

Gender disparity in malnutrition among children with severe malaria in Eastern Uganda

Francis Okello^{1,2*}, Martin Chebet^{1,2}, Charles Okalebo³, Denis Amorut³, Paul Ongodia³, George Paasi³, Cate Namayanja³, Peter Olupot-Olupot^{2,3}

¹ University of Bergen, Department of Global Public Health and Primary Care, Bergen, Norway, ² Busitema University, Faculty of Health Sciences, ³ Mbale Clinical Research Institute



*Contact Author
francis.okello@uib.no

Background

- The relationship between severe malaria and malnutrition is poorly studied, but malnutrition is thought to impair the body's immunity against malaria.
- The top clinical presentation of severe malaria in African children includes severe anaemia, respiratory distress and impaired consciousness.
- Gender differences in childhood malnutrition have been described, but there is a paucity of data on its relationship with severe malaria.

Objective

- To describe the gender disparity in malnutrition among children with severe malaria.



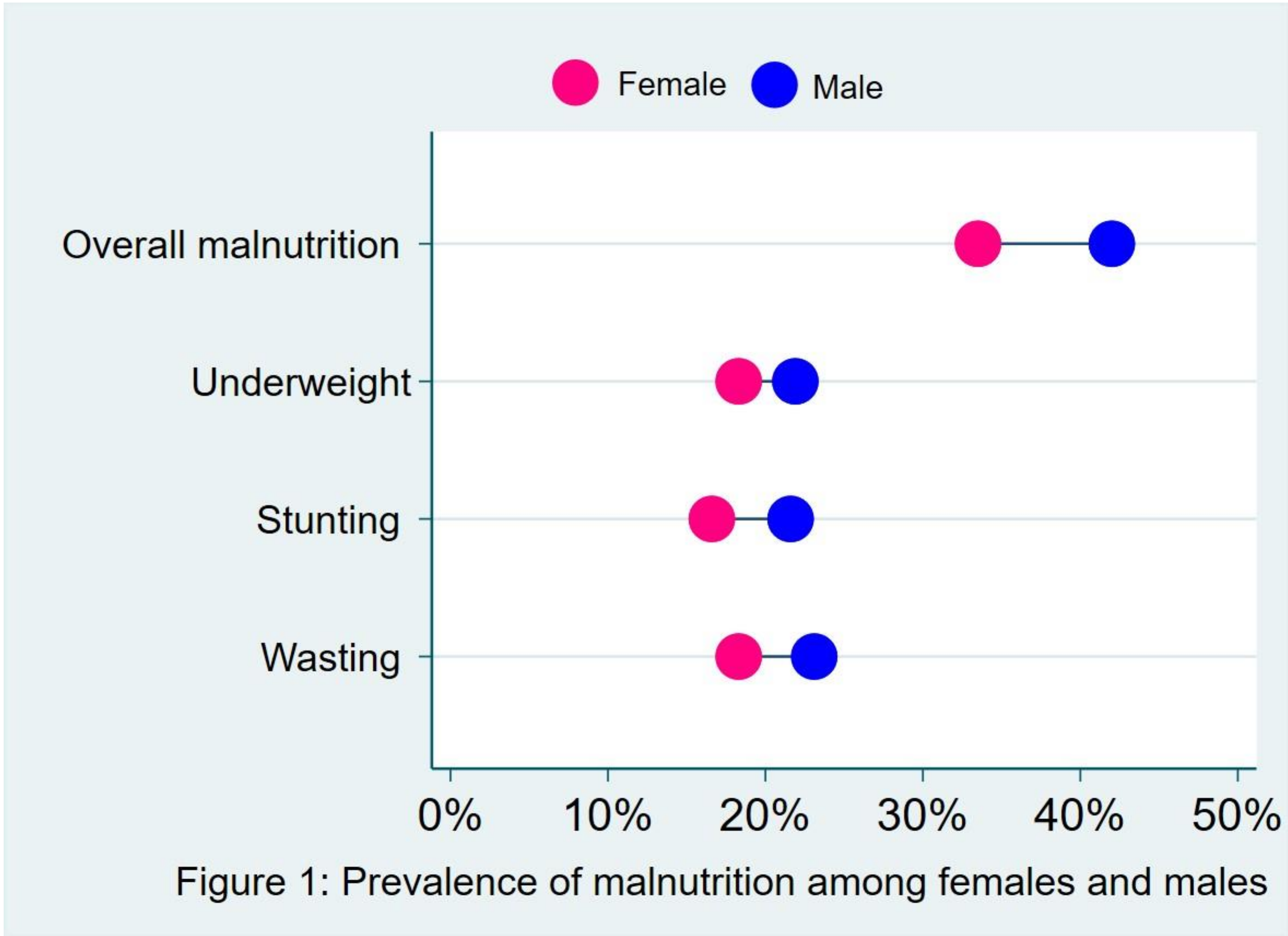
A malnourished child (male) with severe malaria at the Nutrition ward in Mbale Regional Referral Hospital

Methods

- We studied 694 hospitalized children with laboratory-confirmed severe malaria infection.
- Children were prospectively enrolled between April 2018 and March 2023 at Mbale Regional Referral Hospital.
- Data were captured using REDCap software and analysis was done using Stata version 17.
- We estimated the prevalence of malnutrition (defined as Zscore < -2) and generated an equiplot.
- Crude Risk Ratios (cRR) were estimated along with margin plots.
- Ethical approval was obtained from Mbale Regional Referral Hospital Research and Ethics Committee and Uganda National Council for Science and Technology

Results

- The median (IQR) age was 36 (24, 48) months
 - Age range: 2-60 months
 - Overall malnutrition 38.3%: female 33.5%; male 42.0%.
 - Underweight 20.3%: female 18.2%; male 21.9%.
 - Stunting 19.5%: female 16.6%; male 21.6%.
 - Wasting 21.0%: female 18.2%; male 23.1%.
- The risk of malnutrition was higher among males than females:
- Overall malnutrition: (cRR: 1.3 [95% CI: 1.0, 1.5])
 - Underweight (cRR : 1.2 [0.9, 1.6])
 - Stunting: (cRR: 1.2 [95% CI: 0.9, 1.6]);
 - Wasting: (cRR: 1.3 [0.9, 1.7])



Conclusion:

In malaria hyperendemic eastern Uganda, underlying malnutrition in children with severe malaria, was higher among males than females.

ACKNOWLEDGEMENTS
EDCTP for funding the PhD

AFFILIATIONS
University of Bergen, Norway

