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Hospital Flood Preparedness and Flood-Related Psychological Consequences in 15 Provinces in Central Thailand after Implementation of a National Guideline

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Hospital Flood Preparedness and Flood-Related Psychological Consequences in 15 Provinces in Central Thailand after Implementation of a National Guideline

To the Editor—Severe flooding occurred in central Thailand during the period September–November 2011, which resulted in the closure of more than 30 regional hospitals. A national guideline for hospital preparedness after flooding was made available in Thailand on May 14, 2012. From May 15, 2012, through June 30, 2012, there were several meetings to promote this national guideline for hospital flood preparedness. To evaluate hospital preparedness as well as to assess the psychological impact of floods among infection preventionists (IPs) in the initial 6-month interval after flooding, we conducted a survey designed by A.A. and T.K. This survey included questions about hospital personnel with infection control expertise, hospital characteristics, hospital preparedness plans developed to deal with the aftermath of flooding, and family (21 [66%] of 32), and (3) lack of exercise drill of flood protocol (16 [50%] of 32). Obstacles related to hospital flood preparedness and improvement after flooding among 32 hospitals that were affected by major flooding are shown in Table 1. Overall, at the initial 6-month interval, 20 (63%) of 32 lead IPs in the flood-affected hospitals complained of having some psychological consequence related to the floods (eg, PTSD, depression, inability to concentrate, insomnia, and having difficulties with family relationships). Notably, 5 (20%) of the 20 lead IPs met the definition of PTSD, and 3 (15%) met the definition of depression, whereas 12 (60%) of the lead IPs complained of having some psychological consequences related to floods (difficulties with family relationships [n = 6], insomnia [n = 3], and inability to concentrate [n = 3]).

In this follow-up survey, several gaps identified during the flooding (eg, surge capacity plans for patients and staff, plan for sites visit interview. A 1-hour interview was conducted by research nurses to the chief of IPs in each participating hospital. To minimize ascertainment and reporting bias, three 3-hour training sessions were conducted (by A.A.) to instruct the 5 research nurses on the survey tool and data collection processes. The survey instrument was pilot tested in 10 hospitals to ensure test validity. All 5 research nurses individually interviewed the same person at these 10 hospitals, and reliability checks were performed; 100% concordance in data capture was achieved.

Definitions of hospital characteristics were modeled from our previous report. Institutional safety culture was measured by a 2-matrix safety score, calculated as the average of responses for agreement with 2 statements: “Leadership is driving us to be a safety-centered institution” and “I would feel safe being treated here as a patient.” Administration support was categorically ranked as poor, fair, good, very good, and excellent. Definitions of depression and post traumatic stress disorder (PTSD) were previously described. Descriptive characteristics were used to describe the hospital preparedness plan developed to deal with the aftermath of flooding. This study was approved by the institutional review board of the Faculty of Medicine, Thammasat University, Pathumthani, Thailand.

A total of 101 (97.1%) of 104 eligible hospitals responded to the survey (69 [69%] were not flooded, and 32 [31%] were damaged by the flood). Among the responding hospitals, 55 (55%) had 1 or more infectious diseases specialist, 46 (46%) had 1 or more hospital epidemiologist, 65 (65%) reported good to excellent support of the infection control programs from hospital administration, and 40 (40%) were affiliated with a medical school. The median amount of time that the respondents had been in their current position was 9 years (range, 3–30 years), and the median institutional safety score was 7 (range, 2–10). Overall, the major gaps in flood preparedness plan during floods were (1) lack of an environmental cleaning and fungal decontamination protocol (26 [81%] of 32), (2) lack of surge capacity plans for patients and family (21 [66%] of 32), and (3) lack of exercise drill of flood protocol (16 [50%] of 32). Obstacles related to hospital flood preparedness and improvement after flooding among 32 hospitals that were affected by major flooding are shown in Table 1. Overall, at the initial 6-month interval, 20 (63%) of 32 lead IPs in the flood-affected hospitals complained of having some psychological consequence related to the floods (eg, PTSD, depression, inability to concentrate, insomnia, and having difficulties with family relationships). Notably, 5 (20%) of the 20 lead IPs met the definition of PTSD, and 3 (15%) met the definition of depression, whereas 12 (60%) of the lead IPs complained of having some psychological consequences related to floods (difficulties with family relationships [n = 6], insomnia [n = 3], and inability to concentrate [n = 3]).

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In this follow-up survey, several gaps identified during the flooding (eg, surge capacity plans for patients and staff, plan for sites visit interview. A 1-hour interview was conducted by research
for environmental cleaning, and fungal decontamination protocols) were significantly improved by 50%–100% after implementation of the national guideline for hospital flood preparedness. We also identified that this major flood had significant psychological consequences for lead IPs. Additional studies to rigorously evaluate the magnitude of these consequences after major flooding would bolster efforts to improve hospital flood preparedness in developing countries and elsewhere.

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