**Supplementary Material**

Table 4. Mixed effects logistic regression model analysis of demographic and socio-economic factors correlated with obesity among school children in Costa Rica, by sex and area. (N=347366).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Overall | | Sex | | | | Area | | | |
|  |  | | Boys | | Girls | | Rural and mixed | | Urban | |
|  | OR | 95% CI | OR | 95% CI | OR | 95% CI | OR | 95% CI | OR | 95% CI |
| **Sex** |  |  |  |  |  |  |  |  |  |  |
| Boys (ref) | 1 |  |  |  |  |  | 1 |  | **1** |  |
| Girls | **0.65** | **0.64, 0.66** |  |  |  |  | **0.67** | **0.65, 0.69** | **0.64** | **0.62, 0.65** |
| **Age** |  |  |  |  |  |  |  |  |  |  |
| 6 years | **0.86** | **0.82, 0.90** | **0.83** | **0.78, 0.88** | **0.91** | **0.85, 0.97** | **0.85** | **0.80, 0.91** | **0.86** | **0.80, 0.91** |
| 7 years (ref) | 1 |  | 1 |  | 1 |  | 1 |  | **1** |  |
| 8 years | **1.20** | **1.16, 1.24** | **1.23** | **1.18, 1.29** | **1.15** | **1.09, 1.21** | **1.19** | **1.13, 1.25** | **1.20** | **1.15, 1.26** |
| 9 years | **1.28** | **1.24, 1.32** | **1.37** | **1.31, 1.43** | **1.16** | **1.11, 1.23** | **1.29** | **1.22, 1.35** | **1.27** | **1.21, 1.33** |
| 10 years | **1.26** | **1.22, 1.31** | **1.36** | **1.30, 1.42** | **1.15** | **1.09, 1.21** | **1.29** | **1.22, 1.35** | **1.25** | **1.20, 1.31** |
| 11 years | **1.18** | **1.14, 1.22** | **1.25** | **1.20, 1.31** | **1.10** | **1.04, 1.16** | **1.18** | **1.12, 1.24** | **1.18** | **1.28, 1.24** |
| 12 years | 1.02 | 0.99, 1.07 | 1.02 | 0.96, 1.07 | 1.01 | 0.95, 1.08 | 1.06 | 1.00, 1.12 | 1.00 | 0.95, 1.05 |
| **Type of school** |  |  |  |  |  |  |  |  |  |  |
| Public (ref) | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  |
| Private | 0.97 | 0.94, 1.01 | 1.03 | 0.98, 1.08 | 0.89 | 0.84, 0.94 | 1.06 | 0.96, 1.17 | 0.02 | 0.92, 1.00 |
| **Area** |  |  |  |  |  |  |  |  |  |  |
| Rural | **0.88** | **0.83, 0.94** | 0.91 | 0.85, 0.98 | **0.83** | **0.76, 0.90** |  |  |  |  |
| Mix | 0.96 | 0.92, 1.01 | 0.97 | 0.92, 1.02 | 0.96 | 0.90, 1.02 |  |  |  |  |
| Urban (ref) | 1 |  | 1 |  | 1 |  |  |  |  |  |
| **District socio-economic status** |  |  |  |  |  |  |  |  |  |  |
| 1st quartile (lowest) | **0.77** | **0.72, 0.82** | **0.72** | **0.67, 0.77** | **0.85** | **0.79, 0.92** | 1.01 | 0.86, 1.18 | 0.95 | 0.90, 1.00 |
| 2nd quartile | **0.89** | **0.84, 0.95** | **0.85** | **0.80, 0.91** | 0.94 | 0.87, 1.01 | 0.93 | 0.81, 1.08 | **0.88** | **0.83, 0.94** |
| 3rd quartile | 0.96 | 0.90, 1.02 | 0.95 | 0.89, 1.01 | 0.97 | 0.90, 1.04 | 0.80 | 0.70, 0.93 | **0.77** | **0.70, 0.85** |
| 4th quartile (highest) (ref) | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  |

a Odds ratio (OR) and 95 % confidence interval (CI) were derived from mix effects logistic regression model.

Ref = reference category; in bold are the OR that are statistically significantly different from the reference's OR (p< 0.01).

Table 5. Mixed effects logistic regression model analysis of demographic and socio-economic factors correlated with thinness among school children in Costa Rica, by sex and area. (N=347366).

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Overall | | Sex | | | | Area | | | |
|  |  | | Boys | | Girls | | Rural and mixed | | Urban | |
|  | OR | 95% CI | OR | 95% CI | OR | 95% CI | OR | 95% CI | OR | 95% CI |
| **Sex** |  |  |  |  |  |  |  |  |  |  |
| Boys (ref) | 1 |  |  |  |  |  |  |  |  |  |
| Girls | 1.00 | 0.95, 1.05 |  |  |  |  | 1.01 | 0.94, 1.08 | 1.00 | 0.93, 1.07 |
| **Age** |  |  |  |  |  |  |  |  |  |  |
| 6 years | **1.25** | **1.11, 1.41** | 1.23 | 1.06, 1.44 | **1.27** | **0.85, 0.97** | **1.32** | **1.13, 1.55** | 1.17 | 0.99, 1.40 |
| 7 years (ref) | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  |
| 8 years | 1.07 | 1.97, 1.18 | 1.03 | 0.90, 1.17 | 1.13 | 1.09, 1.21 | 1.06 | 0.92, 1.21 | 1.08 | 0.94, 1.25 |
| 9 years | **1.19** | **1.09, 1.32** | 0.99 | 0.87, 1.13 | **1.46** | **1.11, 1.23** | **1.20** | **1.05, 1.37** | 1.19 | 1.04, 1.37 |
| 10 years | **1.47** | **1.34, 1.61** | **1.21** | **1.07, 1.38** | **1.81** | **1.09, 1.21** | **1.39** | **1.22, 1.58** | **1.55** | **1.36, 1.77** |
| 11 years | **1.71** | **1.56, 1.87** | **1.49** | **1.32, 1.69** | **1.99** | **1.04, 1.16** | **1.74** | **1.54, 1.97** | **1.67** | **1.47, 1.91** |
| 12 years | **1.89** | **1.71, 2.08** | **1.69** | **1.48, 1.93** | **2.14** | **0.95, 1.08** | **1.74** | **1.52, 1.99** | **2.04** | **1.78, 2.34** |
| **Type of school** |  |  |  |  |  |  |  |  |  |  |
| Public (ref) | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  |
| Private | **0.80** | **0.71, 0.89** | **0.78** | **0.66, 0.91** | 0.81 | 0.84, 0.94 | **0.54** | **0.38, 0.76** | **0.84** | **0.75, 0.95** |
| **Area** |  |  |  |  |  |  |  |  |  |  |
| Rural | 1.10 | 0.97, 1.26 | 1.09 | 0.94, 1.28 | 1.08 | 0.93 |  |  |  |  |
| Mix | 1.12 | 1.01, 1.24 | 1.11 | 0.99, 1.25 | 1.12 | 1.00 |  |  |  |  |
| Urban (ref) | 1 |  | 1 |  | 1 | 1 |  |  |  |  |
| **District socio-economic status** |  |  |  |  |  |  |  |  |  |  |
| 1st quartile (lowest) | 0.99 | 0.87, 1.12 | 0.97 | 0.84, 1.12 | 1.00 | 0.87, 1.16 | 1.03 | 0.77, 1.38 | 0.98 | 0.86, 1.11 |
| 2nd quartile | 1.13 | 0.99, 1.29 | 1.12 | 0.97, 1.31 | 1.18 | 1.02, 1.37 | 1.16 | 0.88, 1.52 | 1.13 | 0.97, 1.31 |
| 3rd quartile | 1.13 | 0.98, 1.29 | 1.10 | 0.94, 1.30 | 1.15 | 0.99, 1.35 | 1.14 | 0.87, 1.49 | 1.17 | 0.95, 1.45 |
| 4th quartile (highest) (ref) | 1 |  | 1 |  | 1 |  |  |  |  |  |

a Odds ratio (OR) and 95 % confidence interval (CI) were derived from mix effects logistic regression model.

Ref = reference category; in bold are the OR that are statistically significantly different from the reference's OR (p< 0.01).