Research *Snapshots*

Niger: An integrated preventive and curative health package for nutritional status

Médecins Sans Frontières (MSF) has been working in Niger since 2001, with increased efforts since 2005. Responding to alarming food insecurity, elevated fertility and infant mortality rates, and various medical challenges – including measles and meningitis epidemics, as well as wasting – has shifted MSF's focus from treatment to an integrated preventive and curative healthcare package. This is known as the PPCSI (an acronym for "Paquet Préventif et Curative de Soins Intégrés"). The package intends to prevent and treat malnutrition, malaria, and other common diseases, and includes support to vaccination and breastfeeding. The primary aim was decreased mortality in children aged under 5 years that, if proven effective, could be replicated in more areas of the country.

This study analysed the effect of the PPCSI, which included a small quantity of lipid-based nutrient supplement (SQ-LNS) as a food complement, on the nutritional status of children aged 6–24 months in Tahoua, Niger. The study included anthropometric follow-up data from 6,962 children aged under 2 years, who received complete vaccination, malaria chemoprevention, and nutritional supplementation for those aged over 6 months. The Composite Index of Anthropometric Failure (CIAF) and growth indicators were assessed at the beginning and end of the programme for all children who completed a minimum of 3 visits, with an average programme duration of 14.5 ± 6.6 months. A comparative analysis was conducted with a sample from a neighbouring region's vertical vaccination programme, in which children did not receive any nutritional supplementation.

Results showed a shift in z-scores for height-for-age, weight-for-height, and weight-for-age toward values indicating malnutrition at the end of the intervention. In contrast, mid-upper arm circumference increased by an average of 0.5cm. The CIAF analysis revealed a 20% increase in anthropometric failure, primarily observed in categories including stunting. Compliance with the entire programme impacted anthropometric indicators differently. Wasting improved significantly while stunting and underweight worsened. The same pattern was seen according to length of stay in the programme. When comparing Tahoua with the neighbouring region's sample, the children in Tahoua had significantly less worsening in all 3 indicators: height-for-age (−0.70 vs. -2.44 p< 0.001), weight-for-height (-0.13 vs. -0.70 p < 0.001), and weight-for-age (−0.38 vs. -1.78 p < 0.001).

Distribution of super cereal plus as part of the treatment of moderate acute malnutrition in the region of Tahoua. Niger

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Study limitations included measurement errors by inexperienced health staff, the absence of a formal control group and reliance on data from a different MSF study for impact assessment, warranting cautious interpretation of results. That said, the authors conclude that the integrated PPCSI programme 'is slightly effective in curbing the accumulated burden of malnutrition in the early years of life in complex contexts'.

Use of mid-upper arm circumference measurement for children with disabilities Critical research gaps

Children with disabilities are routinely excluded from malnutrition guidelines, assessment tools, nutrition programming, and the general global conversation. This systematic review analysed current evidence regarding the use of mid-upper arm circumference (MUAC) among children (aged six months to 18 years) with disabilities. The review followed PRISMA guidelines, searching four databases between 1990 and 2021, with 32 papers included in the final analysis. Most of the included studies (91%) were observational. Key findings from across 26 countries indicate that MUAC is commonly and routinely used as part of nutritional assessment for children with disabilities, but that MUAC measurement methods, references, and cutoffs were inconsistent. Due to limitations in the available research, it was not possible to compare MUAC's ability to identify high-risk children with disabilities in comparison to other anthropometric measures or to children without disabilities.

The pooled study sample was weighted toward certain disability subtypes, although nine studies included multiple disability types. Cerebral palsy was observed in 44% of studies, as well as intellectual impairment (19%), visual impairment (9%), and autism spectrum disorder (9%), to name a few. This highlights the need for further research into specific, underrepresented groups to expand the evidence base and better understand how varying disabilities may impact MUAC measurement accuracy. It is also important to note that the evidence for, and use of, MUAC has evolved during the selected time period – which makes it harder to compare between these studies.

However, due to its simplicity and ease of use, MUAC does present as a potentially valuable part of nutritional assessment for children with disabilities of all ages. What is clear from this research is that there is an urgent need to identify standardised methods and references to identify malnutrition and monitor the nutritional status of millions of children with disabilities as we work to create more inclusive systems.

"WHO guidelines are highly regarded and used to develop malnutrition protocols worldwide, but the lack of disability-specific recommendations leaves children with disabilities underserved."