

Project Summary Brief:

Development of an integrated training package for community-based case detection and referral system for neglected tropical diseases affecting the skin: a pilot study in Kaduna and Ogun states, Nigeria.

Background to the study

Neglected Tropical Diseases (NTDs) can affect the skin, causing chronic and lifelong disability in affected persons when untreated. Affected persons usually present for treatment at health facilities when the diseases have reached advanced stages, thereby increasing the incidence of life altering morbidity and disability. Cases of skin NTDs are usually hidden in communities due to poor awareness of the conditions and the stigma associated with them. Early detection of skin NTDs is important to reduce the adverse health impacts caused by delays in the diagnosis, referral, treatment and management of affected persons. In Nigeria, many skin NTDs are not prioritized due to the vertical and uncoordinated mobilization of resources for chronic NTD programmes (AIM, 2018a). The World Health Organization's (WHO) Department for the Control of NTDs proposed the integration of programme implementation for more effective and efficient management.



Fig 1:
Selected States

In Nigeria, Buruli ulcer (BU), Leprosy, lymphedema and hydrocele are four skin NTDs being prioritized for integrated case management across diseases and within the health system (AIM, 2018b). In Nigeria's Federal Ministry of Health (FMOH) Operational Plan for the Integrated Case Management of Neglected Tropical Diseases (2019-2021), a key challenge for the target to routinely detect and refer suspected skin NTD cases at the community level is the limited knowledge and skills of healthcare workers and community volunteers (Mahé et al., 2005; AIM, 2018b). This study was designed to address this gap by utilising participatory approaches to develop simple and context-specific skin disease decision algorithms and associated training materials that will support the identification, referral, and clinical diagnosis of suspected skin NTDs, particularly at the community and primary health care level.

Aim: To establish a context specific integrated community-based case detection, referral, and clinical diagnosis system for neglected tropical diseases affecting the skin in Kaduna and Ogun States, Nigeria.

Methods

The study was conducted between November 2019 - September 2021 in Kaduna and Ogun States, Nigeria. A four-step iterative action research approach was implemented as shown in Figure 2. During **phase one** a scoping review and participatory workshops conducted with stakeholders including persons affected by skin NTDs enabled us to identify current and best practices of case identification and referral as well as best practices of training used in other settings. In **phase two**, a series of participatory workshops involving persons affected, community health workers (CHWs), frontline facility staff (FLHFs), State and Federal stakeholders enabled us to develop integrated case detection and referral intervention manual (fig. 3).

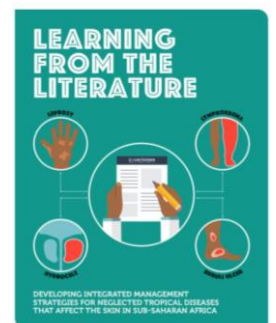


Fig.2 Research Phases

A three-module manual details the intervention tool and can be found at (<https://countdown.lstmed.ac.uk/publications-resources/tools-and-booklets>). Module one provides resource materials for case detection and referral; module two the associated training materials; and module three necessary supervision and support tools. During **phase three**, a cascaded training approach (State-community) was utilised to roll out the intervention across 5 health facilities in total across 2 LGAs in Kaduna and 2 senatorial districts in Ogun and Kaduna States. We evaluated the intervention and made necessary adaptations in **phase four**. The evaluation drew mixed-methods approaches (92 pre-and post knowledge tests, 92 post training evaluation forms, 9 focus group discussions and 32 narrative case reports) to assess the efficacy of the training against Kirkpatrick's training evaluation framework (Sharma et al, 2020; see figure 3).





Fig.3 Kirkpatrick Evaluation Framework for Training

RESULTS

- Participants' knowledge of skin NTDs improved over time. Knowledge retention was more robust for State/LGA/PHC cadres in Kaduna and Ogun.
- State/LGA/PHC cadres - pre-training mean score of **43% in Kaduna, 54% in Ogun** significantly increased to a post-training mean score of **57% in Kaduna** (t-test=3.35, p=0.001), **65% in Ogun** (t-test=2.96, p=0.004), with a further increase to a mean score of **64% in Kaduna** (t-test=5.66, p<0.001), **69% in Ogun** (t-test=4.72, p<0.001) after 6 weeks
- CHWs in Kaduna and Ogun had pre-training mean score of **32%** significantly increasing to a post-training mean score of **55%** (Kaduna- t-test=4.29, p<0.001; Ogun- t-test=3.75, p<0.001), with a further increase to a mean score of **56%** after 6 weeks (Kaduna- t-test=4.60, p<0.001; Ogun-test=3.79, p<0.001).

LEARNING

- 98% of Kaduna participants reported that they feel more confident in future patient interactions on the topics of managing NTDs (98%) and stigma (98%) and to assist in their everyday activities (100%).
- 98% of Ogun participants reported that they feel more confident in future patient interactions on the topics of managing NTDs (100%) and stigma (98%) and to assist in their everyday activities (100%).

BEHAVIOUR CHANGE

- CHWs described that training supported them to challenge stigma in communities by discussing the causes of Skin NTDs as not being caused by evil curses or charms. The training also resulted in attitudinal changes of many staff as they now mentioned attending to patients with more empathy, thereby improving quality of care and trust between patients. Participants described changing their practice to provide more gender sensitive care
- FLHFs described utilising diagnostic flow charts and job aids to implement new diagnostic tests such as the transillumination test for hydrocele and the skin sensitivity test for leprosy, while CHWs mentioned that the pictorial job aids helped identify cases within the community.

REACTION

- Training proved highly effective and of good quality– with all of participants reporting the training to be useful and 97% rating it as good or very good. Sustainability of training was expressed possible through a cascade model as trainees described increased confidence as to share their learning with other health care workers.
- Appreciation of inclusion of role play within training, but patient experts or field trips as a key strategy to improve learning was suggested.
- Training materials were easy to understand, in particular pictorial materials were described as making learning more effective.

we as women meet such people, we interact with their wife and let them know that their confidentiality is assured. We tell them to encourage their husbands to come and meet privately or to come to the facility to meet with the in-charge with the assurance that their confidentiality will be maintained. (CHV, FGD, Kaduna)

'...before the training, I could not even come close to a person with such a deep wound but after the training, I learnt about how to have a good interaction with these type of patients.' (FLHF, female, narrative case report, Ogun)

The training materials were good because anything you forget when I go back to the training materials, I easily refresh my knowledge. (FLHF, FGD, Kaduna)

Impacts

- **Collaboration between persons affected by skin NTDs, the research team, and health personnel at the National, State, LGA, primary health care and community level, enabled the development of a context specific integrated intervention algorithm and associated training tools for the detection, referral, and clinical diagnosis of skin NTDs.**
- **Training tools were found to enhance the knowledge and skills of health workers over time to better identify, support and diagnose leprosy, hydrocele, lymphedema and Buruli ulcer patients.**
- **Health cadres across all levels of the health system reacted positively to the tools, particularly emphasising the benefits of role play and use of practical examples within training delivery.**
- **Learning and knowledge gained through the training was found to be sustained and enhanced over times as health practitioners put skills into use through their everyday practice.**
- **Stakeholders are enthusiastic about scaling up the training intervention and tools to other health workers and LGAs in the state that were not trained.**