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Responsibility

Researchers' new metric identifies girls in developing countries at risk of nutritional deficiency

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By Responsible Seafood Advocate

Adolescent girls in Bangladesh, with higher nutritional needs, are particularly vulnerable, researchers find

A University of Stirling scientist has led a project that developed a new tool to identify girls in developing countries who are at risk of nutritional deficiency.

Professor Dave Little of the University's world-renowned Institute of Aquaculture said that adolescent girls in Bangladesh are particularly vulnerable: "Adolescent girls represent a particularly vulnerable group in Bangladesh, with higher nutritional needs relative to energy requirements than other adult household members, and at the same time likely to have restricted access to food," said Little. "For this group, an optimal diet is critical for their own health and – in the case of early marriage and motherhood – for their infants."

While aquaculture is a fast-growing food production sector in many low-income and food-deficit countries, local communities can still have a poor diet without access to the fish.

Prof. Little led research that has enhanced their understanding of factors that are important for

Alexandra Pounds, research fellow at the University of Stirling's Institute of Aquaculture, in Bangladesh.

explaining the role of fish intake in nutritional well-being. To do this, a metric – a user-friendly tool – was developed to identify adolescent girls at greater risk of nutritional deficiency.

A survey of 300 girls was repeated during the dry and wet seasons in order to capture seasonal variations in fish availability. The observational data enabled researchers to combine risk factors that identify girls who are most likely to have a deficiency in omega-3 fatty acids. Research partners include the Universities of Glasgow, Aberdeen and Copenhagen; the Noakhali Science and Technology University; and the International Centre for Diarrhoeal Disease Research in Bangladesh.

"The identification of particularly at-risk individuals would improve targeting of timely and cost-effective interventions," said Dr. Eleanor Grieve of the University of Glasgow's Schools of Health and Wellbeing, who led the paper. "The use of the metric using a few short questions is cheaper, can be done online, and avoids the complexity and cost of finger prick blood sampling and biomarker

measurement based on field samples. Application of the metric could enable the development and implementation of better informed and more integrated policies and practices in relation to aquatic food production systems."

Read the full paper, published in BMC Public Health, **here** (https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-023-15175-z).

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