

Associations between plant and animal protein intake and anthropometric indices among school-aged girls in Kabul Afghanistan

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Abstract

Background: Adolescent girls in Afghanistan have high levels of food insecurity, yet little is known about their dietary intakes. Therefore, we aimed to study the association between dietary protein intake and anthropometric indices among adolescent girls in Kabul, Afghanistan. Methods: We conducted a cross-sectional study of 380 adolescent girls at 16 government schools from eight randomly sampled zones in Kabul. In July 2019, we assessed dietary intake, body mass index (BMI), physical activity and socio-demographic variables. Binary logistic regression models were used to estimate the associations between different protein sources (plant protein, animal protein and total protein) and stunting, wasting, overweight and obesity. Results: Participant mean age was 14.8 ± 2 years and mean BMI was 19.8 ± 3.6 kg/m². The mean intakes of carbohydrates from plant proteins, animal proteins and total proteins were approximately 59.4 ± 19.6 gr/day, 22.3 ± 7.3 gr/day and 81.8 ± 27.1 gr/day, respectively. Students with more highly educated fathers consumed more plant proteins ($P < 0.05$). Participants had overall high dietary plant protein intake (mean 34.8 ± 22.0 g/day), with 66% from grains, cereals and flour. We did not find an association between dietary protein intake and stunting (OR=0.92; CI: 0.55-1.54), wasting (OR= 0.98; CI: 0.55-1.78), overweight (OR=1.18; CI: 0.62-2.25) or obesity (OR=0.84; CI: 0.19-3.58). Conclusion: While prior research suggests that dietary protein intake is associated with improved nutritional and anthropometric indices, dietary protein intake in this study was not associated with stunting, wasting, overweight and obesity. Further investigation is needed on this topic.

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