Community case management of chest indrawing pneumonia with oral amoxicillin in children, Nigeria

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LB-5569

KEY MESSAGES

- Community case management of chest indrawing pneumonia, using oral amoxicillin, was found to be a safe method for reducing childhood mortality in a Nigerian setting.
- This approach was well accepted by community health workers (CHWs) and caregivers of the children enrolled.

Introduction

Current recommendations advise CHWs to refer cases of chest indrawing pneumonia to health facilities for treatment, but many children die due to delays or non-compliance with referral advice.

In Nigeria, a one-arm safety study was completed in 2018 to determine whether community health workers enrolled in an integrated community case management (iCCM) programme, known locally as community oriented resource persons (CORPs), can safely and appropriately treat chest indrawing pneumonia in children.

Methods

A total of 188 CORPs were trained on how to recognise and treat chest indrawing pneumonia, and their capacity to do so accurately and safely was assessed by a team of 12 trained research assistants (RAs). To monitor CORP performance, RAs verified the initial diagnosis and conducted a series of follow-up visits to assess the child (see Table 1).

Table 1: Schedule of follow-up visits by RAs and CORPs

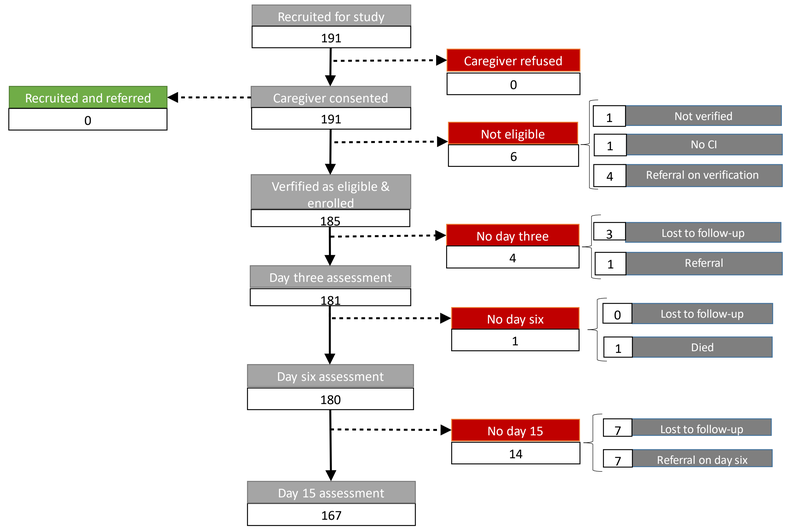
Activity	Screening and enrolment Day 0	Re-assessment Verification Day 1	Re-assessment Day 3	Re-assessment Day 7	Re-assessment Day 15
Person	CORP	RA	CORP	CORP & RA	RA
Outcome		-CORP performance to manage CI -Health status	-Health status	-Health status Treatment failure -Treatment adherence	-Health status -Clinical relapse
Location	CORP	Household	CORP or household	Household	Household

Results

Over a period of approximately 18 months, a total of 185 children between two and 59 months of age with chest indrawing pneumonia were enrolled in the study following verification by an RA and treated by CORPs using oral amoxicillin, rather than at health facilities. The key outcomes (most shown in Figure 1) are:

- The proportion of children who had clinical treatment failure* by day six was 4.86 percent (9/185; 95% CI 1.11,8.6).
- Two children died during the study (unrelated to the treatment given) and one had their antibiotic treatment changed by a health facility worker.
- The treatment failure rate varied by CORP and ranged from 0 to 50 percent (ICC 0.00 (95 percent CI 0.00, 0.18)).
- The proportion of CORPs who provided follow-up visits to children with chest indrawing pneumonia was high, with 98.9 percent (183/185) of enrolled children receiving a follow-up visit on day three after enrolment.
- Interviews conducted with CORPs and caregivers indicated a high level of acceptability of and confidence in this practice.

Figure 1: Study flow diagram of patients enrolled and outcomes



[1] One child not available on Day 3 was subsequently found and included on Day 15

*Clinical treatment failure was defined as children (enrolled with chest indrawing) who had died or had fever and chest indrawing on day three, or had danger signs, hypoxaemia, fever and chest indrawing, or change in antibiotic by day six)

Study manager, Olatunde Adesoro, observes a child having her blood oxygen levels measured by a study research assistant

Conclusion

A community case management approach that uses CORPs to treat children with chest indrawing pneumonia aged two to 59 months, using oral amoxicillin, is a safe and acceptable approach in Nigeria.

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Acknowledgements
Our thanks to the Nigeria Federal Ministry of Health, Niger State Ministry of Health, Lapai and Paikoro LGA offices, the CORPs and caregivers who participated in the study. Also our thanks to WHO and Global Affairs Canada for funding through the RAcE programme, and the study DSMB.