Med Intensiva. 2018;42(7):454–456

medicina intensiva

http://www.medintensiva.org/en/

SCIENTIFIC LETTER

Perception of the level of preparation of intensive care personnel on the self-protection plans☆

Percepción del nivel de preparación del personal de cuidados intensivos sobre los planes de autoprotección

D. González-Romero[a,*], J.D. Martín-Santana[b], Y.G. Santana-Padilla[a,b], L. Santana-Cabrera[a,b]

[a] *Servicio Medicina Intensiva, Complejo Hospitalario Universitario Insular-Materno Infantil de Gran Canaria, Las Palmas de Gran Canaria, Las Palmas, Spain*
[b] *Universidad de Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Las Palmas, Spain*

Dear Editor,

A natural disaster, a terrorist attack, or simply an internal incident such as a fire in its facilities can reveal the vulnerability of a hospital when having to deal with a catastrophe. Hospitals must be prepared to ensure the safety of their patients as well as their functional capacity and, if necessary, must be able to conduct a possible evacuation. The difficulty of an evacuation is even more apparent when Intensive Care Units (ICUs) are involved, since they typically care for more complex patients. Adequate planning clearly contributes to lessen the vulnerability of hospitals and patients, particularly those in most critical condition.[1–4]

In this regard, current Spanish legislation is basically fundamental upon two norms: the Labor Risk Prevention Act (*Ley de Prevención de Riesgo Laboral*)(Act 31/1995) and the Basic Norm on the Self-protection of Centers, Establishments and Dependencies dedicated to activities that may give rise to emergency situations (*Norma Básica de Autoprotección de los Centros, Establecimientos y Dependencias*) (Act 393/2007). Such legislation obliges healthcare centers to have a self-protection plan (SPP) that must be followed, with the adoption of a series of specific norms, and moreover requires the implicated facilities to be built following strict construction norms.[5,6]

The importance of SPPs has led to the idea that an evacuation plan, known to all the personnel members and permanently kept up to date and checked through periodic drills, should be incorporated to the rest of the healthcare parameters used to measure quality, i.e., as an additional quality indicator that should be implemented, since doing so would result in improved patient care in the event of a disaster requiring evacuation of the ICU.[2–4] In fact, the consensus statement ''Evacuation of the ICU: Care of the Critically ill and Injured During Pandemics and Disasters'' should serve as the basis for all SPPs and for internal and/or external evacuation of the ICU in disaster situations, underscoring that ''the success of evacuation is ensured by the active preparation, participation, communication and leadership of the critical care professionals''.[1]

Most Spanish hospital centers have plans of this kind, though their level of implementation in the ICUs of our country is not known. There is moreover a subjective impression

☆ Please cite this article as: González-Romero D, Martín-Santana JD, Santana-Padilla YG, Santana-Cabrera L. Percepción del nivel de preparación del personal de cuidados intensivos sobre los planes de autoprotección. Med Intensiva. 2018;42:454–456.

* Corresponding author.
E-mail address: dgonrom@gmail.com (D. González-Romero).

Table 1 Perceived level of preparation of hospitals and ICUs for dealing with an internal emergency situation requiring evacuation.

Affirmations	Mean	SD	Percentage6–7
The hospital I work in is adequately prepared to deal with an internal emergency that may require evacuation	3.5	1.7	10.6
The ICU is adequately prepared to deal with an internal emergency that may require evacuation	3.6	1.8	15.9
Hospitals and ICUs should have plans for evacuation	6.6	1.1	89.6
The hospital I work in has plans for evacuation	4.1	1.9	34.3
The ICU I work in has plans for evacuation	3.9	2.1	26.5
The plans for evacuation should be updated	6.6	1.0	89.8
The hospital I work in updates the plans for evacuation	3.4	1.8	14.9
The ICU updates the plans for evacuation	3.3	1.9	16.1
It is unlikely for the hospital I work in to have to carry out an evacuation	2.9	1.9	12.4
Definition of the evacuation plans corresponds only to Management and the Heads of Department	2.7	2.0	12.9
The personnel members belonging to my professional category do not need to know about required actions in the event of an evacuation	1.6	1.5	6.7
The employees of the hospital in which I work participate in the development or revision of the evacuation plans	2.4	1.6	4.6
All the personnel members require training in order to adequately deal with situations in which evacuation may prove necessary	6.5	1.2	89.7
The hospital I work in imparts the specific training courses needed to allow the personnel to adequately deal with evacuation situations	2.4	1.7	7.4
The hospital I work in conducts frequent drills/exercises to evaluate the response in the event of an evacuation	1.9	1.5	4.1

SD: standard deviation; ICU: Intensive Care Unit.

– with no rigorous supporting scientific data – that many hospital professionals receive little or no training in relation to SPPs. From the scarce literature to be found on this subject, it can be deduced that in general terms, the perception of healthcare professionals regarding the plans on how to act in the case of an emergency, and their capacitation, knowledge and aptitudes for doing so, as well as the training received, are all deficient.[1–3,7]

The present study therefore seeks to know ICU professional perception of the level of preparation of the hospital and of the ICU in relation to SPPs designed to deal with internal disasters requiring an evacuation.

A prospective, cross-sectional descriptive study was made during the first three months of 2015 in the ICUs of the Autonomous Community of the Canary Islands. A personal, anonymous, fully structured and self-administered questionnaire was distributed (see Annex, in Supplementary Material). The questionnaire was developed by a multidisciplinary group and used a 7-point Likert scale where 1 = totally disagree and 7 = totally agree. The initiative was approved by the hospital research commission, with the endorsement of the scientific committee of the SEMICYUC.

The study included healthcare and non-healthcare professionals with over 6 months of working experience in 8 public and private ICUs of the total of 12 Units found in the Autonomous Community of the Canary Islands (66.7%). A total of 434 out of 750 people were interviewed (57.86%).

The personnel were of the opinion that the level of hospital and UCI preparation for dealing with a possible emergency requiring evacuation was very low (Table 1) – most of the scores being <3 on a scale of 1–7, with the exception of the items related to the need to introduce and update SPPs, and to the necessary implication of all personnel members in such tasks. The opinion of the personnel members was that the Units they work in have no such plans and are therefore not prepared for an emergency situation, despite the fact that they considered such a hypothetical situation to be possible.

On the other hand, the data obtained showed their level of preparation in basic issues referred to dealing with an emergency requiring evacuation to be very low, as reflected by an average score of no more than 2.5 for each of the items analyzed (Table 2).

In general terms, the nursing personnel were the least informed (score 2.1), followed by the non-healthcare employees (score 2.4) and physicians (score 2.7). The nursing personnel constituted the group with the least knowledge of the required functions in the event of an evacuation ($p = 0.047$), and of the location of the SPPs of the ICU ($p = 0.005$), and were also the subjects demanding most training in this regard.

Despite the enormous importance and need for healthcare centers to incorporate SPPs, few studies have been made in this field.[1,3] The present study is the first in Spain

Table 2 Level of preparation of the ICU personnel for dealing with disasters requiring evacuation.

Affirmations	Mean	SD	Percentage6–7
I know the existing self-protection plans for dealing with an evacuation in my hospital	2.1	1.6	6.2
I know the existing self-protection plans for dealing with an evacuation in my ICU	2.4	1.9	11.7
I know what my functions are in the event hospital evacuation proves necessary	2.4	1.8	8.8
I know where to locate the self-protection plans for dealing with an evacuation in my hospital	2.1	1.7	7.1
I know where to locate the self-protection plans for dealing with an evacuation in my ICU	2.4	1.9	12.6
I am familiar with the preparations/activities required in the event of an evacuation	2.1	1.6	5.2
I know what to do if an evacuation proves necessary	2.5	1.6	5.3

SD: standard deviation; ICU: Intensive Care Unit.

to analyze the level of knowledge regarding SPPs among the personnel working in an ICU. The results obtained raise ethical issues, as well as medical-legal concerns, among both the professionals and the healthcare administration personnel, since knowing the reality of the situation makes it inexcusable to procure the necessary means and resources to promote self-protection.

The panorama described by our study is probably not exclusive to our region. Indeed, it is concordant with most of the data published at international level; although focused on incidents outside the hospital, such sources question the level of training of the personnel and the hospital centers themselves.[1–3]

In conclusion, we have demonstrated the imperative need to promote knowledge referred to training in self-protection measures. This in turn should serve as the basis for the development of educational programs, and for promoting greater knowledge of SPPs among the personnel working in ICUs, following the international technical recommendations of the World Health Organization (WHO) in this regard.

Annex. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.medine.2017.12.010.

References

1. King MA, Niven AS, Beninati W, Fang R, Einav S, Rubinson L, et al., on behalf of the Task Force for Mass Critical Care. Evacuation of the ICU: care of the critically ill and injured during pandemics and disasters: chest consensus statement. Chest. 2014;146 Suppl. 4:e44S–60S.
2. Cybulski P. Evacuation of a critical care unit. Dynamics. 2003;14:21–3.
3. Echevarría-Zuno S, Cruz-Vega F, Elizondo-Argueta S, Martínez-Valdés E, Franco-Bey R, Méndez-Sánchez LM. Atención en emergencias y desastres en las unidades de terapia intensiva del Instituto Mexicano del Seguro Social: triage y evacuación. Cir Cir. 2013;81:246–55.
4. Sánchez-Palacios M, Lorenzo-Torrent R, Santana-Cabrera L, Martín-García JA, Campos SG, Carrasco-de-Miguel V, Grupo de Trabajo del Plan de Autoprotección para el Servicio de Medicina Intensiva. Plan de evacuación de la unidad de cuidados intensivos: un nuevo indicador de calidad. Med Intensiva. 2010;34:198–202.
5. BOE n.° 269, noviembre de 1995. Ley 31/1995, de 8 de noviembre, de Prevención de Riesgos Laborales.
6. BOE de 23 de marzo; Real Decreto 393/2007, por el que se aprueba la Norma Básica de Autoprotección de los centros, establecimientos y dependencias dedicados a actividades que puedan dar origen a situaciones de emergencia.
7. Murphy GR, Foot C. ICU fire evacuation preparedness in London: a cross-sectional study. Br J Anaesth. 2011;106:695–8.