

# Supplementary Materials

**Table S1.** Global Dietary Recommendations scores constructed from the Diet Quality Questionnaire.

Food Groups	GDR-Healthy (0 to 9)	GDR-Limit (0 to 9)	Overall GDR <sup>a</sup> (-9 to 9)
1. Staple foods made from grains			
2. Whole grain	√		√
3. White root/tubers			
4. Legumes	√		√
5. Vitamin A-rich orange vegetables	√		√
6. Dark green leafy vegetables	√		√
7. Other vegetables	√		√
8. Vitamin A-rich fruits	√		√
9. Citrus	√		√
10. Other fruits	√		√
11. Grain-baked sweets		√	√
12. Other sweets		√	√
13. Eggs			
14. Cheese			
15. Yogurt			
16. Processed meat <sup>b</sup>		√	√
17. Unprocessed red meat (ruminant)		√	√
18. Unprocessed red meat (non-ruminant)		√	√
19. Poultry			
20. Fish and seafood			
21. Nuts and seeds	√		√
22. Packaged ultra-processed salty snacks		√	√
23. Instant noodles		√	√
24. Deep fried foods		√	√
25. Fluid milk			
26. Sweet tea/coffee/milk drinks			
27. Fruit juice			
28. Sugar-sweetened beverages		√	√
29. Fast food		√	√

GDR, Global Dietary Recommendations. “√” represents the selected food groups used to construct the GDR scores. <sup>a</sup> The overall GDR score is calculated as GDR-Healthy score subtracting GDR-Limit score. <sup>b</sup> Processed meat is double weighted.





**Table S3.** Number and percentage (%) of the overweight and obese children by the Global Dietary Recommendations (GDR) scores.

Scores	Body mass index						Waist circumference			
	Non-overweight/obesity		Overweight		General obesity		Non-obesity		Abdominal obesity	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
GDR-Healthy										
0	16	76.2	3	14.3	2	9.5	17	81.0	4	19.0
1	198	84.6	14	6.0	22	9.4	192	82.8	40	17.2
2	363	78.2	57	12.3	44	9.5	373	80.2	92	19.8
3	324	77.5	48	11.5	46	11.0	329	79.5	85	20.5
4	180	77.3	29	12.4	24	10.3	178	76.1	56	23.9
5	36	81.8	4	9.1	4	9.1	39	88.6	5	11.4
6	7	100.0	0	0.0	0	0.0	5	71.4	2	28.6
7	1	50.0	1	50.0	0	0.0	1	50.0	1	50.0
GDR-Limit										
0	306	86.2	27	7.6	22	6.2	301	85.0	53	15.0
1	555	78.2	95	13.4	60	8.5	565	80.0	141	20.0
2	205	74.5	25	9.1	45	16.4	212	76.8	64	23.2
3	45	68.2	7	10.6	14	21.2	42	63.6	24	36.4
4	11	78.6	2	14.3	1	7.1	11	78.6	3	21.4
5	3	100.0	0	0.0	0	0.0	3	100.0	0	0.0
Overall GDR										
-3	100	100.0	0	0.0	0	0.0	1	100.0	0	0.0
-2	80	80.0	2	6.7	4	13.3	22	73.3	8	26.7
-1	42	71.2	6	10.2	11	18.6	42	71.2	17	28.8
0	157	77.0	17	8.3	30	14.7	156	76.9	47	23.2
1	340	80.4	49	11.6	34	8.0	354	83.7	69	16.3
2	325	77.8	53	12.7	40	9.6	327	78.8	88	21.2
3	170	80.6	22	10.4	19	9.0	165	78.2	46	21.8
4	53	84.1	6	9.5	4	6.4	55	87.3	8	12.7
5	11	100.0	0	0.0	0	0.0	11	100.0	0	0.0
6	2	66.7	1	33.3	0	0.0	1	33.3	2	66.7

**Table S4.** Subgroup analysis of associations between the Global Dietary Recommendations scores and overweight and obesity by sex, age, and residence.

Scores	Overweight		General obesity		Abdominal obesity	
	OR (95% CI)	<i>p</i> Value	OR (95% CI)	<i>p</i> Value	OR (95% CI)	<i>p</i> Value
Boys						
GDR-Healthy	1.04 (0.85-1.26)	0.731	0.92 (0.74-1.15)	0.476	1.04 (0.88-1.23)	0.655
GDR-Limit	0.97 (0.75-1.27)	0.843	1.18 (0.90-1.55)	0.230	1.13 (0.90-1.40)	0.295
Overall GDR	1.04 (0.88-1.22)	0.674	0.88 (0.73-1.06)	0.172	0.98 (0.85-1.13)	0.771
Girl						
GDR-Healthy	1.12 (0.88-1.43)	0.367	1.05 (0.83-1.33)	0.692	1.02 (0.86-1.20)	0.824
GDR-Limit	1.11 (0.79-1.57)	0.536	1.82 (1.36-2.45)	<0.001	1.33 (1.07-1.66)	0.010
Overall GDR	1.04 (0.85-1.27)	0.702	0.82 (0.67-0.99)	0.037	0.91 (0.80-1.04)	0.177
7–12 years						
GDR-Healthy	1.01 (0.82-1.24)	0.936	0.92 (0.77-1.11)	0.400	0.98 (0.83-1.16)	0.852
GDR-Limit	1.03 (0.78-1.36)	0.838	1.40 (1.12-1.75)	0.004	1.29 (1.04-1.59)	0.019
Overall GDR	1.00 (0.84-1.18)	0.954	0.82 (0.71-0.96)	0.011	0.89 (0.78-1.02)	0.106
13–18 years						
GDR-Healthy	1.15 (0.92-1.44)	0.225	1.17 (0.84-1.63)	0.353	1.07 (0.91-1.27)	0.404
GDR-Limit	1.04 (0.75-1.43)	0.825	1.63 (1.07-2.49)	0.023	1.17 (0.93-1.48)	0.189
Overall GDR	1.09 (0.90-1.33)	0.367	0.92 (0.69-1.22)	0.542	0.99 (0.86-1.15)	0.932
Rural						
GDR-Healthy	1.08 (0.88-1.34)	0.445	0.92 (0.73-1.16)	0.472	0.91 (0.76-1.08)	0.262
GDR-Limit	1.32 (0.99-1.76)	0.061	1.47 (1.11-1.94)	0.007	1.26 (1.00-1.57)	0.047
Overall GDR	0.93 (0.77-1.13)	0.456	0.88 (0.72-1.06)	0.174	0.85 (0.73-0.98)	0.028
Urban						
GDR-Healthy	1.06 (0.85-1.32)	0.628	1.05 (0.84-1.33)	0.655	1.16 (0.99-1.36)	0.076
GDR-Limit	0.83 (0.62-1.12)	0.228	1.37 (1.03-1.83)	0.031	1.19 (0.96-1.47)	0.123
Overall GDR	1.13 (0.95-1.35)	0.166	0.83 (0.69-1.01)	0.057	1.04 (0.91-1.19)	0.591

CI, confidence interval; GDR, global dietary recommendations; OR, odds ratio. Logistic regression analyses are used to calculate the odds ratios and 95% confidence intervals with adjustment for sex, age, residence, and urbanization index, except in specific subgroups.

**Table S5.** Sensitivity analysis of associations between the Global Dietary Recommendations scores and overweight and obesity.

Scores	Overweight		General obesity		Abdominal obesity	
	OR (95% CI)	<i>p</i> Value	OR (95% CI)	<i>p</i> Value	OR (95% CI)	<i>p</i> Value
GDR-Healthy						
Continuous	1.08 (0.94-1.25)	0.260	0.96 (0.80-1.14)	0.626	0.99 (0.89-1.11)	0.873
Categories						
≤1	1.00 (Ref.)		1.00 (Ref.)		1.00 (Ref.)	
2	1.52 (0.92-2.51)	0.104	1.05 (0.60-1.86)	0.862	1.20 (0.82-1.75)	0.356
≥3	1.51 (0.93-2.45)	0.092	1.00 (0.58-1.72)	0.998	1.12 (0.78-1.62)	0.535
GDR-Limit						
Continuous	1.08 (0.90-1.31)	0.401	1.29 (1.05-1.60)	0.018	1.11 (0.95-1.28)	0.193
Categories						
0	1.00 (Ref.)		1.00 (Ref.)		1.00 (Ref.)	
1	1.48 (0.97-2.25)	0.072	1.25 (0.72-2.16)	0.431	1.14 (0.81-1.60)	0.445
≥2	1.31 (0.80-2.16)	0.279	1.99 (1.11-3.57)	0.021	1.31 (0.89-1.91)	0.172
Overall GDR						
Continuous	1.03 (0.91-1.15)	0.668	0.87 (0.76-1.01)	0.061	0.96 (0.87-1.05)	0.349
Categories						
<0	1.00 (Ref.)		1.00 (Ref.)		1.00 (Ref.)	
0	1.09 (0.50-2.41)	0.825	0.81 (0.38-1.74)	0.588	0.93 (0.53-1.63)	0.794
≥1	1.18 (0.59-2.36)	0.637	0.57 (0.29-1.09)	0.089	0.73 (0.45-1.19)	0.211

CI, confidence interval; GDR, global dietary recommendations; OR, odds ratio; Ref, reference group. Logistic regression analyses are used to calculate the odds ratios and 95% confidence intervals with adjustment for sex, age, residence, and urbanization index. Overweight and general obesity are defined using the World Health Organization body mass index for age z-scores; Abdominal obesity is defined using the international waist circumference percentile cutoffs for central obesity in children and adolescents aged 6–18 years.