Developing evidence-based first aid educational materials for children in sub-Saharan Africa

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Jorien Laermans – Researcher Centre for Evidence-Based Practice (CEBaP)
First Aid
First Aid

1. Did you ever deliver first aid in a public area?

2. Do you know where you can find the first aid kit at your workplace?

3. Did you ever witness a child delivering first aid to someone else?
First Aid education

Red Cross & First Aid
- Why First Aid?
- BRC First Aid programmes

BRC-FI Programmes
- Use of contextualised material for adults
- Capacity building programmes
- First Aid youth material

Challenges
- First Aid in the curriculum
Why First Aid?

- Core business
- 191 National Societies over the world
- Last mile – volunteers in the community

- First aid training: low-cost opportunity to decrease the burden of disease and injury in sub-Saharan Africa (World Bank)
Belgian Red Cross & First Aid

- National expertise
- Development of International First Aid and Resuscitation guidelines with International Federation of Red Cross and Red Crescent Societies
Belgian Red Cross First Aid programmes

✚ Contextualised first aid material

Africa

Nepal

India
Use of contextualised first aid material
African First Aid Materials (AFAM)

Contextualised material
- AFAM guidelines are preliminary developed for Africans by Africans
- Focus on up-to-date first aid techniques and injury/disease prevention advice
- Content adapted to the context

- Put on gloves or cover your hands with clean plastic bags.
- Remove any clothing and jewellery, but only if these are not stuck to the skin.
- You can put cold liquid honey on the burn. This prevents infection and helps the wound to heal. Alternatively, you can also use aloe vera.
African First Aid Materials (AFAM)

- Conditions are classified according to the most important signs for easy recognition
- Instructions are simple
- Simple and clear drawings that are easy to copy
- Texts and African illustrations including youths, adults and elderly people from multiple ethnic and religious backgrounds
- In English, French, Portuguese & Swahili

Eye injury

What do you do?

Rinse out the eye straight away with preferably clean water. Do this for 10 - 15 minutes, from the nose outwards so that none of the liquid runs out from one eye into the other.
African First Aid Materials (AFAM)
African First Aid Materials (AFAM)

- Make your own material

Develop your own first aid training materials with AFAM
- Digital text
  - High quality images
  - Ready to use
  - Flexible

- Teaching skills/didactics = skill development
African First Aid Materials

+ Capacity building

- Training Masters
- Material
- Institutional development
African First Aid Materials for children?
First aid educational materials for African children
5-year-old boy saves parents who overdosed on heroin, police say

By Carma Hassan, CNN  Updated 0227 GMT (0027 HKT) May 19, 2017

Why?

Only 17 and already saved a life thanks to first aid course in school

Mom Collapses - Son Alerts Ambula

Jalyn Emmon, of Saratoga Springs, Utah, had just gotten off the phone with her husband, Tyson -- stationed hundreds of miles away at Army Reserve HQ, when she felt her heart racing. The mom, who was at home with her two 4

A Four-Year-Old Boy Used Siri to Save His Unconscious Mother's Life

Boy, 12, who begrudgingly attended a CPR class saves sister's life

Only 17 and already saved a life thanks to first aid course in school
What?

+ Which first aid topics should be taught?
+ At what age?
+ Which educational methods are effective?
+ Which educational materials should be used?
Evidence-Based Practice in Belgian Red Cross

Belgian Red Cross

Blood Service

Humanitarian Services

Domestic

International

Scientific support by Centre for Evidence-Based Practice of the Belgian Red Cross
How?
Principle of Evidence-Based Practice

BEST AVAILABLE SCIENTIFIC EVIDENCE

PREFERRED AND AVAILABLE RESOURCES OF THE TARGET GROUP

PRACTICAL EXPERIENCE
AND EXPERTISE OF EXPERTS IN THE FIELD
Best available scientific evidence

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Defining research question</td>
</tr>
<tr>
<td>2.</td>
<td>Developing a search strategy</td>
</tr>
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<td>3.</td>
<td>Selection of articles</td>
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<td>4.</td>
<td>Data extraction</td>
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<td>5.</td>
<td>Quality assessment</td>
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<td>6.</td>
<td>Data synthesis</td>
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</table>
At what age are children able to obtain a specific knowledge item, skill or attitude concerning a certain first aid topic?
First aid topics

+ General
+ Four main steps in first aid
+ Resuscitation
+ Choking
+ Skin wounds
+ Burns
+ Bleeding
+ Injuries to bones, muscles and joints
+ Poisoning

Database searching

11 446

Studies included

57
Educational pathway in first aid

+ Overview of objectives to be achieved throughout different educational levels (preschool, primary school, secondary school)

+ Key concepts presented repeatedly throughout the curriculum, with deepening layers of complexity
Educational pathway in first aid

Based on the spiral approach of learning:

- Basic facts of a subject are learned first, without worrying about the details
- As learning progresses, more and more details are introduced
- Focus on re-emphasis to help them enter into the long-term memory
# Educational pathway on first aid

## BURNS

### Knowledge

<table>
<thead>
<tr>
<th>The children:</th>
<th>5-6 yrs</th>
<th>7-8 yrs</th>
<th>9-10 yrs</th>
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<th>13-14 yrs</th>
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<td>E</td>
<td>K</td>
<td>R</td>
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### Skills

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### Attitudes

*See educational pathway General > Attitudes*

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Objectives to be achieved at the level of knowledge, skills and attitudes.
# Educational pathway on first aid

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Question 2

Which educational interventions are effective?
Effective educational interventions

1. Provision of instructional materials
   (e.g. flipcharts, textbooks)

2. Use of alternative pedagogical methods
   (e.g. problem-solving method of teaching, cooperative teaching, constructivist teaching, guided inquiry teaching, small-group instruction)

3. Structured pedagogy interventions
   (structured lesson content + teacher training in delivering the new content + instructional materials for students and teachers)
“information is not knowledge and data without context is just organized information.”

Albert Einstein
Principle of Evidence-Based Practice

- Best available scientific evidence
- Preferences and available resources of the target group
- Practical experience and expertise of experts in the field
Practice experience & target group preferences
Expert panel meeting Johannesburg Nov 2017
Input experts: educational pathway - content

+ Additional topics:
  - Stings and bites
  - Fever (general knowledge)
  - Diarrhoea (general knowledge)
  - Fits (general knowledge)
  - Disaster principles and risk awareness

+ Additional interventions:
  - Splinting
  - Plastic bags instead of gloves

http://www.thehindu.com/todays-paper
Input experts: educational pathway - context

- Seeking help from a medical care provider
  - Attained at a later age
  - Keep repeating until 18 years of age

- Hand washing
  - Keep repeating until 18 years of age

- Touching an unknown person
  - Objective removed due to possible unsafety for the child

- Burns
  - Generally caused by fire and hot water; children should be aware of the danger at very young age
Educational pathway on first aid
Input experts: educational methods
Input experts: educational materials

5-8 years

- Storytelling: 2
- Game: 1
- Song: 3

9-12 years

- Game: 2
- Case study: 1
- Role-play: 3

13-18 years

- Flip chart: 2
- Role-play: 1
- Case study/video/manikin: 3
Current and future steps of the project

➡️ First aid educational materials for children aged 12-16 years

African experts: contextualize photographs & lay-out
Current and future steps of the project

- Validation by expert panel
  - Meeting September

- Pilot in Zimbabwe and Burundi
  - Train the trainer
  - Trainer teaches first aid to children
    → Impact on learning?
    → Usability of the materials?

- By January 2019: materials available
International Cooperation Belgian Red Cross
An Vanderheyden – Delegate at Tanzania Red Cross
Acknowledgements: expert panel

Heike Geduld (chair)
Education and Training, Emergency Medicine, Western Cape EMS, Division of Emergency Medicine, University of Cape Town and Stellenbosch University, South Africa

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Challenges

Introducing First Aid in school curricula

Flanders, Belgium

- First aid is introduced in the curriculum with clearly defined competences to be achieved at the end of secondary school
- The curriculum is guided by the educational pathway
- Training of school teachers
Challenges

Introducing First Aid in school curricula

+ Zimbabwe
  • Disaster Risk Management training in schools recently included in the new curriculum of the Ministry of Primary and Secondary Education
  • Zimbabwe Red Cross Society started training the schoolteachers in First Aid
Discussion: Introducing First Aid in school curricula

1. Good practices for introducing First Aid into the school curriculum?
2. Education & Health: what are your experiences in the field?