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Problems Encountered by Volunteers Assisting the Relief Efforts in Van, Turkey and the Surrounding Earthquake Area

Van İlinde Meydana Gelen Depremde Yardıma Giden Gönüllülerin Karşılaştığı Sorunlar ve Çözüm Önerileri

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Abstract

Objective: In this study, we aimed to identify the difficulties encountered by the health teams and personnel working as volunteers or on assignment in the earthquake area, and to identify their experiences and recommendations regarding the disaster.

Material and Methods: This study was conducted in October and November 2011 in Van, Turkey and the surrounding region with individuals, mainly health personnel, who arrived in the city as volunteers or on assignment to assist the relief efforts. The study was conducted as these individuals carried out their duties. Face-to-face interviews were conducted with volunteers and personnel who agreed to complete the questionnaires as required.

Results: A total of 168 persons were included in the study. The mean age of these individuals was calculated as 31±8 (age range 17 to 56). Of the participants, 74 (44%) arrived in the city or the surrounding area as part of their official assignment, and 94 (56%) arrived as volunteers. During the study, 77 (46%) of the individuals experienced a health problem on at least one occasion. A job definition could be identified for 74% of the participants.

Conclusion: The job definitions and required materials should be pre-determined and work hours rotated according to a shift system. We believe that this would allow relief efforts to be conducted more effectively. *(JAEM 2013; 12: 66-70)*

Key words: Earthquake, volunteer, needs, disaster area, job definition

Özet

Amaç: Bu çalışmada, deprem bölgesinde görevlendirme ile veya gönüllü olarak çalışan sağlık çalışanlarının yaşadıkları sıkıntıları tespit etmek ve afetlerle ilgili deneyimlerini ve önerilerini saptamayı amaçladık.

Gereç ve Yöntemler: Bu çalışma Ekim-Kasım 2011 tarihlerinde Van iline başta sağlık personeli olmak üzere yardım amacıyla gönüllü veya görevlendirme ile giden bireyler üzerinde görevi devam ederken yapılmıştır. Anket doldurmayı kabul eden personel ile yüz yüze görüşüldü ve anketin doldurulması sağlandı.

Bulgular: Çalışmaya toplam 168 kişi dahil edildi ve yaş ortalamaları 31,07±8,3 (yaş aralığı 17-56) olarak hesaplandı. Katılımcıların 74'ü (%44) resmi görevlendirme, 94'ü (%56) ise gönüllü-görevlendirme ile gelmişlerdi. Çalışma sırasında 77 (%45,8) kişi en az bir kez sağlık problemi yaşadı. Afet bölgesinde katılımcıların %73,8'i için görev tanımı yapılabilmiştir.

Sonuç: Bölgede çalışma tanımları, ihtiyaç duyulan malzemeler, çalışma süreleri önceden belirlenip belli bir şift sistemi içinde döndürülmelidir. Bu sayede kısa sürede ve organize olarak müdahale edilmesi sağlanabileceğini düşünüyoruz. *(JAEM 2013; 12: 66-70)*

Anahtar kelimeler: Deprem, gönüllü, ihtiyaç, afet bölgesi, görev tanımı

Introduction

Tremors on the surface of the earth resulting from underground cracks and fractures in the earth's crust are known as earthquakes (1). Earthquakes are one of the most terrible natural disasters. They lay waste to cities and towns, lead to fires, and cause the death and injury of thousands (2). Turkey is geographically located on significant fault lines (3). The greatest problem with earthquakes that is not possible to know or predict where and when they will occur. There is a fine line between alarmist talk and realistic discussion of the risks: despair, helplessness, pessimism, and fatalism on the one hand, and perception, awareness, and concrete efforts on the other. Those who are technically and scientifically involved in managing risk, however, endeavour to assess potential threats as accurately as possible, to predict the losses these threats might cause, and to develop a roadmap that encompasses the precautions that might be taken in this context (4).

Unfortunately, earthquakes with a magnitude of 7.2 and 5.6 which respectively occurred on 23 October 2011 and 9 November

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Table 1. Demographic distribution according to occupational groups

	Doctor (n=32)		Health Personnel (n=75)		Police (n=27)		Other (n=34)	
	%	n	%	n	%	n	%	n
Age Groups								
15-25	9.4	3	36.0	27	33.3	9	17.6	6
26-35	46.9	15	49.3	37	48.1	13	44.1	15
36-45	15.6	5	13.3	10	18.5	9	26.5	9
46-56	28.1	9	1.3	1	0	0	11.8	4
Means of Travel to the Earthquake Area								
Volunteer	43.8	14	78.7	59	22.2	6	44.1	15
Assignment	56.2	18	21.3	16	77.8	21	55.9	19
Problems related to forgotten personal items	62.5	20	57.3	43	51.9	14	44.1	15
Problems related to personal care	93.8	30	90.7	68	74.1	20	50.0	17
Problems related to rest	56.2	18	57.3	43	59.3	16	52.9	18
Problems related to health	53.1	17	49.3	37	51.9	14	26.5	9
Health Problems Experienced								
Infectious diseases	40.6	13	33.3	25	37.0	10	14.7	5
Traumas	3.1	1	0	0	0	0	0	0
Psychological problems	6.3	2	13.3	10	14.8	4	8.8	3
Other health problems	3.1	1	2.7	2	0	0	2.9	3
Number of Days on Active Duty								
3-5	6.2	2	10.7	8	7.4	2	2.9	1
6-10	53.1	17	38.7	29	59.3	16	25.0	8
11-15	31.2	10	38.7	29	7.4	2	32.4	11
16 and above	9.4	3	12.0	9	25.9	7	35.3	12
Percentage of the Occupational Groups	19.1	32	44.6	75	16.1	27	20.2	34

2011 damaged or rendered unusable nearly 30.000 thousand buildings, mainly in Van and Erciş, and also in the surrounding provinces and districts (5). Six hundred and four Turkish citizens perished during the first earthquake, and 40 more during the second. Two hundred fifty-two people were rescued from the wreckage. According to the statement issued on 22 February 2012 concerning the relief efforts, a total of 5.267 search and rescue personnel and 2.976 health personnel were assigned for the two earthquakes during a period of four months. A total of 151 shower/toilet containers, 76.802 tents, 480 general purpose tents, 336.089 blankets, 1.940 comforters, 2.007 beds, and 7.192 sleeping bags were sent to the area (6).

In this study, the aim was to identify, with the aid of a questionnaire based on previous events, the thoughts and feelings of health personnel who went to the earthquake area upon receiving news of the event, and to contribute to plans for dealing with any future disasters.

Material and Methods

This questionnaire study was conducted in October and November 2011 in the Erciş district of Van, with individuals, mainly health personnel, who arrived in the city as volunteers or on assignment to assist in the relief efforts. The study was conducted as the individuals were carrying out their duties. The subjects were informed about the study, and their permission was obtained. Face-to-face interviews were conducted with the personnel who agreed to complete the questionnaires, and the purpose of the study was explained. These individuals were then asked to complete the questionnaire form. Any who did not wish to complete the questionnaire, or who provided incomplete or erroneously completed forms, were excluded from the study. A total of 168 individuals were included in the study. These individuals were provided with a questionnaire consisting of 17 questions on subjects such as their assignment, age, alimentation, personal care problems, health problems, duration and type of assignment, and safety and shelter issues.

The questions addressed to the participants also requested information about their demographics, including age and profession, means of travel to the area, and assignment or volunteer status. Questions were also asked about personal belongings and personal care items, problems regarding personal belongings and personal care, materials that they felt were lacking in the earthquake area, health problems they experienced during their duties, the time they remained in the earthquake area, alimentation, and safety and shelter problems.

The participants were also asked whether their assigned tasks were compatible with their personal knowledge and skills, whether they were able to carry out their duties in full, whether there was a lack of required equipment while they were performing their duties, and finally whether they considered their presence in the area as necessary.

Statistical analysis

The obtained information was recorded in the available forms. The data were evaluated with the Package for the Social Sciences

Table 2. Distribution of needs according to occupational groups

	Doctor (n=32)		Health Personnel (n=75)		Police (n=27)		Other (n=34)	
	%	n	%	n	%	n	%	n
Problems related to clean water and food	15.6	5	24.0	18	29.6	8	14.7	5
Problems related to shelter/accommodation	59.4	19	53.3	40	40.7	11	23.5	8
Problems related to safety	40.8	13	26.7	20	3.7	1	29.4	10
Tasks determined before arrival	21.9	7	46.7	35	48.1	13	85.3	29
Tasks determined after arrival	43.8	14	80.0	60	88.9	24	76.5	26
Assigned tasks compatible with knowledge and skills	81.2	26	93.3	70	96.3	26	88.2	30
Able to complete the assigned tasks	75	24	96. 0	72	96.3	26	91.2	31
Task-related equipment provided/completed while on duty	37.5	12	72.0	54	74.1	20	91.2	31
Considered arrival at the disaster area as necessary	18.8	6	9.3	7	14.8	4	8.8	35
Items that were needed								
Personal belongings	15.6	5	14.7	11	7.4	2	11.8	4
Personal care items	15.6	5	13.3	10	18.5	5	8.8	3
Both	15.6	5	8.0	6	11.1	3	11.8	4
Facilities, items or means considered to be lacking								
Restrooms, bathrooms, warm water	87.5	19	77.3	49	59.3	17	41.2	12
Lack of information	21.9	7	12.0	9	7.4	2	14.7	5
Lack of communication	0	0	4.0	3	7.4	2	2.9	1
Food, clean clothes, rest	12.5	4	5.3	4	3.7	1	8.8	3

(SPSS, Inc. Chicago, IL), version 17.0 for the Windows statistical program. The Mann-Whitney U test and Chi-square ($\chi 2$) tests were used to determine nonparametric values, and values were considered as significant when $p<0.05$.

Results

The mean age of the 168 individuals participating in the study was 31±8 (age rage was 17 to 56). Demographic distribution according to the occupational groups is provided in Table 1. Of the participants, 74 (44%) arrived in the city or its surrounding area as part of their official assignment, and 94 (56%) arrived as volunteers. The difference between the rates of arrival of doctors at the earthquake area as volunteers and on assignment was found to be statistically significant (z: +0.153, p=0.048). It was observed that volunteer participation in the relief efforts increased in parallel with a decrease in age (z: +0.194, p=0.012). Of the participants, 94 (56%) stated that they had forgotten items relating to their personal needs, and 74 (44%) stated that they had not forgotten such items. The former were asked to list which items they had forgotten. Of these 94 individuals, 63 listed the items they had forgotten as being related to personal needs. The distribution of these items according to the occupational groups is provided in Table 2.

Problems relating to personal needs were divided into two categories: personal belongings and personal care. Of the individuals, 22 (13%) said that they had forgotten their personal belongings, 23 (14%) said that they had forgotten their personal care items, and 18 (11%) said that they had forgotten both their personal belongings and their personal care items. Belongings which were needed but which the study participants had forgotten to bring included: underwear, towels, hair dryers, socks, gloves, scarves, hats, shoes and boots, glasses, sweaters, coats, slippers, pillow, comforter blankets and sleeping bags, clothes, and tea or coffee. Personal care items that the study participants had forgotten to bring with them included: toilet paper, shampoo, medication, tooth brushes, and shaving items. The number of individuals who said that they experienced difficulties relating to their personal care was 135 (80%), and the number who stated that they experienced no problems relating to their personal care was 33 (20%).

The personal care problems that were experienced included: toilets/bathrooms, warm water, shaving, warm lodgings, and heating. The answers to the question 'What was it that you missed most in the earthquake area?' included: toilets, baths/warm water, warm lodgings/shelters, organisation/coordination, information/briefings, family, television/internet, warm food, fresh vegetables/fruits, and clothes. The number of individuals experiencing problems related to rest was 95 (57%), and the number who experienced no problems related to rest was 73 (43%) (Normal working time was eight hours under normal circumstances, but could increase to 16 hours under extraordinary circumstances. When the time allocated for work and rest was considered, the increasing length of work days in terms of hours could have had negative effects on the individuals' physiologies).

Of the members of the relief teams, 77 (46%) stated that they had experienced at least one health problem, and 91 (54%) stated that they had experienced no health problems during their service in Van. The commonest health problem was infectious diseases, which affected 43 (26%) of the individuals. Ten (6%) described experiencing both infectious diseases and psychological problems, 13 (8%) described experiencing psychological problems, one (1%) described experiencing another type of problem in addition to psychological

problems, one (1%) described experiencing trauma-related problems, and five (3%) described experiencing problems such as chest pains, allergy, or recurrence of past ailments. As the number of days spent in the disaster area increased, the frequency of infectious diseases compared with other diseases increased as well; however, this increase was not statistically significant (z: -0.210, p=0.079).

During the period in which this study was conducted, 13 (7%) of the participants had taken part in active duty for one to five days, 70 (42%) for six to ten days, 52 (31%) for 11 to 15 days, and 31 (19%) for more than 15 days. The number of individuals describing problems with the provision of clean water and food was 36 (21%), and the number who described no such problems was 132 (79%). The numbers describing shelter and safety-related problems were 78 (46%) and 44 (26%), respectively.

The number of individuals whose job definition was made prior to their arrival at the disaster area was 84 (50%). The number whose job definition was prepared after their arrival a was 124 (74%), and those whose job definition was prepared after their arrival was 44 (26%). The number of individuals who stated that their job definition was compatible with their knowledge and skills was 152 (91%), and those who described their job definition as incompatible numbered 16 (9%).

The number of individuals who said that they could fully complete the task that they were assigned was 153 (91%), and those who said that they were not able to do so numbered 15 (9%). The question 'Do you have the necessary tools and equipment to carry out your duties properly?' received the answer 'Yes' from 117 (70%) participants, and 'no' from 51 (30%). The number who considered their arrival at the disaster area as necessary was 148 (88%), and those who considered their arrival as unnecessary numbered 20 (12%).

Discussion

All of the health personnel working in Van experienced serious personal problems, in that many of them remained in unsuitable and crowded shelters, they worked in difficult conditions for very long periods of time, and the majority lived apart from their spouses and children whom they were obliged to send to other locations (7). After the earthquake, doctors, nurses, and health personnel continued to work on a rotating basis. Primary health care services as well as the vaccination and mobile health services in certain regions were largely provided by healthcare personnel who had arrived at the earthquake area from outside the province of Van (8). As they were also victims of the earthquake, the performance of local healthcare personnel might have slackened during the relief efforts. For this reason, volunteers who came from outside the province performed tasks at every level of service. It was observed, however, that foreign volunteers had difficulties adapting to local conditions, especially those that prevailed following the earthquake.

Most of the healthcare personnel had shelter-related problems. Since there were no places in which doctors and family health personnel who provided services in family health centres could reside together their families, most of them had to send their children to relatives outside the province. Considering that the local healthcare personnel were also victims of the earthquake, it was imperative that problems pertaining to their inability to reside together with their families were resolved with the shortest possible delay (8).

The necessity to review the Red Crescent Tents with respect to comfort, insulation, durability, and to produce higher-quality tents should be emphasised (9). This assessment is confirmed by the observations in our study that 78 (47%) of the individuals from the relief teams who arrived in Van from outside the province described shelter-related problems, and 44 (26%) mentioned safety problems in particular. Considering that the volunteers also have shelter and safety-related needs, it would be reasonable for the institutions which send personnel to the earthquake area also to send materials to satisfy such needs in order to support the local authorities.

According to the data obtained from the Van Provincial Directorate of Health, the rate of infectious diseases between 23 November and 30 December 2011 was 69%. Among the infectious diseases, acute respiratory tract infections were the most frequent, with a percentage of 63%. In terms of frequency, acute respiratory tract infections were sequentially followed by: flu and related diseases; laryngitis or tonsillitis, or pharyngitis and/or diseases causing pseudomembranes in the nose; and diarrhoea. The total number of polyclinic visits in Erciş during the abovementioned period was 48.982. The number of infectious diseases identified according to the number of polyclinic visits was 34%. Among infectious diseases, acute respiratory tract infections were the most common, with a percentage of 51%. In terms of frequency, acute respiratory tract infections were sequentially followed by: flu and related diseases, diarrhoea, and fevers of unknown origin. Ten of the individuals who participated in this questionnaire said that they had experienced both infectious diseases and psychological problems, and 13 said that they had experienced psychological problems. Although there were more health personnel in the region than strictly necessary, all who arrived and worked in the earthquake area gained valuable experience and knowledge. With the exception of the first week, it would be more beneficial if the job definitions for the relief teams were defined prior to their arrival in the area. The health personnel could be briefed (instead of having to inform each other), or information provided beforehand by e-mail or telephone before their arrival in the area. It is reported that informing personnel prior to their arrival in the earthquake area of what needs to be done is of considerable psychological benefit (9). Those who completed the current questionnaire were also of the opinion that predefined job definitions would facilitate the execution of their tasks.

Of the individuals who participated in the questionnaire, 135 (80%) said that they experienced problems with personal care. Considering the necessity of reaching the disaster area as soon as possible, a list should be prepared of the personal items that people need in the disaster area, and other necessary items should be identified beforehand and sent to the disaster area.

The trauma caused by the earthquake and the difficult conditions that arose in its aftermath adversely affected the health of the relief teams. In this respect, a health unit for the relief teams should be formed in order to monitor, preserve, and support the health of those taking part. This unit could monitor the health of the relief teams, and provide assistance on subjects such as alimentation, shelter, psychological support, safety, vaccination, accidents, and injuries (10).

There were also volunteers from organisations such as the Turkish Nephrology Association and Renal Disaster Group, who took action immediately following the Erciş-Van and Edremit-Van earthquakes to contribute to the search and rescue activities, and who made important contributions to the treatment of patients rescued from the wreckage (11). Students of health-related subjects could benefit from the addition to their curriculum of training modules on health services under extraordinary circumstances (9). Considering the number of volunteers who participated in this questionnaire, it was noted that the determination of Turkish people to deal with natural disasters remains strong.

Over the past few years, Turkey has made considerable progress with regard to disaster management. It is fair to say that in many areas relating to relief efforts, such as the initial intervention following

the occurrence of a disaster, search-and-rescue activities, and the provision of tents, Turkey is streets ahead of many other countries. The immediate implementation of risk reduction projects, strategies, and instruments to prevent earthquakes or floods from becoming disasters cannot, however, be over-emphasised (6).

Conclusion

The fact that most of Turkey is geographically located on a seismic belt means that lessons should be learned from the events take place. The relevant health personnel should be identified and assigned to relief efforts by taking into account the necessary travel time across Turkey and within the provinces to prevent or minimise the injuries and deaths that might occur in future disasters. The tasks of volunteers should be defined before they reach the disaster area, and volunteers should consider the living conditions in the area damaged by the earthquake beforehand, and make their preparations accordingly. When necessary, people should be provided with a list of items that will be needed, the items they will need during their work should be determined, and they should travel to the disaster area after these items have been provided. The work times should be determined beforehand, and the personnel rotated according to a shift system. If these criteria are met we believe that it will be possible to intervene in disaster areas with the shortest possible delay and in an organised fashion. The belief that relief teams work ineffectively and make little contribution to relief efforts should be resisted. The personal needs of health personnel who have gained knowledge and experience by contributing to relief efforts following earthquakes, in particular, should be met as much as possible to prevent any unwillingness to participate and work on similar future assignments.

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