Ms Hossinatatu Mary Kanu
Sierra Leone

Nurse led emergency triage, assessment and treatment for children in Sierra Leone
Nurse-Led Emergency Paediatric Care in Sierra Leone

Matron Hossinatu Mary Kanu
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Sierra Leone health and development indices

- Neonatal mortality rate: 39/1000 (DHS, 2013)
- Under-five mortality rate: 156/1000 (DHS, 2013)
- Maternal mortality ratio: 1165/100,000 (DHS, 2013)
- ~200 medical doctors in the country (WHO, 2015)
- General government expenditure on health as a percentage of total government expenditure: 12.3% (BPEHS, 2015)
13 district hospitals outside of the Western Area, 3 of which are regional hospitals taking referrals from an entire region

Triage: Several hospitals have triage processes based on a number system; no prioritisation of severely ill patients

Assessment: None of the 3 regional referral hospitals has a paediatric resuscitation area

Assessment: There are national protocols for the treatment of malaria and malnutrition; outside these areas there are no protocols

Treatment: Hospital treatment of children is led by physicians; there is often a delay between the presentation of a sick child and the prescription of appropriate treatment
Emergency Triage, Assessment and Treatment (ETAT)

Many children presenting to hospitals across Africa die unnecessarily, often within the first 24 hours of admission.

These deaths are often caused by a failure to recognise or prioritise sick children appropriately, or to give the right treatment at the right time.

ETAT guidelines: originally developed in Malawi; further developed by the WHO; based on the WHO Pocketbook of Hospital Care for Children.

Evidence-based guidelines for the first 24 hours of care.
Implementing ETAT+ in Sierra Leone’s Hospitals

- **AIM**: change in outpatient processes to support effective triage, assessment, and treatment

- **SKILLS**
  - Introduce standard guidelines for paediatric presentations
  - *Nurse-led* assessment and treatment following ETAT principles
  - Ongoing training and clinical mentorship for nurses engaged in triage and treatment work

- **PROCESS**
  - Streamline patient flow
  - Task-shifting: nurse-led treatment guided by dedicated triage, assessment, and treatment form
  - Move diagnostics closer to the patient (side-lab in resus)
  - Move treatment closer to the patient (pharmacy in resus)

- **SPACE**
  - Dedicated resuscitation area with oxygen, consumables, drugs, and all relevant equipment
  - Formation of a resus team
Skills: New National Guidelines

Appendix 1.2 Emergency Management of Severe Acute Malnutrition (SAM) Flowchart

1. **Does the child have any of these features?**
   - Sore/infected oral mucosa
   - Sore/infected nares
   - Sore/infected ears
   - Sore/infected anus
   - Sore/infected limbs
   - Sore/infected chest
   - Sore/infected organ (limb, head)
   - Sore/infected skin
   - Sore/infected mucosal
   - Sore/infected toes

2. **Does the child have SAM?**
   - To be diagnosed with SAM the child must have:
     - Severe wasting
     - Measure the mid upper arm circumference (MUAC) < 11.0 cm
   - OR
     - Weight for height < -2SD
   - OR
     - Oedema of both feet

3. **IMMEDIATELY GIVE A MEDICATION AND ORAL GLUCOSE**
   - Does the child have complicated SAM?
   - Complicated SAM
   - SAM with no complications
   - SAM with complications

4. **UNCOMPLICATED SAM**
   - SAM with no medical complication
   - SAM but child has appetite

If you notice any of the danger signs:
- Fast breathing (tachypnoea)
- Jittery/irritable
- Grunting
- Crying on feeding
- Sore/infected mouth
- Sore/infected mouth
- Sore/infected mouth
- Sore/infected mouth
- Sore/infected mouth

TREAT FOR SEPSIS

- Airway
- Breathing
- Circulation

Centenacins Doses:
- Age: 22-30 months
- Body weight: 7.5 - 9.5 kg
- 7.5 mg/kg for 5 days

- Antileukemia: Amikacin
- 10.0 mg/kg/day
- Gentamicin
- 15.0 mg/kg/day
- Ceftriaxone
- 100 mg/kg/day

Acute diarrhoea
- Give amoxicillin and gentamicin
- Continue treatment for at least one week
Skills: Nurse Training

- Three-month training course in assessment, prescribing, and treatment
- Training course assessed by examination
- Follow-up teaching and mentoring on the ward and in the resus area
- Nurses who have completed the training may prescribe the first dose of emergency medication
Process: Re-organising Triage

- Emergency signs
- Priority signs
- Queue/non-urgent (no emergency or priority signs)

![Triage Diagram]

- Emergency signs: Immediate assessment and treatment
- Priority signs: Urgent review
- No emergency or priority signs (non-urgent): Stable for outpatient review
Process: structured assessment of the sick patient

- All patients in resus receive the same structured assessment
- Guided by an assessment form that also serves as the initial prescription chart
Nurse-led Care
Results from the three regional hospitals
Number of Admissions

Month 1: 469
Month 2: 496
Month 3: 471
Month 4: 539
Month 5: 646
Month 6: 638
Identifying the sick child: recognising emergency and priority signs in Makeni

- Emergency sign recognition
  - Month 1
  - Month 6

- Priority sign recognition
  - Month 1
  - Month 6
Makeni Timing Data

- Arrival to assessment
- Arrival to treatment

Month 1 vs. Month 6
Quality of Care:
Severe Respiratory Distress

Oxygen  Nil by mouth
Quality of Care: Proportion of correct antibiotic prescriptions
Quality of Care: Blood Prescribing

- Blood prescribed when indicated
- Blood prescribed when NOT indicated
Quality of Care:
Dextrose prescribed for reduced level of consciousness
Anticonvulsants accurately prescribed for convulsions
Paediatric Mortality in the Regional Hospitals

Bo Makeni Kenema
Regional Hospitals: Mortality

Month 1: 15%
Month 2: 16%
Month 3: 11%
Month 4: 12%
Month 5: 8%
Month 6: 5%
Outcomes in the regional hospitals

• Paediatric triage, assessment and treatment led by nursing team
• Higher quality of care
• Fewer child and newborn deaths
• National paediatric guidelines established
• Better documentation and reporting of care and patient outcomes
THANKS FOR YOUR ATTENTION !!!