

EVIDENCE-BASED GUIDELINES FOR DEVELOPING FIRST AID EDUCATIONAL MATERIALS GEARED TOWARDS SCHOOL CHILDREN: INVOLVEMENT OF A MULTIDISCIPLINARY EXPERT PANEL

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INTRODUCTION

- Teaching children life-saving first aid techniques, such as the **use of an automated external defibrillator (AED) can prepare them to save lives** when necessary.
- The Youth Department of Belgian Red Cross-Flanders continuously develops first aid educational materials geared towards children and young people of different ages (6-18 years).
- Belgian Red Cross-Flanders bases all its activities and publications upon scientific evidence, using Evidence-Based Practice.

METHODS

1. EVIDENCE REVIEW AND SUMMARY

- PICO question: Are children of different ages (P) able/willing to use an automated external defibrillator (O) after a training (I) compared to another/no training (C)?
- Search strategy:
 - › Electronic databases: The Cochrane Library, MEDLINE (via PubMed interface), Embase (via Embase.com); searched from inception of database until end of December 2011;
 - › Search terms: ('resuscitation' OR 'first aid' OR 'defibrillators') AND ('child' OR 'adolescent' OR 'young adult') AND ('education').
- Study designs included: experimental and observational studies
- The level of the body of evidence was graded using the GRADE-approach (www.gradeworkinggroup.be).

2. GUIDELINE DEVELOPMENT

- A multidisciplinary guideline development group (composition shown in **Figure 1**), formulated critical feedback on the best available scientific evidence.
- Practical experience and expert opinion in consideration of educational, physiological and psychological aspects, were added to the evidence conclusions (reflected in **Figure 2**).
- With group consensus, a set of evidence-based recommendations were developed.

RESULTS

1. EVIDENCE REVIEW AND SUMMARY

- Five studies (1 RCT, 2 non-RCT, 2 observational) were included in the summary on skills and performance¹⁻⁵; 2 surveys answered the question regarding willingness to participate⁶⁻⁷.
- Children can be taught AED skills, based upon experimental studies and supported by observational studies.
- Only a small portion of children were willing to use an AED (as evidenced from surveys).
- Quality of the body of evidence ranged from low (skills) to very low (willingness).

2. GUIDELINE DEVELOPMENT

- Eight recommendations were formulated by the guideline development group concerning AED-training for children and young people (example in **Table 1**).

DISCUSSION

- Belgian Red Cross-Flanders has developed a tool to make implementation of the AED program within schools easy and effective.
- The Youth Department of the Red Cross-Flanders created comprehensive first aid educational materials and developed objectives for each age group, based on the evidence-based recommendations.
- To implement the developed recommendations, youth leaders and school staff need to be properly educated in first aid materials and techniques.

OBJECTIVES

- To develop evidence-based guidelines which form the basis for **educational first aid materials** for children and young people of different ages (6-18 years).
- The emphasis was on the creation of an AED training.

FIGURE 1:

Composition of the guideline development panel



FIGURE 2:

A pictographic representation of the development of the evidence-based AED school program guidelines, created in Wordle. (www.wordle.net)



TABLE 1:

Evidence-based recommendation, formulated after discussion with the guideline development group

In primary school, children can be taught to recognize the symbol of an AED and become aware of its function by listening to it. The application of an AED should only be taught after a complete cardiopulmonary resuscitation training.

References: 1. Reder et al., Resuscitation. 2006;69(3):443-53, 2. Younas et al., Resuscitation. 2006;71(2):222-8, 3. Gundry et al., Circulation. 1999;19;100(16):1703-7, 4. Fleischhackl et al., Crit Care. 2009;13(4):R127, 5. Lawson et al. Prehosp Emerg Care. 2002;6(3):295-8, 6. Taniguchi et al., Resuscitation. 2008;79(2):288-91, 7. Hubble et al., Prehosp Emerg Care. 2003 Apr-Jun;7(2):219-24.

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