

Nutrition ARISE – New Frontiers for Public Health Nutrition

Klaus Kraemer

Managing Director, *Sight and Life*

Five years have passed since I wrote “The Stunting Enigma” in the 2/2013 edition of *Sight and Life* magazine. At the time, I expressed my deep concern for our lack of understanding of the causes of stunting. The causal chain seemed just far too complex. Five years later, and new research has shaken the foundations of what little understanding we felt we did possess. New findings have obscured rather than shed light on any of the hypotheses we have been working with.

However, there is some good news. The recently modeled spatial and temporal changes in sub-Saharan Africa for the period of 2000–2015 showed that the prevalence of stunting is gradually decreasing.¹ Nevertheless, there are disparities in these trends and the reasons for this are still not understood. Randomized controlled efficacy and effectiveness trials have generally reported only small improvements in linear growth and reductions in stunting during the first few years of life.

There are many possible factors for such modest results – the most important being that the multiple complex biological contributors to stunting may not be fully addressed in a single or limited set of interventions. This has led to a growing recognition that linear growth stunting may be a “community syndrome” in which multiple stresses, both nutritional and otherwise, operate from preconception through early childhood.

“The biological contributors to stunting may not be fully addressed in a single or limited set of interventions”

A move toward improvement

To improve linear growth in populations of children, we therefore need to widen the lens of research to include these additional factors. Each one has potential long-term implications and can be profoundly impacted by timely nutrition interventions. These factors may also respond to behavioral, early childhood development (ECD), and water, sanitation, and hygiene (WASH) interventions and may occur even in the absence of accelerated linear growth. There is also a need to recognize that nutrition interventions can affect a broad array of child health outcomes, including cognitive and motor development, anthropometric, metabolic, micronutrient, and immunological status, maturation, and domains of behavior. Therefore, to evolve toward the necessary full spectrum of public health efficacy and effectiveness research, we must also consider these diverse outcomes.

Much work is required to broaden the toolkit of indicators across the domains of early childhood health and development. This is where Nutrition ARISE comes into play.

“Nutrition ARISE aspires to expand the set of measurable responses to interventions intended to improve the life of children in populations affected by undernutrition”

What is Nutrition ARISE?

Nutrition ARISE – Adding Responsive Indicators to Stunting to Expand Early Life Nutrition and Development Achievement – is a gathering of nutrition researchers and practitioners with the goal of giving formal voice to (1) the importance of promoting adequate linear growth and (2) the need to recognize the potential of other facets of health and development. The aim is to

10 y/o Girl
125cm (-2SD)

10 y/o Girl
138cm (norm)



embrace the full public health response to early life nutrition, WASH, and childhood development interventions. With this goal in mind, Nutrition ARISE aspires to expand the set of measurable responses to interventions intended to improve the life of children in populations affected by undernutrition.

Outcomes of the first Nutrition ARISE expert consultation in Boston, USA

On June 12, 2018, 35 expert researchers, practitioners and funders of nutrition interventions gathered in Boston, USA for the first Nutrition ARISE expert consultation. This gathering of expert voices exceeded our expectations. We hoped our first meeting would merely initiate a dialogue and maybe seek a consensus on the complexity of this area of research. I was impressed not only by the quality of the presentations, but also by the outstanding discussions that ensued. Without a doubt, we had the right people to address such an important and challenging issue. We benefited from a diverse and dynamic set of speakers and participants including, but not limited to, the fields of nutrition, pediatrics, anthropology, economics, epidemiology, psychology, statistics, ethnography, and demography – to name but a few!

Five key needs emerged from the consultation:

1. More research to clarify causal relationships for scientific purposes.
2. Development of alternative and practical indicators. These should include five types, for policy and programmatic purposes:
 - a. Nutritional status (current situation)
 - b. Intermediate outcomes of interventions contributing to improved nutrition
 - c. Outcomes that respond to nutritional improvement
 - d. Outcomes that respond to nutrition interventions, even if there is no improvement in stunting or other indicators of nutritional status
 - e. Indicators of intervention or program delivery and uptake
3. Collaboration with researchers in other disciplines on these five types of indicators.
4. A set of carefully crafted messages and outreach strategies that aim to maintain the interest and momentum for nutrition. These should clarify and offer alternative frameworks, arguments, and indicators for various purposes.

5. Collaborative advocacy with the ECD and WASH communities, aimed at improving human capital through biological and developmental pathways. We want healthy, smart, productive, and happy people and populations.

As marvelously summarized by Dr. David Pelletier, the over-reliance on stunting as a “simple/best/most practical/best available indicator of undernutrition for all purposes” has led to numerous difficulties. These are:

- > Disappointing results of efficacy and effectiveness trials
- > A threat to the current momentum on nutrition and ability to improve nutrition
- > Undervaluing of other outcomes of nutrition interventions of public health importance
- > A narrow approach to child development that fails to appreciate other relevant dimensions of human capital, nurturing, and fulfillment (cognitive, motor, socioemotional, etc.).

The day was rich with discussion. It yielded the desired consensus that the time has come to broaden our approach to nutrition interventions. We should expand in terms of context, exposures, outcomes, and their respective markers and indicators. Nutrition ARISE marks the beginning of this endeavor.

Next steps

Nutrition ARISE will compile contributions from all consultation presenters and generate the proceedings of the consultation for publication and dissemination. We want this new perspective to be discussed and peer-reviewed. Periodic calls will be scheduled for follow-up discussions and to promote further coordination. Finally, a wider meeting will be convened in early 2019 to advance the Nutrition ARISE agenda and engage the ECD, WASH, and global development communities. Additionally, you will soon be able to access content from the proceedings, available on our website, with related resources available for download.

The focus areas of Nutrition ARISE are:

1. Update evidence on the efficacy of early life nutrition-specific and -sensitive interventions in accelerating linear and ponderal growth, and in reducing the prevalence of stunting and wasting.
2. Affirm health, development, growth, behavioral, and functional outcomes and their indicators that can currently,

or could with further evaluation, take their place alongside linear growth as plausible responses to early-life nutrition interventions in infancy, and stages of childhood and later adulthood.

-
3. Propose a research agenda to integrate a wider array of exposure to intervention (including extent of change of nutrient intake, behavior, etc.) and outcome indicators of growth, development, and biological and other factors to monitor, alongside linear growth and change in prevalence of stunting, that can respond to nutrition-specific and -sensitive interventions and improve data for evaluating SDG target achievement.

Perhaps one of the most encouraging outcomes of the consultation remains the nutrition community's commitment to step up and take responsibility for rectifying an issue it has identified, and to some extent created. The confusing of science, politics, and policy can be discouraging and lead to passivity on our part. But we have a moral obligation to separate these and not shy away from our duties, staying true to the science. We need to further the pursuit of evidence-based policymaking,

interventions, and programs. Now is the time to build on the initial momentum created by our first gathering and to join together in this initiative as a group whose goal is to help those in need and whose full potential has been stolen by circumstances beyond their control.

I am deeply encouraged by the commitment and humility of all. As the famous British chemist Sir William Ramsay once said, *"Progress is made by trial and failure; the failures are generally a hundred times more numerous than the successes; yet they are usually left unchronicled."* Let us not dwell on our mistakes; instead, let's allow them to teach us better ways to tackle the challenges ahead.

Sincerely,



Klaus Kraemer

References

- 01 Osgood-Zimmerman A, Millea AI, Stubbs RW, Shields C, Pickering BV, Earl L, et al. Mapping child growth failure in Africa between 2000 and 2015. *Nature*. 2018 March;555:41-7. doi:10.1038/nature25760.