

Mass Gatherings as Rallies in Taipei: Incident Reporting and Literature Review

Tzong-Luen Wang, MD, PhD; Hon-Ping Ma, MD; Li-Ping Chang, MD;
Yue-Jeng Yang, MD

Abstract

Extensive planning and preparation by public health agencies were required for the provision of public health services at mass gatherings. We therein reported the preparation and activities at a mass gathering that occurred in April 2004 after president election. During the incident, Bureau of Health, Taipei City Government has implemented emergency response plan for public health under the instruction of Department of Health. All of the emergency response hospitals have been alerted to perform routine emergency medical services and possible mass casualty incidents. The incident provides an experience of planning and response for mass gatherings at the viewpoint of public health. The literature review has also been provided in this report. (*Ann Disaster Med.* 2004;3:52-55)

Key words: Mass Gatherings; Public Health; Emergency Medical Services

Introduction

A crowd of 'pan-blue' supporters estimated more than 100,000 yesterday amassed outside the Presidential Office on April 10, 2004. This was once again an extreme mass gathering during president election period in Taiwan. This report is not intended to give comments on political issues. However, public health response may be the essential part of emergency medicine or even of disaster medicine in such an incident.

Although preparation for mass gathering has been recognized as a means of training in disaster medicine, there are still no uniform methods or guidelines in such preparation and training. We'd like to summarize this incident

and thus review the preparation process of previous mass gatherings such as Olympic games in Europe as a reference for future considerations in the response preparation for such mass gatherings.

Incident Report

More than 300,000 people launched a massive protest rally outside the office compound of the president since March 21, 2004, demanding a thorough investigation into the 319 shooting case that is widely believed to have important impacts on the election. The protest was initiated by the ally of two political parties. The people gathered since 2:00 p.m. that day

From Department of Emergency Medicine, Shin-Kong Wu Ho-Su Memorial Hospital, Taipei, Taiwan
Address for reprints: Dr. Tzong-Luen Wang, Department of Emergency Medicine, Shin-Kong Wu Ho-Su Memorial Hospital, 95 Wen Chang Road, Taipei, Taiwan
Received: April 13 2004. Revised: April 20 2004. Accepted: May 20 2004.
TEL: 886-2-28389425 FAX: 886-2-28353547 E-mail: M002183@ms.skh.org.tw

and the speeches of the leaders of both party began at 4:00 p.m.. The police have deployed layers of wire to stop the protesters, some of whom even raged into collision with the police. At the same time, there were more than twenty students that protested the alleged illegal election and held a hunger strike.

Preparation

Bureau of Health, Taipei City Government has held an emergency meeting to prepare extensively and monitor health events immediately. The consultants included all of chiefs of emergency response hospitals in Taipei. The consultant conference has drawn the following conclusion.

First, the response time should be taken into consideration because of the possible factors such as the distance between the strike point to the receiving hospitals and the number of the gathering people.

Second, the types of hunger strike should be categorized as those who ate and drank nothing (totally hunger strike) and those who drank water only (partial hunger strike). The former would suffer from immediate physical insult after 24 hour's starvation whereas the latter did not have immediate danger. Force protection should be considered for the former group.

Third, the duration of hunger strike should also be taken into account. In general, the victim might have ketoacidosis after 3 day's total starvation and become comatous or devastating after 7 days.

Fourth, the medical aid and humanitarian assistance should be done professionally under the neutral attitude of politics.

The response strategies have thus decided

to take actions according to three stages:

Stage 1 (Day 0 to Day 3): emergency response system not activated

Stage 2 (Day 4 to Day 7): active medical understanding

Stage 3 (Day 8 and later): activate emergency response system; implement incident command post and primary medical aid post

If there was any persons who underwent totally hunger strike for more than 24 hours, Stage 3 action should be begun right away. The related flow chart, records and standard operations plan would be organized by Taipei Veterans General Hospital. All of the medical centers in Taipei have attended the program of medical aids.

Casualties

The medical aids have started from April 20th to April 30th 2004. There were eleven persons who attended hunger strike and have been forcefully protected. They were six men and five women averaging 21 years old. The average duration of total starvation was 36 ± 6 h. None of them had significant hypoglycemia or ketoacidosis. They had neither conscious change nor electrolyte imbalance. However, almost every one of them had dehydration and needed more than 2L hydration.

In addition, there were overallly sixty-five victims who suffered from mild to moderate injuries during protestation against the police. All of them were transported to nearby emergency response hospitals, either by ambulance (22/65, 34%) or by themselves. Eighty percent (52/65) of them had head or face injury whereas others had injuries over eye, ear, chest or limbs. There were also three persons that were transported to hospitals due to medical conditions.

One of them had heart attack (with diagnosis of unstable angina) and the other two orthostatic hypotension. There is no mortality during the whole period.

Discussion

Mass gathering is believed to provide a good chance to examine the validity of incident command system and response plan at each level of response system. Public health should be the first priority. The primary objectives of the public health response system were as follows:¹ (1) to detect and respond rapidly to disease outbreaks or unusual increases in health conditions; (2) to prevent weather-related illness; (3) to prevent foodborne and waterborne infectious diseases; (4) to assure that medical response to individual emergencies and possible mass casualties would be timely and of high quality; and (5) to take advantage of the activity as an opportunity to promote healthy lifestyle choices and other prevention messages.²

A complete public health strategy should be developed under three stages of designing: assessment, policy development, and assurance. Assessment includes surveillance and environmental health services monitoring. The former includes enrolling data from the hospitals concerning each patient, including demographics, type of injury, and final disposition on leaving the emergency department, whereas the latter includes standardized, daily reports from field environmental health staff for the purpose of monitoring type, intensity, and location of environmental health staff activities.

Besides, the policy for mass gathering health should consider several aspects such as environmental health regulations, special food service, water supply, solid waste, special on-

site sewage disposal, emergency medical services planning, and medical disaster planning. Public Health Service regional health administrator should be responsible for coordinating mass casualty preparedness including (1) propositioning of medical teams with expertise in responding to chemical and biological incidents; (2) placement of pharmaceutical agents in hospitals to manage mass chemical exposures; (3) training of hospital and emergency response personnel in decontamination and treatment for victims of mass casualties; and (4) development of a tabletop exercise in mass casualty response for community, local health, and emergency response officials.^{2,3} Assurance should also be overemphasized. Weather related illness should be prevented by providing necessary materials for daily living. Besides, public education and information can be provided by well-trained persons in the nearby. In our reported incident, the response plan is focused upon emergency medical service. Food and water supply were supplied by the attending people themselves or the supporting parties. Environmental issue seemed to be overlooked.

It is also necessary to plan for the potential public health and medical consequences of a disaster,³ including unexpected number of deaths, injuries, or illnesses in the affected community, exceeding the capacities of local health services and requiring external assistance; adverse environmental effects, with increased risk for communicable diseases and environmental hazards; disruption of local health infrastructures; and large population movements. In our reported incident, the public health system was modeled on the emergency operations center used in disaster management and included on-site partners. Public

health staff was an integral part of this planning and execution and served as members of City Law Enforcement Command staff. Engagement of key partners and early planning were important for the establishment of a workable emergency response capability.

Conclusion

Public health activities should include the development and use of an augmented surveillance system to monitor health conditions and detect disease outbreaks; creation and implementation of environmental health regulations; establishment of a central Public Health Command Center and response teams to coordinate response to public health emergencies; planning for potential mass casualties and the provision of emergency medical services; implementation of strategies for the prevention of heat-related illness; and distribution of health promotion and disease prevention information. Public health agencies should take the lead in organizing and implementing a system for preventing and managing public health issues at future mass gathering.

References

1. Kilbourne EM, Choi K, Jones TS, Thacker SB, and the Field Investigation Team. Risk for heatstroke: a case-control study. *JAMA* 1982;247:3332-6
2. Roth PB, Gaffney JK. The federal response plan and disaster medical assistance teams in domestic disasters. *Emerg Med Clin North Am.* 1996;14:371-382
3. Noji E. The nature of disaster: general characteristics and public health effects. In: Noji E, ed. *The Public Health Consequences of Disasters*. New York, NY: