiatric disorders. During catastrophic events, ordinary means of communication are frequently ineffective; sometimes health professionals may even be required to travel by foot. However it is done, providing information is a critical component of disaster mental health response and how best to do so is an issue that must be addressed. While the ad hoc teams started to provide service four weeks after the onset, more cases could have been handled had the service been available earlier. An overall system must be established for effective night-time psychiatric service immediately after any disaster such as the Great Hanshin Awaji Earthquake.

Postscript

Most of the homeless survivors are out of shelters now, yet as of this writing some 40,000 people are living in so-called "temporary housing," without knowing how temporary these arrangements may be. Additional psychiatric disorders related to chronic effects of the disaster may arise in the future, especially among those who lost their homes, but also for the larger community of which they are a part. Although we will be faced with those disorders for years, at least, one precious lesson from the disaster is the need for immediate mental health care. Based on their experiences, the authors are proposing to the government and to the Japanese Society of Psychiatry that a system be devised for dispatching psychiatric emergency teams immediately following such disasters.

References

1. Takuo Nagao: The situation of psychiatric medicine after the great Hanshin-Awaji earthquake in Hyogo prefecture. *J. Japanese Association of Psychiatric Hospital*, 14:37-40, 1995.
2. Syunichirou Iwao: The problem of psychiatric emergency at a disaster. *Human Mind JPN*, 16-20, 1996.