

# Safety measures during cooking to prevent unintentional childhood scald burns in Mwanza, Tanzania

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# Introduction

- Globally: 265,000 burns annually;
- 95% in low- and middle-income countries (LMIC's);
- In Africa: major cause of disfigurement, prolonged hospital stay, disability and death;
- In Sub-Saharan Africa: Annual mortality children <5 18,000-30,000



# Literature Review

- Tip of the iceberg;
- Children <3, scalds predominant;
- Lack of burn centers →disfigurement, disability and death;
- Burns ↔ socio-economic status;
- Evidence prevention strategies can work;
- LMIC's: modifiable environmental risk factors;
- Harmful pre-hospital local treatment.

WHO, 2008; Atiyeh et al., 2009; Outwater et al., 2013; Mashreky et al., 2009; Chalya et al., 2011; Unpublished data STRRH, 2015

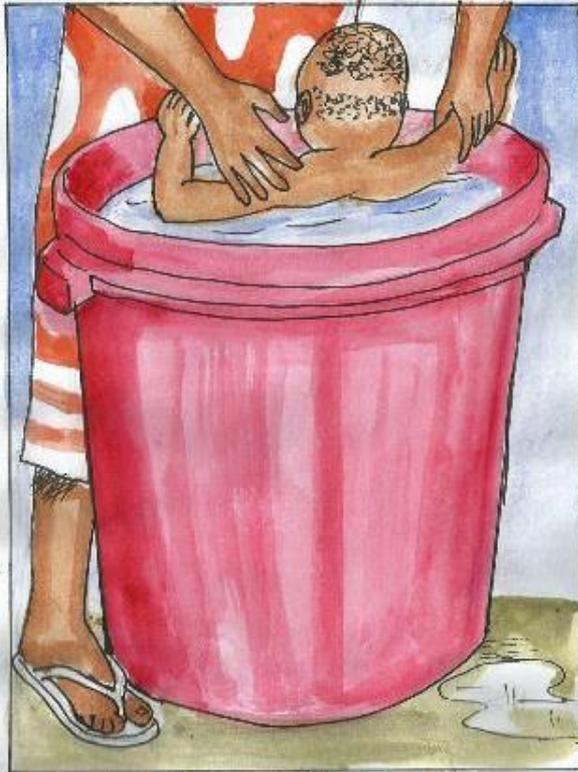
# Modifiable Environmental Risk Factors



# Harmful Pre-hospital Treatment



# Appropriate First Aid for Burns



1. Poza kidonda na maji ya baridi kwa robo saa



2. Fureka kidonda na kitambaa safi



3. Mpeleke mtoto hospitali kupata matibabu sahihi

# Problem Statement

- Public health problem;
- Urbanization increases risk of burn injuries;
- Burns are preventable, but lack of burn injury prevention strategies in Tanzania.

## Rationale

Identifying safety measures at home can provide possible interventions to develop childhood burn prevention strategies in Tanzania.

# Methodology

- Study area: Mwanza City;
- Study population: Caregivers of burn victims and burn care providers;
- Study design

Descriptive cross-sectional study providing a mix of qualitative and quantitative data

1. Semi-structured questionnaires;
2. Semi-structured interviews;
3. In-depth interviews during home visits and taking pictures of safety measures used.

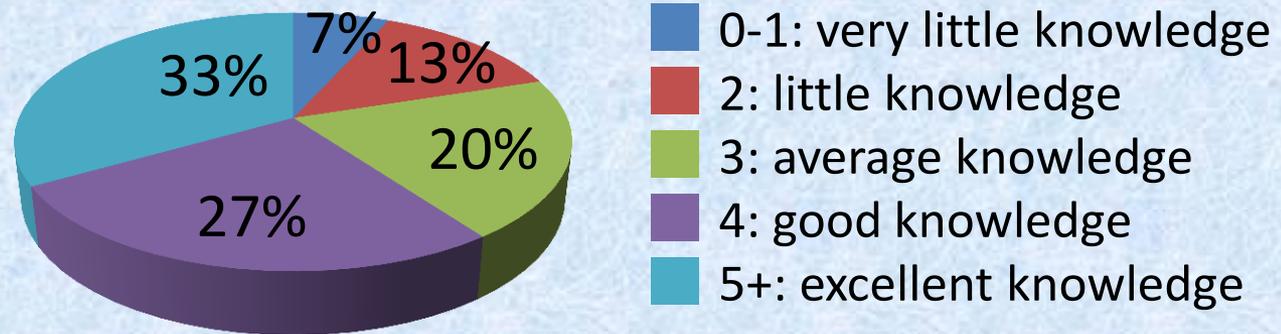
# Results:

## Characteristics Caregivers (n=91)

- 89 mothers and 2 grandmothers
- Education: Primary (70.3%) Secondary (29.7%)
- Water: Yes (36.3%) No (63.7%)
- Electricity: Yes (57.1%) No (42.4%)
- Rooms: 1 (23.1%) 2-3 (50.5%) 4 or more (26.4%)
- Density per room: 1-2 (58.2%) 3-4 (36.3%) 4-5 (5.5%)

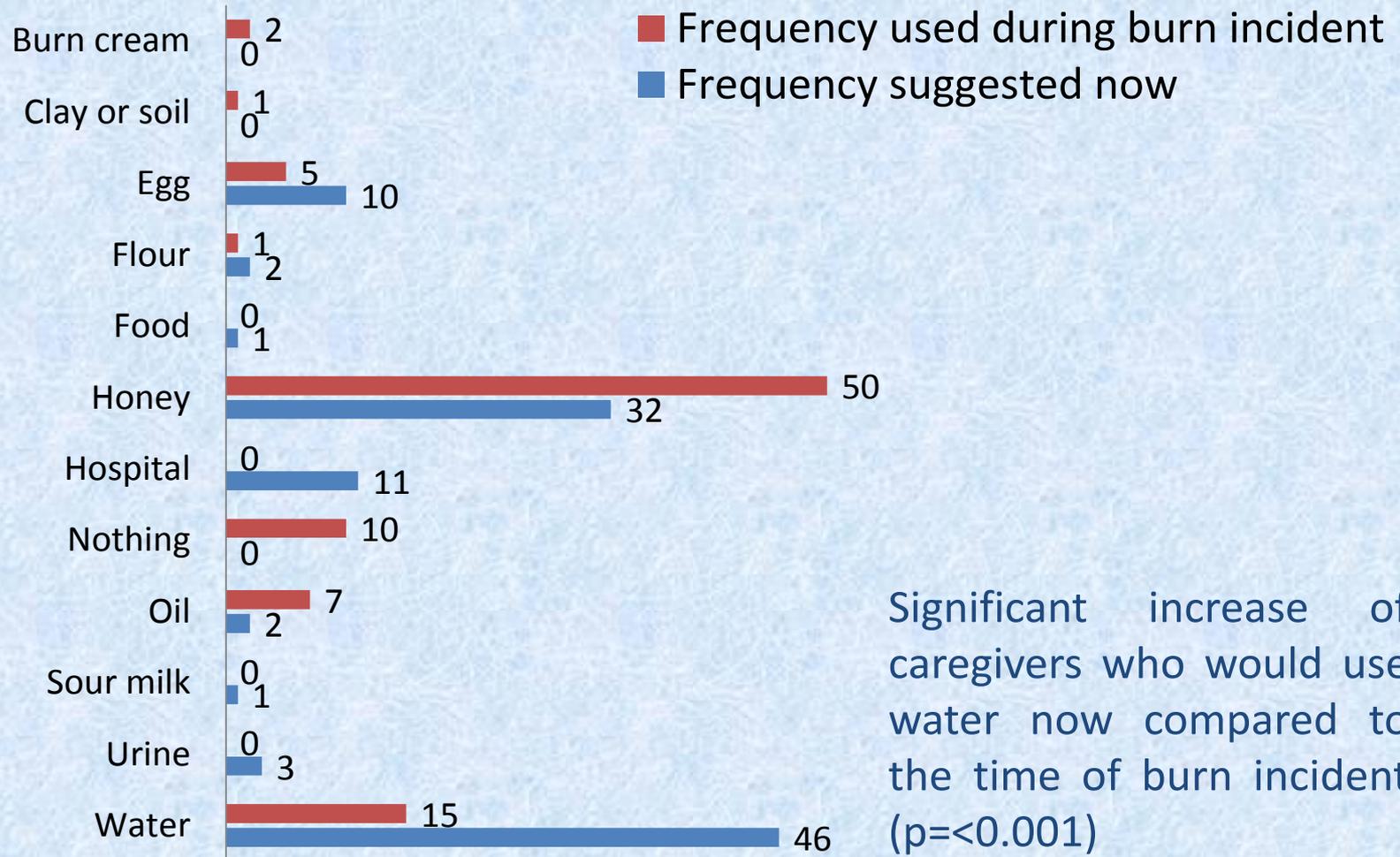
# Results: KAP Caregivers

- Knowledge: Number of safety measures mentioned



- Attitude: Preventable (90.1%)
- Practice:
  - ‘Keeping children far’ (47.4%)
  - ‘Cooking out, children in’ (15.0%)
  - ‘Being more careful’ (13.5%)
  - ‘Carry child on back’ (11.3%)

# Results: First Aid for Burns (Secondary Prevention)



Significant increase of caregivers who would use water now compared to the time of burn incident ( $p < 0.001$ )

# Results: Burn Care Providers

- Similar safety measures;
- New safety measures:
  - Feeding children early
  - Provide safe play area
  - Forbid to cook inside
- Strategies
  - Media
  - Health Education in Clinics
  - Community Education
  - Education in Schools

# Discussion

- KAP of caregivers positive compared to other studies:
  - 83 caregivers (91.2%) believe ‘burns are preventable’
  - 72 caregivers (80.0%) mentioned 3 or more safety measures
  - 46 caregivers (50.5%) would use ‘water’ now as first aid agent
- Biased population but encouraging for future prevention initiatives

# Discussion *cont.*

## Intervention strategies:

- Education (who and what);
  - Active: educating individual (host) to modify agents and environment (e.g. mud barrier)
- Engineering (environment and product design);
  - Separate kitchen, water supply in the household
- Enforcement
  - Building standards

# Conclusions

- Caregivers in this study showed good knowledge of safety measures during cooking and to minimize injury, regardless their education level and availability of water source at home;
- Caregivers in this study implemented safety measures at no/low cost;
- Burn care providers suggested various low cost strategies for community education about burn prevention and are ready to participate. Recommendation: include burn prevention in curriculum nurse training.

# Recommendations for Interventions

- Community education (short term/low costs);
  - Awareness behavioral and environmental hazards
  - Safety measures available at no/low cost
  - First aid for burns (secondary prevention): cooling the wound with cold running water for 15 minutes
- Legislation;
- Increasing burn centers.

# Recommendations for Further Studies

1. Community survey about magnitude of childhood scald burns in Mwanza urban areas (to lobby need burn prevention);
2. KAP survey general public in Mwanza about burn prevention (baseline);
3. Case-control study (evaluation burn prevention initiatives).

# Thank you for Listening

