



ORIGINAL ARTICLE

# Impact of a disaster preparedness training programme on health staff<sup>☆,☆☆</sup>



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## KEYWORDS

Disaster medicine;  
Training programme;  
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## Abstract

**Objectives:** The aim of this study is to evaluate the effectiveness of a disaster preparedness training programme in a Paediatric Emergency Department (PED).

**Methods:** A quasi-experimental study was conducted using an anonymous questionnaire that was distributed to health care providers of a PED in a tertiary paediatric hospital. The questions concerned the disaster plan (DP), including theoretical and practical aspects. Questionnaires were distributed and completed in January 2014 (period 1) and November 2014 (period 2). The disaster training programme includes theoretical and practical sessions.

**Results:** A total of 110 questionnaires were collected in period 1, and 80 in period 2. Almost three-quarters (71.3%) of PED staff attended the theoretical sessions, and 43.8% attended the practical sessions. The application of this training programme significantly improved knowledge about the DP, but no improvement was observed in the practical questions. PED staff felt more prepared to face a disaster after the training programme (15.5% vs. 41.8%,  $P < .001$ ).

**Conclusions:** The training programme improved some knowledge about the disaster plan, but it has not improved responses in practical situations, which may be due to the low attendance at practical sessions and the time between the training programme and the questionnaires.

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**PALABRAS CLAVE**

Medicina de  
catástrofes;  
Formación;  
Encuestas

**Impacto de un programa de formación de catástrofes en el personal sanitario****Resumen**

**Objetivos:** Analizar la eficacia de un programa formativo sobre catástrofes en un Servicio de Urgencias Pediátricas (SUP).

**Metodología:** Estudio cuasiexperimental mediante encuestas dirigidas al personal sanitario del SUP de un hospital pediátrico de tercer nivel. Se evalúan aspectos teóricos y prácticos del plan de catástrofes (PC). Las encuestas son cumplimentadas en 2 periodos (periodo 1, enero del 2014, y periodo 2, noviembre del 2014), entre los cuales se realiza una formación con sesiones teóricas y situaciones clínicas.

**Resultados:** Se recogen 110 encuestas en el periodo 1 y 80 en el periodo 2. El 71,3% del personal asiste a las sesiones teóricas y el 43,8% a las prácticas. Tras la formación, aumenta significativamente la proporción del personal que conoce el PC y el «kit» de catástrofes. En cuanto a los aspectos prácticos, no se observa mejoría en las respuestas a las situaciones clínicas planteadas. El personal se siente más preparado para afrontar una catástrofe después del programa formativo (15,5% vs. 41,8%,  $p < 0,001$ ).

**Conclusiones:** La aplicación de una formación sobre catástrofes ha mejorado algunos conocimientos del personal, pero no ha mejorado las respuestas en las situaciones clínicas planteadas, posiblemente influenciado por la baja asistencia a las sesiones prácticas y el tiempo transcurrido entre la formación y la encuesta.

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**Introduction**

A disaster is any situation or event that overwhelms local response resources, and usually produces severe damage, destruction and human suffering.<sup>1-3</sup> The impact of disasters is particularly severe in the field of paediatric emergency medicine, as children are more vulnerable and at greater risk of experiencing dehydration, infection and multiple trauma.<sup>1,4</sup>

Therefore, it is essential that paediatric emergency departments (PEDs) and their personnel be properly prepared to manage these situations, which, while infrequent, can result in substantial morbidity and mortality in the population. Such preparedness involves a broad range of elements: availability of materials, reorganisation of health care delivery, training of health care staff...

Training in disaster preparedness is a must for all health care workers, especially for those in emergency settings, and should be incorporated in educational curricula, as has been recommended by the American Medical College.<sup>2,4</sup> A lack of specific training in disaster preparedness poses risks to the health of the general population and also to that of patient care providers.<sup>5</sup> There are different educational strategies and a wide variety of training programmes, ranging from the Advanced Pediatric Life Support (APLS) to self-directed courses, day-long workshops or training sessions that use simulation.<sup>3,4,6,7</sup>

Several studies, most of them conducted outside of Spain, warn of a lack of disaster preparedness.<sup>4,6,8,9</sup> In Spain, many PEDs do have disaster plans in place, but they are usually not up to date and are not generally known by the staff.<sup>10</sup>

The aim of this study was to analyse the efficacy of a disaster preparedness training programme in a PED.

**Methods**

We conducted a quasi-experimental pre-post intervention study by means of a survey of health care workers in which the training programme was the intervention. The study took place in a tertiary paediatric hospital that receives approximately 100,000 visits a year and is the reference hospital for patients with multiple trauma. The hospital has a disaster plan (DP) that was updated in 2013 and the PED is equipped with a disaster kit to be opened by the staff in case the DP is activated.

The target population of our study was the collective of health care workers that regularly staffs the PED (125 individuals), including nursing staff (nurse assistants and registered nurses [RNs]) and doctors in the specialties of paediatric emergency medicine, surgery and traumatology (adjunct, fellow and resident doctors).

We conducted the study over two time periods (period 1, before training, in January 2014, and period 2, after training, in November 2014) and the training programme took place between the two (April 2014). Between the two periods, the researchers asked the health care staff to fill out the paper-based questionnaire anonymously, and no reward was offered for participating.

The training programme consisted of one theoretical session that explained the hospital's DP and two three-hour-long practical sessions in which various disaster-related clinical scenarios were discussed in small groups to put the

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