Tropical Lymphoedemas: how to make a difference

Dr Claire Fuller MA FRCP
IMPACT OF LOWER LIMB SIMPLE SKIN CARE ON DISEASE BURDEN IN TROPICAL LYMPHOEDEMAS & OTHER LOWER LIMB DISEASES INCLUDING;

- FILARIASIS
- PODOCONIOSIS
- LEPROSY
- KAPSOSI’S SARCOMA
  - Skin barrier function
  - Simple skin care package
  - Evidence for benefit
  - Controversies for integrated care
What is skin barrier function?
what contributes to skin barrier functioning?

- quality of the epidermal cells
- interaction between cells, of the epidermis and dermis
- intercellular substances
- immune system

Skin is a dynamic organ that is continuously renewing and altering itself in response to endogenous and exogenous stimuli.
What can go wrong?
SIMPLE SKIN CARE IMPROVING QUALITY OF LIFE IN NTDs

NTDs = Neglected Tropical Diseases
WHO List June 2017
Neglected tropical diseases
20 categories

- Buruli ulcer
- Chagas disease –
- Dengue and Chikungunya –
- Dracunculiasis (guinea-worm disease)
- Echinococcosis
- Foodborne trematodiases
- Human African trypanosomiasis (sleeping sickness)
- Leishmaniasis
- Leprosy (Hansen's disease)
- Lymphatic filariasis
- Mycetoma, chromoblastomycosis and other deep mycoses
- Onchocerciasis (river blindness)
- Rabies
- Scabies and other ectoparasites
- Schistosomiasis
- Soil-transmitted helminthiases
- Snakebite envenoming
- Taeniasis/Cysticercosis
- Trachoma
- Yaws (Endemic treponematoses)
What is simple skin care

• Washing
• +- antiseptic
• Moisturising
• Simple compression/protection
  – Sock
  – Bandage
• Foot protection
  – Boot/ shoe/custom made?
• Elevation at night +- breathing/yoga
Very simple materials

• soap
• disinfectant
• moisturiser with antifungal
Simple Management of Lymphoedematous leg

• **Washing** – daily washing with soap & water & if possible, antiseptic

  – reduces the bacterial load
Simple Management of Lymphoedematous leg

- **Emollient** – moisturising after washing
  - improves the barrier function
  - softens the skin
  - prevents cracking
  - reducing the risk of infection
Simple Management of Lymphoedematous leg

- **Elevation of the limb** to above hip height @ night
- **Breathing and exercise** (yoga?)
  - Improves lymphatic drainage
Simple Management of Lymphoedematous leg

- **Compression**
  - bandages and hosiery (stockings or socks)

- **Manual lymphatic drainage**
  - light superficial massage can greatly enhance lymphatic drainage.

- **Surgery**
  - Simple shave excision of hard nodules with secondary intention healing works well, even in a resource-poor setting.

- **Footwear**
  - safeguarding the foot and limb
  - robust and protective shoes
  - providing protection from injury and infection
  - Protection from soil (podo)
What are we trying to help?

- Podoconiosis
- Lymphatic filariasis
- Kaposi’s sarcoma
- Lepromatous limb
- Diabetic foot
What are we trying to achieve?

• Reduction in disease burden
  – Improvement in life quality
  – Lymphoedemas (podoconiosis, lymphatic filariasis & KS)
    • Reduction in limb size
    • Stop acute episodes of “cellulitis” ADLA
    • Reduction in stigmatisation
  – Leprosy
    • Preservation of functioning limb
    • Reduction in ulceration in the neuropathic foot
Acute episodes
– in the swollen limb?

• Cellulitis acute spreading inflammation of the skin
• More common in lymphoedema
  – as the swollen limb is relatively immunosuppressed
  – Swelling leads to dryness and cracking and entry points for infection
• In lymphoedema attacks are variable
• Each attack further damages lymphatics and worsens lymphoedema
• Also known as “acute episodes” or “adenolymphangitis” “ADLA”
PATCH 1 (2+ cellulitis attacks in 3 years).

- penicillin (250mg bd) V Placebo
  - 22% compared with 37%
    - whilst taking the medication
- oedema (lymphoedema)
  - 81 (60%) penicillin
  - 82 (59%) placebo

Thomas KS¹, Crook AM, Nunn AJ, Foster KA, Mason JM, Chalmers JR, Nasr IS,
Brindle RJ, English J, Meredith SK, Reynolds NJ, de Berker D, Mortimer PS, Williams HC;
U.K. Dermatology Clinical Trials Network’s
WHAT IS ALREADY IN PLACE FOR THE TROPICAL LYMPHOEDEMAS?
• By 2020 minimum package of care:
  – treatment for episodes of adenolymphangitis (ADL);
  – guidance in applying simple measures to manage lymphoedema and hydrocele to prevent progression of lymphoedema and debilitating, inflammatory episodes of ADL;
  – surgery for hydrocele;
  – treatment with antifilarial medicines to destroy any remaining worms and microfilariae by preventive chemotherapy or individual treatment
“Eradication of podoconiosis within our lifetime”
Aluminium silicates – obliterative endolymphangitis
podoconiosis

- Right soil and weather conditions
- 10% population affected with the gene
- 1 million in Ethiopia alone
- Found in the poorest rural communities
- Shoes unaffordable
- People have no political voice
Prevention: Distribute Shoes to Children Genetically at risk for podo, and additional benefits to all others
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- Partner with other NTD groups
  - Helminths
  - Snake bite
  - Schistosomiasis
Beyond Drugs
“shoes are the new bed nets”

– Ethiopia: Aim for Podoconiosis
– STH, tetanus, snake bite, tungiasis
– Lymphoedema – LF & KS

– **People Power**
WHAT IS THE EVIDENCE FOR BENEFIT?
Podoconiosis
Effectiveness of a Simple Lymphoedema Treatment Regimen in Podoconiosis Management in Southern Ethiopia: One Year Follow-Up

- Mean clinical stage mean difference -0.67 (95% CI 20.38 to 20.96)
- Lower leg circumference decreased significantly -2.00 cm
- Mean DLQI 21/30 to 6 (p, 0.001).
- Mossy lesions persisted

No ADLA after treatment
Lymphatic Filariasis
Self care integrative treatment demonstrated in rural community setting improves health related quality of life of lymphatic filariasis patients in endemic villages

• Patient one day training camps
  – Skin wash and drying
  – care of bacterial entry points using dermatology drugs
  – Demonstration of simple yoga and breathing exercises

• Start & 6 months

• The disease burden
  – FEVER
  – ODOUR
  – ITCHING
  – ULCERATION
  – WEIGHT OF LIMB

• DLQI and LF specific QoL tool

Lymphatic Filariasis

Self care integrative treatment demonstrated in rural community setting improves health related quality of life of lymphatic filariasis patients in endemic villages

- REDUCTION IN DISEASE BURDEN 96%
- 24.2% patients experienced fever during follow up
- Reduction in inflammatory episodes from “Severe” to “no problem”
- There was significant relation between treatment regularity and QoL status (P value=0.003).

Lymphatic Filariasis
Impact of a Community-Based Lymphedema Management Program on Episodes of Adenolymphangitis (ADLA) and Lymphedema Progression - Odisha State, India

• @ 2 years
  – ADLA rates decreased
  – Compliance with soap and water washing – ADLA with no entry lesions

Mues KE¹, Deming M², Kleinbaum DG³, Budge PJ², Klein M³, Leon JS³, Prakash A⁴, Rout J⁴, Fox LM² PLoS Negl Trop Dis. 2014 Sep 11;8(9):e3140..
Lymphatic Filariasis
Efficacy of home-based lymphoedema management in reducing acute attacks in subjects with lymphatic filariasis in Burkina Faso

• 1089 patients
• WHO lymphoedema management: health education and washing project between April 2005 and December 2007
• 78.1% (95%CI: 75.5-80.5) of the patients had an acute attack in the month preceding the consultation
• After 4 months reduced to 39.1%

Jullien P, Somé Jd, Brantus P, Bougma RW, Bamba I, Kyelem D
controversies

• Shoes
• Compression
• Prophylactic antibiotics
• Soap raises PH and should worsen barrier function

• Washing
  – Soap? Antibiotics
  – Glycerine
• Moisturiser
• Breathing exercise
• Elevation of foot at night
• Socks/bandages
• Shoes/protection
• Shoes/prevention
Simple measures effectively implemented – great benefit