

Level and Associated Factors of Processed Food Consumption among Bangladeshi Children Aged 5-9 Years: A Multilevel Analysis

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Rationale & Objective

Children aged 5-9 years are in a crucial phase of development and susceptible to the harmful impacts of unhealthy diet.

Objective: to estimate the level and associated factors of processed food consumption (PFC) among children aged 5-9 years in Bangladesh.

Methods

Design: A nationwide cross-sectional study titled “Bangladesh National Food Security and Nutrition Surveillance 2023”.

Setting: Multistage cluster sampling to select 90 clusters, comprising 10 slum, 64 rural, and 16 non-slum urban clusters.

Participants: 5,736 Bangladeshi children (2,836 boys and 2,900 girls).

Outcome measures: PFC was defined as the consumption of food items from all three categories—sugary snacks (SS), savory crispy or fried snacks (SCFS), and sugar-sweetened beverages (SSB) in the past 24hours.

Statistical analysis: Multilevel (individual, community) logistic regression.

Results

Prevalence: The overall prevalence of PFC was 33.8% (95% CI: 32.5%–35.0%)

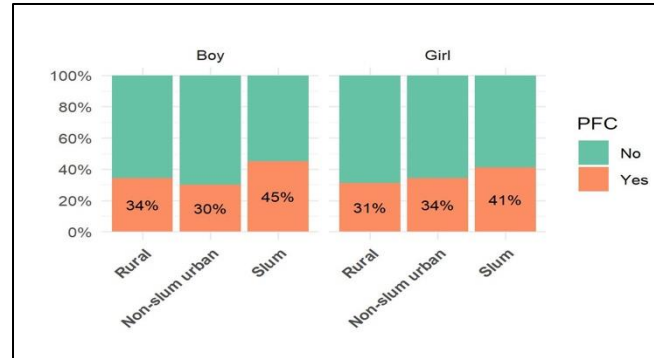


Figure 1: PFC by residence and sex

Parameter	Null Model	Individual	Community	Both
ICC	0.21	0.20	0.13	0.12
Variance	0.25 (0.19, 0.34)	0.23 (0.17, 0.32)	0.14 (0.10, 0.19)	0.13 (0.09, 0.18)
MOR	1.61	1.58	1.42	1.41
PCV	Reference	8.57%	45.45%	48.55%
Model fitness				
AIC	7171.62	6920.71	7151.34	6900.21

Table 1: Random effect and model comparison

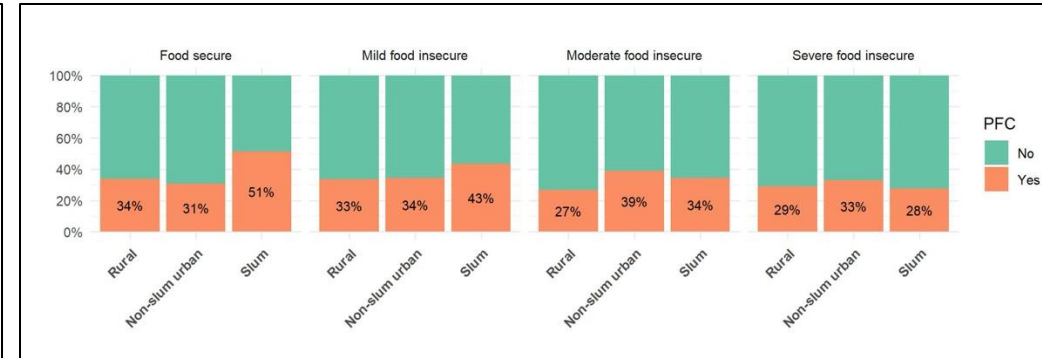


Figure 2: PFC by residence and food insecurity

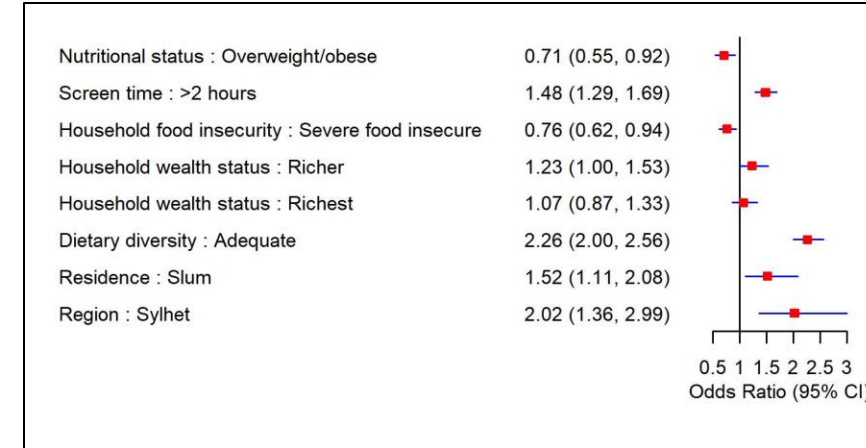


Figure 3: Forest plot of associated factors

Implications: Screen time >2 hours, adequate dietary diversity, slum dwelling and residence in Sylhet region increase the odds of PFC. These variables should be considered while designing and implementing PFC reduction programs in Bangladesh.