Estimate the burden of malnutrition among children with cerebral palsy in Sub-Saharan Africa: a systematic review with meta-analysis

Ermias Sisay Chanie (Assistance professor)
Department of Pediatric and child health Nursing, Debre Tabor University, Debre Tabor, Ethiopia

Abstract (300 word limit)

Background: Malnutrition is more prevalent among children with cerebral palsy and a major factor for child morbidity and mortality in children with different co-morbidity, especially in Sub-Saharan Africa:

Objective: The main aim of this systematic review and meta-analysis was to estimate the burden of malnutrition among children with cerebral palsy in Sub-Saharan Africa.

Methods: We searched PubMed, Web of Science, Google Scholar, Research Gate, and institutional repositories for papers that reported the proportion of malnutrition among children with cerebral palsy that were published between December 2010 and September 2023. Data were retrieved using the standardized JBI data extraction checklist through Microsoft Excel, and then exported to STATA 17 for further analysis. DerSimonian and Laird's estimator was used to calculate the pooled effect size in the random-effects model. Statistics such as the Cochran Q test and I2 test were employed to measure heterogeneity. Egger's test and the funnel plot were used to look for publication bias.

Results: This systematic review and meta-analysis used 16 studies from Sub-Saharan Africa to estimate the proportion of malnutrition among 2,120 children with cerebral palsy.

The pooled proportion of malnutrition among children with cerebral palsy in Sub-Saharan Africa by using random-effects model analysis was found to be 59.7% (95%CI; 49.8–69.6). The proportion of malnutrition was also estimated by sample sizes categorized as ≤120 and >120, and the proportion of malnutrition was found to be 54.0 (95%CI: 44.7-63.3) and 64.5(95%CI: 50.5-78.5). Moreover, the proportion of malnutrition was estimated by accounting for the difference in the year of publication. In this regard, the study classified before ≤2017 and >2017, and the proportion of malnutrition was found to be 53.7 (95%CI: 38.0-69.3) and 62.5(95%CI: 49.7-75.3) in Sub-Saharan Africa respectively.

Conclusion: Malnutrition among children with cerebral in Sub-Saharan Africa was found to be very high. Hence, enhancing and developing strategic guidelines for malnutrition screening, prevention, and nutritional support are crucial among children with cerebral palsy. Furthermore, systematic review, randomized control trials, and qualitative studies are recommended to understand the burden more among children with cerebral palsy in the continent.

Image

Recent Publications (minimum 5)

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Email: ermisis1888@gmail.com