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# Resuscitation

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## Letter to the Editor

# Is it necessary to see to save a life? Pilot study of basic CPR training for blind people



Sir,

The European Resuscitation council urges the basic life support (BLS) training of the entire population because of the benefits of a quick response in a cardiac arrest scenario<sup>1,2</sup>. It is estimated that early basic life support (BLS), performed to lying people can triple the chances of survival of victims of cardiac arrest, especially if an AED is used in the first 3–5 min<sup>3</sup>. Blind people are particularly sensitive to helping others and they should be considered as any other citizen who might learn BSL techniques and perform them. Our research question was if it was strictly necessary to see in order to save a life. Therefore, the aim of this trial was to evaluate the capacity of learning BLS by blind people.

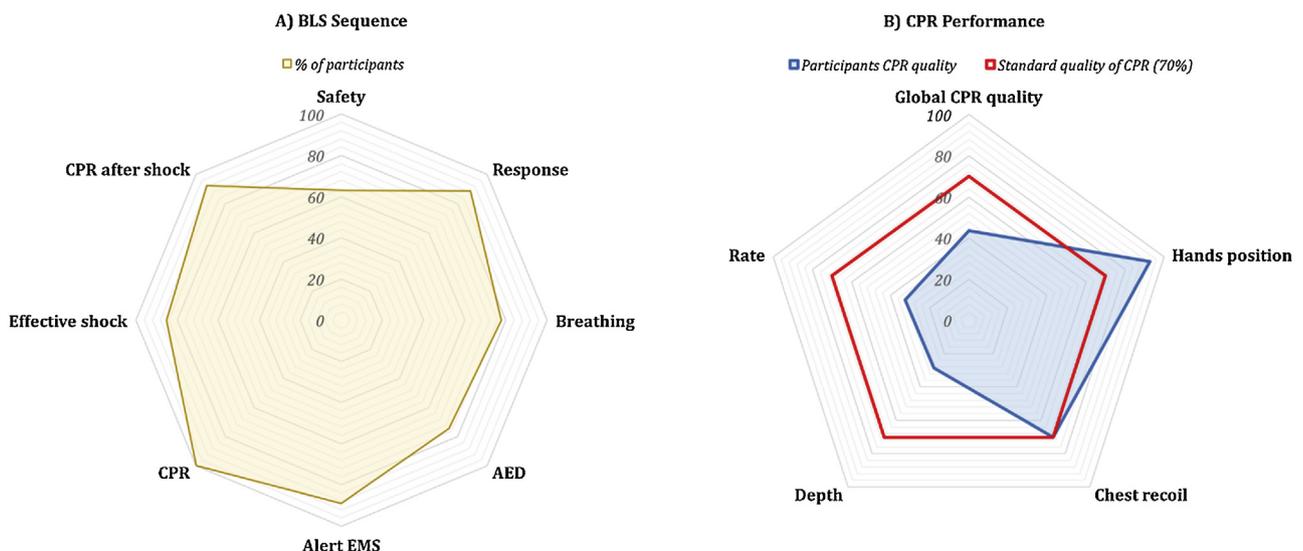
Twenty-seven blind volunteers participated in this study. All of them were trained in BLS for an hour. This training was adapted to their conditions and needs, in which they were taught concepts associated with chain of survival, BLS sequence and hands-on training in compression-only cardiopulmonary resuscitation (CPR) and AED. After the training, participants had to solve an out-of-hospital cardiac arrest simulated scenario. BLS sequence was evaluated with a checklist (performed properly/performed with errors/not performed), CPR quality was assessed with a manikin able to provide real-time

feedback and time from the arrival of the AED to shock was also measured as well as whether participants had delivered an effective or non-effective shock.

Fig. 1 shows the percentage of participants who performed properly the steps of the BLS sequence (A) and the CPR quality (B). Only the first step of the sequence (check safety) was performed by less of the 70% of the participants (63.0%). All of the participants started CPR and 20 out of 27 (74.1%) could give an effective shock in a mean time of  $65 \pm 27$  s.

In the case of CPR performance, poorer results were achieved. Six participants (22.2%) were able to compress between 100–120 com/min and 50–60 mm of depth (mean rate:  $124 \pm 15$  com/min; mean depth:  $43 \pm 19$  mm). Only the percentages of correct chest-compressions by full recoil and hand-position were over 70% of quality.

There are significant degrees of blindness (total vs partial blindness) in the mean percentage of blind people who placed their hands correctly ( $76.9 \pm 33.8$  vs  $99.2 \pm 3.2\%$ ;  $p = 0.018$ ) and previous training (four people) vs non previous BLS training in percentage of correct depth ( $82.2 \pm 31.5$  vs  $19.3 \pm 31.6$ ;  $p = 0.001$ ) and the mean depth ( $55.2 \pm 6.7$  vs  $40.5 \pm 12.7$  mm;  $p = 0.009$ ).



**Fig. 1 – Completion percentage of BLS steps the CPR quality.**

In this research, blind people were able to solve an out-of-hospital cardiac arrest scenario after a training with minimum changes from a training session designed for people without disability. Regarding to CPR performance, this type of training and its duration (one hour) were not enough to achieve a good percentage of correct chest compression. More efforts are needed to create effective trainings and programs aimed to people with visual impairment and blindness, which would contribute to enhance their self-esteem and social inclusion.

## Conflict of interest

All other authors have no conflicts of interest related.

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Santiago Martínez-Isasi  
*Research, Health and Podiatry Unit, Department of Health Sciences,  
 Faculty of Nursing and Podiatry, Universidade da Coruña, Campus de  
 Esteiro, Ferrol, Spain*

Cristian Abelairas-Gómez<sup>a,b,c,\*</sup>  
<sup>a</sup>*Institute of Health Research of Santiago (IDIS), Spain*

<sup>b</sup>*CLINURSID Research Group, Universidade de Santiago de  
 Compostela, Spain*

<sup>c</sup>*Faculty of Educational Sciences, Universidade de Santiago de  
 Compostela, Santiago de Compostela, Spain*

Felipe Fernández-Méndez<sup>a,b</sup>  
<sup>a</sup>*University School of Nursing, University of Vigo, Pontevedra, Spain*

<sup>b</sup>*REMOSS Research Group, Universidade de Vigo, Pontevedra,  
 Spain*

Roberto Barcala-Furelos<sup>a,b</sup>  
<sup>a</sup>*REMOSS Research Group, Universidade de Vigo, Pontevedra,  
 Spain*

<sup>b</sup>*Faculty of Education and Sport Sciences, Universidade de Vigo,  
 Pontevedra, Spain*

Cristina Jorge-Soto  
<sup>CLINURSID Research Group, School of Nursing, Universidade de  
 Santiago de Compostela, Santiago de Compostela, Spain</sup>

Candela Gómez-González  
<sup>Instituto de Investigación Biomédica de A Coruña (INIBIC), Complejo  
 Hospitalario Universitario de A Coruña, SERGAS, Universidade da  
 Coruña, A Coruña, Spain</sup>

Antonio Rodríguez-Nuñez<sup>a,b</sup>  
<sup>a</sup>*CLINURSID Research Group, School of Nursing, Universidade de  
 Santiago de Compostela, Santiago de Compostela, Spain*

<sup>b</sup>*Paediatric Emergency and Critical Care Division, University Clinical  
 Hospital of Santiago, Universidade de Santiago de Compostela,  
 Santiago de Compostela, Institute of Health Research of Santiago  
 (IDIS), Spain*

\* Corresponding author at: Faculty of Education Sciences,  
 Universidade de Santiago de Compostela. Avda Xoan XXIII, s/n.  
 15782 - Santiago de Compostela, A Coruña, Spain.  
 E-mail addresses: [santiago.martinez.isasi@udc.es](mailto:santiago.martinez.isasi@udc.es)  
 (S. Martínez-Isasi) [cristianabelairasgomez@gmail.com](mailto:cristianabelairasgomez@gmail.com)  
 (C. Abelairas-Gómez).

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