Burn Prevention in South Africa

20 September 2013
Global Summit on Child Injury Prevention

Sebastian van As

Red Cross War Memorial Trauma Unit
Children’s Hospital
University of Cape Town
South Africa
Purpose

1. Provide background on Childhood Trauma

2. Overview of Childsafe South Africa’s

3. Burn Prevention in Africa
Africa

- 2nd biggest Continent
- 1 Billion people
- 600 million children
South Africa

- Approximately 53 million people
- Approximately 20 million children
World report on child injury prevention

WHO

TRAUMA NUMBER 1 KILLER IN 2020
Deaths of children 1-4 years
Main killers of children (1-18 years)

1. **Motor vehicle accidents**
   - Pedestrian (80%)
   - Passengers (20%)

2. **Drowning**

3. **Burns**
Childhood burns...
Annually 6500 children (1-14y) **die** as a result of unintentional injuries.
Burden of Injury in the U.S., 2006

- Deaths: 179,065
- Hospital Discharges: 2,968,000
- Emergency Department Visits*: 42,400,000
- Episodes of Injuries Reported: 93,566,000

Vision

"To create a safer world for children"
History

- Child Accident Prevention Foundation of Southern Africa (CAPFSA) since 1978

- Started by Professor Cywes
  Head of Pediatric Surgery:

- Accidents an important cause of child admissions to hospital
Childsafe South Africa

Cape Town Office
Resource Centre

1. Research

2. Education

3. Advocacy

Gauteng Office

Kwazulu Natal
Programs

1. Research
   - Maintaining largest single-centre database on child trauma globally

2. Education
   - Numerous educational programs

3. Advocacy
   - Media, Government, International
Magnitude of the Problem

- World a dangerous place for children
- Even more so the poor countries

- Child growing up in Cape Town
  
  **25 times** more likely to be admitted to hospital with an injury as a child in Birmingham (UK)
Red Cross New Trauma Unit
Numbers

- Approximately 10 000 children annually
- Approximately 1000 admissions
Causes of Trauma Unit attendance
Childhood burns at Red Cross
Burns  (n = 7 241)

- Fluids   72%   53%
- Flame    12%   40%
- Heat     8%    2%
- Chemical 4%    0%
- Electric 1%    1%

Severe Burns & Deaths
Global Fire-related Burn Mortality

Fire-related burn mortality rates (per 100,000 population) in WHO regions, 2000

<table>
<thead>
<tr>
<th>Region</th>
<th>LMIC</th>
<th>HIC</th>
<th>LMIC</th>
<th>HIC</th>
<th>LMIC</th>
<th>HIC</th>
<th>LMIC</th>
<th>HIC</th>
<th>China</th>
<th>Other LMIC</th>
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<td>5.5</td>
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<td>1.17</td>
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<td>Eastern Mediterranean</td>
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<td>Western Pacific</td>
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<td>2.0</td>
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HIC, High-income countries; LMIC, Low- and middle-income countries.
Childhood fire-related deaths

Mortality rates due to fire-related burns per 100,000 children by WHO region and country income level, 2004

<table>
<thead>
<tr>
<th>Region</th>
<th>LMIC</th>
<th>HIC</th>
<th>LMIC</th>
<th>LMIC</th>
<th>HIC</th>
<th>LMIC</th>
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</thead>
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<tr>
<td>Africa</td>
<td>8.7</td>
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<td>0.6</td>
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<td>Europe</td>
<td>4.4</td>
<td>1.3</td>
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<td>Western Pacific</td>
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</tbody>
</table>

Note: These data refer to those under 20 years of age.

HIC = High-income countries; LMIC = low-income and middle-income countries.

<table>
<thead>
<tr>
<th>Rank</th>
<th>&lt;1</th>
<th>1-4</th>
<th>5-9</th>
<th>10-14</th>
<th>Overall ranking</th>
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<tbody>
<tr>
<td>1</td>
<td>Burns 25</td>
<td>Pedestrian 88</td>
<td>Pedestrian 173</td>
<td>Pedestrian 80</td>
<td>Pedestrian 349</td>
</tr>
<tr>
<td>2</td>
<td>Abandon. baby 23</td>
<td>Drowning 85</td>
<td>Drowning 44</td>
<td>Firearms 37</td>
<td>Drowning 170</td>
</tr>
<tr>
<td>3</td>
<td>Suffocation 9</td>
<td>Burns 72</td>
<td>Burns 33</td>
<td>Burns 35</td>
<td>Burns 165</td>
</tr>
<tr>
<td>4</td>
<td>Blunt 9</td>
<td>Passenger 32</td>
<td>Passenger 21</td>
<td>Passenger 34</td>
<td>Passenger 94</td>
</tr>
<tr>
<td>5</td>
<td>Drowning 7</td>
<td>MV unspec. 28</td>
<td>MV unspec. 28</td>
<td>Drowning 34</td>
<td>MV unspec. 72</td>
</tr>
<tr>
<td>Total deaths#</td>
<td>120</td>
<td>411</td>
<td>364</td>
<td>343</td>
<td>1238</td>
</tr>
</tbody>
</table>
Why is there such a high incidence in the developing world?

**Industrialized countries**
- Construction codes
- Smoke alarms
- Emergency responses
- Public education
- Sprinkler systems

**Developing world**
- Low socio-economics
- Substandard housing
- Overcrowding
- Lack of electricity
- Unsafe cooking facilities
Burn injuries are a public health issue
CHILDHOOD BURN RISK FACTORS

- Socio-demographic variables
- Household & neighborhood factors
- Lack of comprehensive burn risk research
Facets of Education

- Vulnerable groups
- Publicity campaigns
- School education
- Focused educational messages
- Policy makers & others
Practical emergency measures
ENVIRONMENTAL AND PRODUCT MODIFICATION

- Design of products
- Home environment- Smoke detectors & hot water cylinders
- Safe housing standards
- Electrification
LEGISLATION AND ENFORCEMENT

- Flammability of toys
- Electrical appliances
- Safety of liquefied petroleum
- Fire fighting equipment
- Fire resistant clothes
- Smoke detectors
- Geyser temperature
- Standards for paraffin appliances
Candle-in the- Jar Project
Example of Community-based intervention
Urbanization

In South Africa:

1900: 10% Urban
2000: 60% Urban

50% of “newly” urbanized population in so-called “informal settlements” predominantly in wooden housing
Two main causes of shack fires:
- Fallen candles
- Paraffin appliances
- Children victims: severe burns
- In 2005: 6000 shacks destroyed
Dorothy Schulman, 
retired nurse and Childsafe volunteer

- Prevention of fires:
  - Fill jar 1/3 full of sand
  - Place candle in a jar to stand upright
  - Light candle
Glass Jar

1. Enhances light

2. Prevent flame from being blown out by wind or draught

3. Sand makes candle stand more stable

4. Sand extinguishes flame when thrown over
Community based prevention programs

- Simple
- Cheap
- Easy to implement

Involving:
- Community leaders
- Health care clinics
- Churches
- NGO’s
- Schools
- Emergency Services
- Firemen
Burn prevention programs

- Emergency Services –
  - Fire & Life safety education

- Children of Fire
  - educational programmes
    (Secondary & tertiary prevention)

- ESKOM – Education on safe use of energy

- World Burns Foundation of SA- burn camps for victims
Safe Candle Project
Prevention program to be successful needs:

• Ownership, leadership, advocacy
• Adapt to local/national circumstances
• Community, interest, participation and promotion of programs
Growing Safely

Watch that child: children are not small adults

0 to 6 months
- Wakes: 100% protection
- Falls over
- Reaches for objects
- Puts objects in mouth

- Car safety seats for children face to the back of the car.
- Monitor safety for older children.

6 months to 1 year
- Sits up
- Crawls
- Pulls up to stand
- Takes first steps when holding on

- Use car safety seat properly for every step.
- Use gates around stairs.

1 to 2 years
- No idea of danger
- Walks and climbs
- Turns and bends around
- Imbibes

- Be careful when you are in the floor.
- Keep children safe near water.

2 to 3 years
- Quick and unpredictable
- Adventure
- Jumps
- Runs
- Climbs

- Keep children away from stairs.
- Keep children away from dangers.

3 to 6 years
- Fearless
- Explores with little thought of danger
- Fast
- Sharp

- Watch that child near water.
- Teach children.

Child Safety Poster
Award in Mexico 2008
6 months to 1 year

- Sits up
- Crawls
- Pulls up to stand
- Takes first steps when holding on

Keep electric cords out of reach.
Childsafe Burn Prevention Poster 2010
Access to vaccines expanded

National distribution of two vaccines against pneumonia and diarrhoea will be possible soon

Belinda Beresford

Thousands of South Africa’s poorer children will be saved from death by dehydration or suffocation when vaccines against two of the biggest childhood diseases become available in the public sector next month.

The Eastern Cape is due to start providing children with pneumococcal conjugate (PCV-7) and the RotaTeq vaccines from September.

From April next year the vaccines will be added to the government’s childhood vaccination schedule, according to Biovac, the public-private partnership set up to facilitate use of vaccines in South Africa.

PCV-7 protects children against pneumococcal disease caused by the pneumococcus bacterium, globally the world’s single biggest cause of untreatable cause
disease thought to affect almost every child on the globe before the age of three. Respiratory and diarrhoeal disease are the two biggest killers of children worldwide.

Morena Makohana, deputy chief executive of Biovac, said South Africa will be the first African country to purchase these two vaccines for national distribution. “It’s exciting; more vaccines means more lives are going to be saved.”

Both vaccines have been available to South Africans who could afford them for some time, but their prohibitive cost has kept them out of the public sector. RotaTeq was registered for use in the United States in 2000 and the PCV-7 in 2006.

Key to the government’s decision to provide the vaccines will be a lower price, but Wveth, which owns

Vaccines can spare children the cognitive and physical impairment caused by pneumococcal disease and cut transmission of drug-resistant pathogens caused by inadequate treatment.

The impact of the vaccines will also be felt by adults. “You vaccinate the small ones, but the ripple effect goes through to the older people,” said Makohana. Vaccinating enough children leads to “herd immunity” where even those who are not vaccinated will not contract the disease.

Harvard professor David Bloom who gave lectures in South Africa on the economic benefits of vaccination this month, said that preventable diseases are a drag on the economy.

Bloom said vaccination should be seen “not just as a cost but as an economic generating investment”. Rather than just using moral, legal

- But where is child accident prevention??
Child Safety starts with all of us!

Our world is created mainly by adults for adults and children often get a hard deal!
Prevention is SO MUCH better than cure!
Nelson Mandela

The success of our society should be measured in the health of its children...

...our greatest assets and hope for the future.
Thank you!