BACKGROUND

In January 2018, the Council of Research & Technical Advice on Acute Malnutrition (CORTASAM) and the No Wasted Lives Coalition published a global Research Agenda for Acute Malnutrition, outlining seven priority research areas to drive the use of evidence to support scale-up and impact for children with wasting globally. This Research Agenda included an initial mapping of the evidence that was conducted in 2017 to identify outstanding research questions and research needs in each area as well as outcomes to be achieved by 2020.

In 2019, recognising the significant research efforts that have progressed since the original Research Agenda was released, CORTASAM initiated a Research Landscape Review to evaluate the progress made towards the outcomes specified in the Research Agenda. The objectives of the Landscape Review in 2020 were to:

1. Review completed, ongoing, or planned research in the seven research priority areas of the Research Agenda, building on the original mapping of evidence and focusing on new efforts since 2017; and
2. Evaluate outstanding research needs and progress made to date towards the 2020 outcomes specified in the Research Agenda.

The Landscape Review was not intended to be a systematic review to synthesise all research and evidence in the priority areas. Rather, the Landscape Review can be considered an integrative review with elements of a semi-systematic review aiming to provide an overview of a research area, including developments over time, and to create a critical narrative of research progress and outstanding gaps in each area.

The results of the Landscape Review on completed, ongoing, and planned research in the priority research areas can be accessed here. Details on the methodology of the Landscape Review can be accessed here. For further information, contact us at info@nowastedlives.org.

RESEARCH AREAS

1. Effective approaches to detect, diagnose, and treat acute malnutrition in the community
2. Appropriate entry and discharge criteria for treatment of acute malnutrition to ensure optimum outcomes
3. Optimum dosage of ready-to-use food (RUF) for treatment of acute malnutrition
4. Effective treatment of diarrhoea in children with severe acute malnutrition (SAM)
5. Rates and causal factors of post-treatment relapse to acute malnutrition across contexts
6. Identification and management of at-risk mothers and infants <6 months of age (MAMI)
7. Alternative formulations for ready-to-use foods for acute malnutrition

While the term ‘wasting’ will be predominantly used in these landscape reviews, there are sources cited that use the term ‘acute malnutrition’ as this was the predominant terminology used at the time of publication of the original Research Agenda. Both ‘wasting’ and ‘acute malnutrition’ are defined here as weight-for-height z-score (WHZ) <-2, oedema and/or mid-upper arm circumference <125mm.
RESEARCH AREA:
RATES AND CAUSAL FACTORS OF POST-TREATMENT
RELAPSE TO ACUTE MALNUTRITION ACROSS CONTEXTS

KEY RESEARCH QUESTION
What are the rates and causes of relapse to severe acute malnutrition (SAM) post-discharge from treatment programmes, how do they vary across different contexts, and how can relapse be reduced?

SUMMARY
Two recent systematic reviews summarised the evidence on relapse and long-term outcomes after treatment for severe wasting. The reviews suggest that relapse may be a significant problem, with most relapse occurring between 3-6 months following discharge, but there was strong variation in definitions and measurement of relapse as well as admission and discharge criteria, making comparisons difficult. There are also few studies that compared rates of relapse to a control group of not previously malnourished children. There is a large body of ongoing research on relapse, including a study in four sub-Saharan African countries that includes a community control group to compare relapse with background incidence of severe wasting. The systematic review on post-treatment relapse found poorer anthropometric measurements at admission and discharge to be most consistently associated with increased risk for relapse. Beyond anthropometric measures, there are fewer studies on causes of relapse and there is a widespread lack of distinction between associations and causality. It is often unclear whether measured factors were present at time of admission or became relevant after discharge. More broadly, there is lack of a theoretical framework for relapse as well as common definitions and measurement approaches.

RECENTLY EMERGING EVIDENCE

RATES OF RELAPSE ACROSS CONTEXTS AND DIFFERENT TYPES OF TREATMENT
- Recent systematic reviews have been published on relapse\(^1\) and long-term outcomes\(^2\) after treatment for severe wasting. These reviews suggest that relapse to severe wasting may be a significant problem (with ranges of 0-37% of relapse in different studies for different time points), with most relapse occurring within 3-6 months following discharge. However, variation in definitions and measurement and admission and discharge criteria in programming make comparison difficult. Few studies compared incidence of severe wasting in discharged children with a control group of not previously malnourished children.
- Studies on reduced dosage schedules of ready-to-use therapeutic food (RUTF) (MANGO in Burkina Faso\(^3\)) and simplified and combined protocols (ComPAS in South Sudan and Kenya\(^4\)) did not find differences in relapse compared to standard protocols. See the Landscape Reviews of Research Area 2 and Research Area 3 for details on these studies.
- A study in Somalia, South Sudan, Mali and Chad will commence in 2020 and involves monthly follow-ups up to 6 months and then at 9 and 12 months post-discharge. Moderate and severe wasting incidence will be measured in a community control group of not previously malnourished children. Cumulative relapse, incidence, and prevalence and time where most relapse occurs will be determined to inform strengthened recommendations for a relapse definition (timeframe, frequency of follow-up, indicator, etc.).
- Further ongoing research includes a study by Save the Children in Yemen to evaluate effects of a cash transfer programme on relapse, secondary analysis of the PROMIS study, and additional studies of the ComPAS and OptiMA approaches (see the Landscape Reviews of Research Area 2 for details).

RISK OF RELAPSE RELATED TO DISCHARGE CRITERIA AND ANTHROPOMETRIC STATUS
- The systematic review on post-treatment relapse\(^1\) found that children discharged before reaching recommended anthropometric discharge criteria had higher risk of relapse across studies. Poor anthropometric measurements at admission and discharge were most consistently found to be associated with increased risk for relapse.
CAUSAL FACTORS OF RELAPSE AFTER TREATMENT

- Among the studies included in the systematic review on post-treatment relapse\(^1\), eight studies reported illness among children at time of relapse, suggesting that children discharged based on anthropometric criteria may not have been recovered immunologically. The review found that micronutrient deficiencies were not associated with relapse in one study that measured this and there were mixed results regarding household-level factors such as socio-economic status, feeding practices, and sanitary living conditions as well as seasonality and food security.

- A study in the Democratic Republic of the Congo\(^5\) found that unconditional cash transfers during and following treatment for severe wasting reduced relapse rates to moderate and severe wasting.

- There is increasing evidence on links between wasting and stunting, including from a study in Malawi\(^6\) and a longitudinal study in the Gambia\(^7\). This suggests that there is a circular relationship between wasting and stunting, with implications for relapse risks.

REFERENCES


