



## SCIENTIFIC LETTER

### Basic life support knowledge of the future of the Infant and Primary School teacher. An unresolved problem in university study plans?☆



### Conocimientos en soporte vital básico del futuro profesorado de Educación Infantil y Educación Primaria. ¿Una cuenta pendiente de los planes de estudios universitarios?

Dear Editor:

Training in contents related to basic life support (BLS) should start at an early age,<sup>1</sup> with schools being the ideal setting for the purpose.<sup>2</sup> Therefore, teachers, as the agents responsible for education and training in schools, should know specific protocols to be able to teach them to the student body and to apply them in the classroom should it ever be necessary. To assess whether future teachers are ready to respond in situations where knowledge of BLS protocols is needed, we developed a questionnaire for administration to university students.

The questionnaire comprised 21 close-ended questions arranged in 7 sections: (1) information about the participant; (2) previous training in first aid; (3) BLS algorithm; (4) cardiopulmonary resuscitation (CPR); (5) semiautomated external defibrillators; (6) foreign body airway obstruction (FBAO); (7) thoughts on which collectives should be trained in BLS and inclusion of first aid training in the school environment.

We received responses from 395 university students enrolled in bachelor's degree programmes in early childhood education (training future teachers of children aged 0–6 years) and elementary education (training future teachers of children aged 6–12 years) (supplementary material). Of the total, 226 participants (57.2%) studied early childhood education and 169 (42.8%) elementary education, and the distribution by academic year in the training curriculum was the following: year 1, 148 participants (37.5%); year 2, 72 (18.2%); year 3, 69 (17.5%); and year 4, 106 (26.8%). More than half of the sample (64.1%) reported having knowledge

of first aid, and 87 respondents (22.2%) had received this training more than 2 years ago.

In our sample, 215 respondents (54.4%) declared themselves capable of assisting an unconscious person. However, only 10 (4.7%) were able to correctly organize the sequence of steps in BLS. In addition, 185 students (46.8%) considered that they were able to perform cardiopulmonary resuscitation, but only 7 (3.8%) responded correctly to all the items related to the compression-ventilation ratio and the depth and frequency of compressions in cardiopulmonary resuscitation performed on a 6-year-old. None of the participants knew the guidelines established for infants aged less than 1 year, and as many as 28 of the students (7.1%) acknowledged not knowing what a semiautomated external defibrillator is.

Two students reported knowing absolutely nothing about the foreign body airway obstruction protocol. Another 235 (59.5%) responded that they would know how to handle this emergency, and 176 (74.9%) were able to state the correct order of steps in the algorithm.

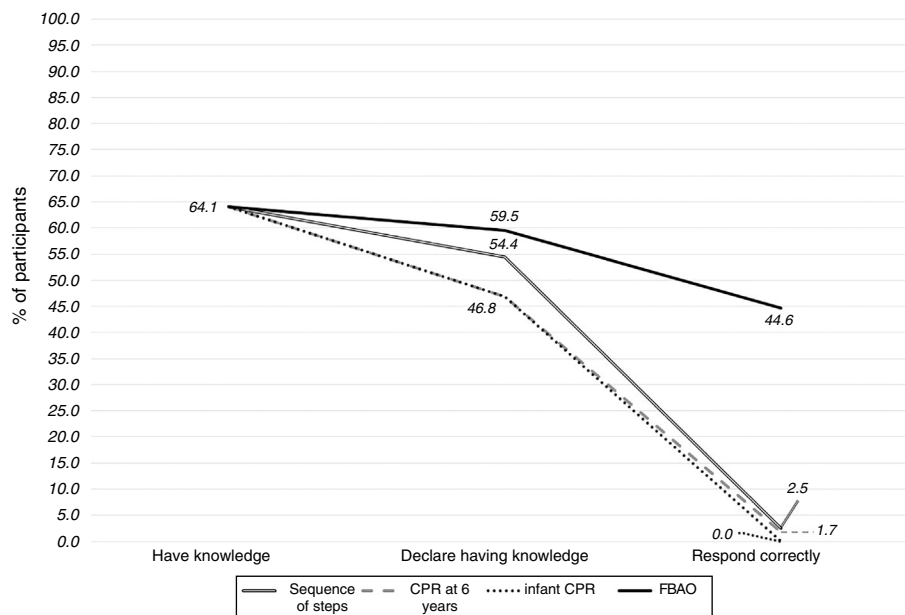
Fig. 1 shows the percentages of participants with first aid training (64.1%), who declared they knew how to act in the event of cardiac arrest and foreign body airway obstruction, and who answered questions related to these scenarios correctly.

The questionnaire also asked about which collectives the respondents considered should be trained in first aid. None of the students stated that first aid training should be restricted exclusively to health care professionals or individuals with a duty to act; 87.3% considered that the entire population should be trained in first aid, and 100% that this should be a mandatory part of school curricula.

Teachers are the main individuals in charge of classroom safety. Students, teachers and other staff in schools and universities are exposed to the same risks as the rest of the population.<sup>3</sup> Thus, it would be reasonable to consider whether teachers should not be a collective with the duty to act. The results of our study show that future teachers have little training in first aid.

A study conducted in 81 teachers found that a 2-hour training sufficed to significantly improve the response to cardiac arrest in a simulated scenario.<sup>4</sup> Regulatory bodies should seriously consider the inclusion of theoretical and practical contents on first aid and BLS in the university curriculum for future teachers of early childhood and elementary education. According to various international campaigns and guidelines, such as Kids Save Lives,<sup>5</sup> this would guarantee the presence of at least one first responder capable to manage an emergency, in addition to allowing the possibility of training students in every school year according to their level of psychomotor development.

☆ Please cite this article as: Abelairas-Gómez C, López-García S, Martínez-Isasi S, Carballo-Fazanes A, Rodríguez-Núñez A. Conocimientos en soporte vital básico del futuro profesorado de Educación Infantil y Educación Primaria. ¿Una cuenta pendiente de los planes de estudios universitarios?. An Pediatr (Barc). 2019;91:344–345.



**Figure 1** Percentage of participants that reported having training in first aid and those that correctly answered questions about BLS.

## Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.anpede.2018.10.013](https://doi.org/10.1016/j.anpede.2018.10.013).

## References

- Plant N, Taylor K. How best to teach CPR to schoolchildren: a systematic review. *Resuscitation*. 2013;84:415–21.
- Miró Ò, Díaz N, Sánchez M. Aprender reanimación cardiopulmonar desde la escuela. *Emergencias*. 2012;24:423–5.
- Lubrano R, Villani A, Cecchetti C, Veronelli P, Turbacci M, Bonci M, et al. Competence assessment of pre-elementary school teachers before and after a pediatric basic life support course for lay rescuers. *Am J Emerg Med*. 2014;32:187–9.
- Pichel López MP, Martínez-Isasi S, Barcala-Furelos R, Fernández-Méndez F, Santamariña DV, Sánchez-Santos L, et al. Un primer paso para la enseñanza del soporte vital básico en las escuelas: la formación de los profesores. *An Pediatr (Barc)*. 2018;89:265–71, <http://dx.doi.org/10.1016/j.anpedi.2017.11.002>.
- Semerano F, Wingen S, Schroeder DC, Ecker H, Scapigliati A, Ristagno G, et al. KIDS SAVE LIVES implementation in Europe: a survey through the ERC Research NET. *Resuscitation*. 2016;107:e7–9.

Cristian Abelairas-Gómez<sup>a,b,c</sup>, Sergio López-García<sup>d</sup>, Santiago Martínez-Isasi<sup>e</sup>, Aida Carballo-Fazanes<sup>a,\*</sup>, Antonio Rodríguez-Núñez<sup>a,b,f,g</sup>

<sup>a</sup> Grupo de Investigación CLINURSID, Departamento de Psiquiatría Radiología, Salud Pública, Enfermería y Medicina, Universidade de Santiago de Compostela, Santiago de Compostela, Spain

<sup>b</sup> Facultad de Ciencias de la Educación, Universidade de Santiago de Compostela, Santiago de Compostela, Spain

<sup>c</sup> Instituto de Investigación Sanitaria de Santiago de Compostela (IDIS), Santiago de Compostela, Spain

<sup>d</sup> Facultad de Ciencias de Educación, Universidad Pontificia de Salamanca, Salamanca, Spain

<sup>e</sup> Departamento de Ciencias de la Salud, Facultad de Enfermería y Podología, Universidade da Coruña, Ferrol, A Coruña, Spain

<sup>f</sup> Servicio de Críticos y Urgencias Pediátricas, Hospital Clínico Universitario de Santiago de Compostela, SERGAS, Santiago de Compostela, Spain

<sup>g</sup> Facultad de Enfermería, Universidad de Santiago de Compostela, Santiago de Compostela, Spain

\* Corresponding author.

E-mail address: [aidacarballofaz@gmail.com](mailto:aidacarballofaz@gmail.com)

(A. Carballo-Fazanes).

2341-2879/

© 2019 Asociación Española de Pediatría. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).