Micronutrient status of adolescent girls living in the South-western coastal zone of Bangladesh

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Background

- Intake of both macro- and micronutrients is inadequate in adolescent girls in Bangladesh
- The aim of this study was to assess micronutrient status of adolescent girls living in the South-western coastal zone of Bangladesh, an area known for aquaculture production

Methods

- Two cross-sectional surveys were carried out during August–September 2017 and April–May 2018 across different salinity zones
- Data were collected for the same adolescent girls in the dry (n=298) and rainy (n=270) seasons
- We collected blood and urine samples to assess serum levels of vitamin D, ferritin and retinol, and urinary iodine concentrations. All these micronutrients are relevant to fish consumption
Results

Key Findings

- The prevalence of iodine deficiency was lower than the national average. Girls from low saline areas had the highest levels of iodine deficiency.
- Prevalence of iron deficiency did not vary across areas. 13% of the girls had iron deficiency in the dry season, which increased to 19% in the wet season.
- Prevalence of vitamin D deficiency varied significantly across salinity areas. In fresh water areas, more than half of the girls were vitamin D deficient.
- All girls had normal serum retinol levels.
Conclusion

- Our data provides evidence of seasonal variation in micronutrient status of the adolescent girls.

- Our data also indicate differences in micronutrient status across salinity areas. This may be linked to their dietary intake, for example that of fish.

- The higher prevalence of vitamin D deficiency, especially in the fresh water zone, needs urgent attention and robust research.