

Incidence of Infectious Diseases within the First Month following the Bam Earthquake

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The earthquake in Bam, Iran, killed >40,000 people, injured >30,000, and left 75,000 homeless. The affected people also faced an increased risk of infectious diseases. Many were sleeping outdoors in the first few days following the earthquake, despite the cold temperatures of December and January. Other risk factors included the inadequate access to a water supply network and sanitation, and the past history of endemics of typhoid fever, cholera, malaria, and coetaneous leishmaniasis in the area.

Using the records of Bam-area medical centers, the incidence of infectious diseases during a three-week period starting one week after the disaster have been assessed. The infectious diseases that were recorded include: acute severe watery diarrhea, dysentery, acute respiratory infection, suspicious malaria, suspicious measles, suspicious meningitis, suspicious hemorrhagic fever, acute icter, acute floppy paralysis, suspicious brucellosis, suspicious salmonellosis, anthrax, coetaneous leishmaniasis, tuberculosis, and animal bite.

Over that three-week period, 6,241 patients suffering from acute respiratory infections were visited. Acute respiratory infections, with an incidence rate of 6.93%, were the most common reason for medical visits. The second most common infectious disease was enteric infections (incidence rate of 8.2%); 738 patients with enteric infection were seen during the period of study. The next most common diseases were coetaneous leishmaniasis, suspicious malaria, and animal bite, with an incidence rate of 0.075%, 0.058%, and 0.023%, respectively. Cold temperatures, lack of shelter, lack of heating facilities, and the high number of people in the camps might have been factors contributing to the high incidence of respiratory infectious diseases. The high incidence of enteric infections may be linked to the collapse of the water supply network and lack of adequate access to sanitation and safe food.

Keywords: Bam; earthquake; infectious disease; Iran; respiratory

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The Rationale of Fever Surveillance to Identify Patients with Severe Acute Respiratory Syndrome (SARS) in the Emergency Department of a Tertiary Care Center in Taiwan

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Objective: The purpose of this study was to establish a predictive scoring system and determine its effectiveness for severe acute respiratory syndrome (SARS) cases confirmed by Reverse Transcription Polymerase Chain Reaction (RT-PCR) from fever patients during the SARS outbreak of 2003.

Methods: A prospective study was conducted in the emergency department of a tertiary care center during the SARS outbreak in Taiwan. The scoring system was divided into two stages: (1) triage: taking temperature, symptoms, and history using a structured questionnaire; and (2) screening station: measuring complete blood count (CBC) and chest x-ray (CXR). Data were analyzed with multi-variable and logistic regression analysis. The confirmative diagnosis of SARS cases was made according to results of RT-PCR.

Results: A total of 737 patients were presented to the emergency department for ruling out SARS from 29 March–30 June 2003. A total of 484 patients with a documented temperature >38.0°C (100.3°F) and an age older than 18 years (adult patient) were enrolled in the study for final analysis. Six items (dyspnea, diarrhea, travel, close contact, hospital, and household history) were identified as predictive indicators in the triage stage. The triage scores were derived from the sum of these six items. At the cut-off value of one point, the sensitivity and specificity were 81.8% (18/22) and 73.6% (340/462), respectively. Four items (leukocytes, thrombocytopenia, lymphopenia, and CXR) were identified as predictive indicators in the fever screening stage. The screening station scores (sum of 10 items) consisted of triage scores, white blood count, and CXR. At the cut-off value of three points, the sensitivity and specificity were 95.5% (21/22) and 87.2% (403/462).

Conclusions: Detailed history-taking is the key for early identification of SARS cases in an endemic area. The current SARS scoring system easily is applicable and highly effective in screening SARS patients during SARS outbreaks, not only in the emergency department, but also in the community.

Keywords: fever surveillance; Reverse Transcription Polymerase Chain Reaction (RT-PCR); screening; Severe Acute Respiratory Syndrome (SARS); Taiwan; triage

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Implementation of the Hospital Emergency Incident Command System (HEICS) during an Outbreak of the Severe Acute Respiratory Syndrome (SARS) at a Hospital in Taiwan

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Background: Although various aspects of the operational response and clinical management of the severe acute respiratory syndrome (SARS) have been reported from hospitals in several countries, little has been reported about overall hospital emergency management during a SARS outbreak. Furthermore, despite the growing popularity of the hospital emergency incident command system (HEICS) as an organizational tool for hospital emergency management in the United States and elsewhere, little has been reported about the application of HEICS to actual hospital emergencies of any type. Accordingly, the implementation of the HEICS at the National Cheng Kung University Hospital (NCKUH) during the outbreak of the SARS in early 2003 was characterized.