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Severity and Morphological Characteristics of Anemia Among 6 to 59 Months Old Children in Temeke, Dar es Salaam-Tanzania: Clinics Based Cross Sectional Analysis

Salha Ally Omary^{a,b,c,d}, Florence Salvatory Kalabamu^a, Maulidi Rashidi Fataki^a, Shani Shamsi Salum^{a,c,d,e}, Ummulkheir Hamid Mohameda,^{c,d,f} Joseph Gasper Kimaro^b, Kelvin Melkizedeck Leshabari^{c,d,g,e*}

^aDepartment of Pediatrics/Child Health, Hubert Kairuki Memorial University, Dar es Salaam Tanzania;

^bDepartment of Pediatrics/Child Health, Temeke Regional Referral Hospital, Dar es Salaam Tanzania;

^cNUTritional REsearch iNter-Collaboration (NUTRENT) Group, Registered Trustees of Ultimate Family Healthcare, Dar es Salaam, Tanzania;

^dAgeing Research Group, Registered Trustees of Ultimate Family Healthcare, Dar es Salaam Tanzania;

^eDepartment of Pediatrics/Child Health, Muhimbili National Hospital (Mloganzila), Dar es Salaam Tanzania;

^fDepartment of Pediatrics/Child Health, Msambweni County Referral Hospital, Kwale Kenya;

^gH3 Clinical Research Unit, I-Katch Technology Ltd., Dar es Salaam Tanzania

Correspondence author: Kelvin Melkizedeck Leshabari
(kelvin.leshabari@ufht.or.tz / celsius_lx@yahoo.co.uk)

ABSTRACT

Background: Anemia is a global public health indicator of both poor nutrition and poor health. Besides, it stands as a silent signal of mal-aligned health system across the entire human lifespan. Globally, the importance of anemia is most pronounced among children. This study was conceived to assess severity and morphological characteristics of anemia among children aged from 6 to 59 months old in Temeke, Dar es Salaam, Tanzania.

Methods: We designed a cross sectional, clinics-based analytical study. Children aged 6 to 59 months with anemia were the target population. Severity

and morphological characteristics of anemia were the main outcome variables. Data were collected using a pre-designed questionnaire. Data were summarized using median and inter-quartile range (continuous variables) or frequency and proportions (categorical variables). Chi-square tests were applied to assess association between categorical variables. Alpha level of 5% was used as a limit of type 1 error in findings. Written informed consent was sought from mother of each child prior to inclusion into the study.

Results: We successfully recruited and analyzed 250 children. Participants median age was 17.5 (IQR: 9 - 34) months (females, n=112, 44.8%). Point prevalence of anemia (Hb<12 g/dL) was 66.8%. Among anemic children (n=167), about 19%, 63% and 18% had mild, moderate and severe anemia respectively. A direct linear association between MCV and MCHC was observed among anemic children (n=167, Spearman's rank $\rho = 0.86$, $P = .000$). There was a significant association between prevalence and severity of anemia among studied children (LR χ^2 (corrected) = 229.5, $df=3$). Majority (n=121, 72%) of the studied children had normocytic normochromic anemia.

Conclusion: Majority of under-fives in attendance at outpatient clinics in Temeke were anemic. Normochromic normocytic anemia was the most prevalent variant of anemia in this study population.