

## Associated factors to the double burden of malnutrition in mother-child dyads in the Republic of the Marshall Islands

A double burden of malnutrition is evident in Pacific Islands nations, where the prevalence of child stunting remains a serious public health concern and the regional prevalence of overweight adults is among the highest in the world. A recent national Integrated Child Health and Nutrition Survey (ICHNS 2017) conducted in the Republic of the Marshall Islands (RMI) confirmed that the double burden of malnutrition was common with one in four households with a child under 5 years having both a stunted child and an overweight or obese mother. In our analysis, we examined key influencing factors of the double burden of malnutrition through the mother-child dyad in households.

Anthropometric measures were collected in 634 mother-child dyads in a nationally representative sample. Children (0-59 months) were identified as stunted based on a height for age  $<-2$  below the WHO reference median and maternal overweight/obesity was defined as a BMI  $\geq 25$ . Relative Risk Ratios (RRR) from mother-child pairs with a stunted child and an overweight mother, or households with a maternal-child double burden (MCDB), were compared to both non-stunted child-overweight mother pairs and non-stunted child-healthy mother pairs.

The national prevalence of mother-child double burden dyad was 25% with 36.5% of children stunted and 70.9% of mothers either overweight or obese. The results of multinomial logistic regression analysis are presented in Table 1. Compared to households with a healthy child and an overweight mother, MCDB households were poorer and had more household members with highest risk associated in the poorest (RRR 3.96, 95% CI 1.51-10.43) and second poorest households (RRR 3.52, 95% CI 1.64-7.55). The maternal characteristics of being never being married (RRR 2.02; 95% CI 1.33-3.06) and short stature less than 150cm (RRR 5.82; 95% CI 2.14-15.83) and 150-159cm (RRR 3.28; 95% CI 1.24-8.64) were associated with increased risk of MCDB. Age of the child and gender were both associated with high risk of MCDB with children older than 12 months and boys at highest risk. In comparison to non-stunted child-healthy mother pairs, increased risk of MCDB was associated with the poorest households (6.29; 95% CI 1.61-24.57), older mothers (1.18; 95% CI 1.13-1.24), mothers with short stature (3.45; 95% CI 1.01-11.74), and children older than 12 months.

Our findings indicate that the double burden of malnutrition is a national public health concern in RMI with poorer and vulnerable households at highest risk. In RMI, both stunting and overweight may be rooted in the early undernutrition of children with early disadvantage impacting health and well-being throughout the life course. To address the conditions leading to the double burden of malnutrition, categorical unconditional cash transfers to pregnant women and young children during the first 1,000 days will be implemented in RMI.

### Country

Republic of the Marshall Islands

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