

Multiple malnutrition burdens in children under five in West Africa

Introduction

Although progress has been made in the past decade, the burden of child malnutrition remains high in many low- and middle-income countries. They continue to be affected by a high burden of undernutrition, whilst the rate of childhood overweight/obesity is increasing substantially. This study aimed to critically assess the multiple malnutrition burden in children under five (U5) in West Africa (WA).

Methods

We applied a mixed-method approach including a secondary data analysis and a systematic mapping review. The secondary data analysis used the Demographic Health Surveys and Multiple Indicator Cluster Surveys data for all WA countries. We report on prevalence levels of U5 stunting (height-for-age Z-score < -2), U5 anaemia (hemoglobin < 110 g/l), low birth weight (LBW; birth weight < 2,500 g), U5 overweight/obesity (weight-for-height Z-score > 2), and U5 wasting (weight-for-height Z-score < -2). We applied standard prevalence cut-offs to identify severe country-level burdens: U5 stunting $\geq 30\%$, U5 anaemia $\geq 40\%$, LBW $\geq 10\%$, U5 overweight $\geq 3\%$, and U5 wasting $\geq 10\%$. The systematic mapping review identified and catalogued all peer-reviewed literature (in MEDLINE) since January 1, 2010 that reported on any of these forms of U5 malnutrition, except for U5 anaemia.

Results

The secondary analysis showed that across the 16 WA countries, LBW is ranked as the most prevalent form of malnutrition in children (15 out of 16 countries), followed by anaemia (14 out of 16 countries), stunting (8 out of 16 countries), overweight (7 out of 16 countries) and wasting (5 out of 16 countries). Ten countries face multiple types of malnutrition simultaneously. Guinea, Mali, Niger, and Sierra Leone experience a quadruple burden of child malnutrition.

Of the 230 studies identified in the systematic search, seven only reported on overweight/obesity, 22 only on stunting, 30 only on wasting, and 109 only on LBW, whereas 62 reported on more than one type of malnutrition. Only seven studies reported on overweight/obesity in conjunction with at least one form of undernutrition (stunting, wasting and/or LBW); the remaining reported on several forms of undernutrition. Nigeria is the country with the most research reporting on U5 overweight/obesity (n=6).

Conclusions

West African countries experience multiple types of undernutrition in U5, whilst the burden of U5 overweight/obesity is increasingly prevalent alongside. Research reporting on multiple malnutrition burdens is lacking, and there is an urgent need for more studies focusing on both over and undernutrition simultaneously. These multiple burdens conceal many complexities both in causation and necessary interventions, and countries will need to better understand what drives these and how they coexist to address them simultaneously through adapted programs and policies.

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