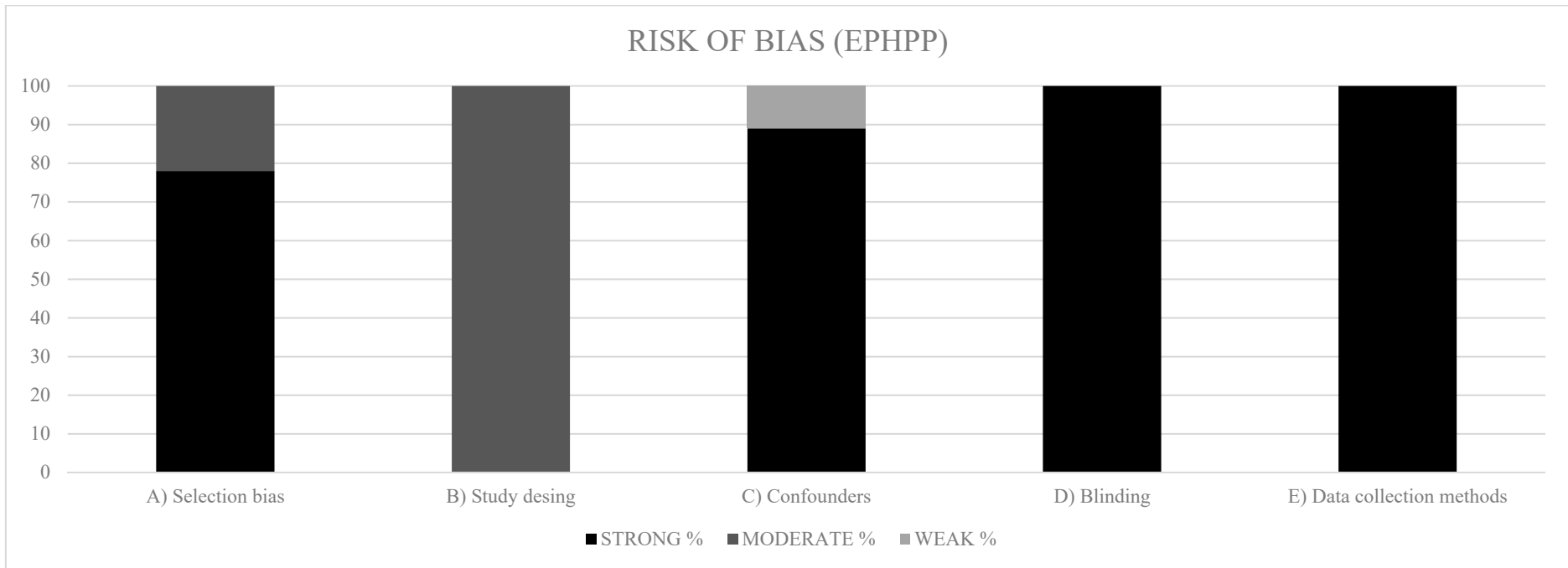


**Figure S1: Risk of Bias Assessment and Study Quality**



**Figure S2: Risk of Bias Assessment and Study Quality (EPHPP; Effective Public Health Practice)**

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**Table S1.** Differences in miRNA expression between children with obesity and normal-weight children.

miRNAs	Author	Effect size (cases vs controls)			p
		Relative expression level	Mean expression level	Fold change	
miR-222	Al-rawaf HA et al. 2018	14.5 vs 4.5	-	-	<0.001
	Cui et al. 2017	-	-	>6	<0.01
	Prats-Puig et al 2013.	-	41.08±30.59 vs. 25.43±17.87	-	0.001
miR-142-3p	Al-rawaf HA et al. 2018	12 vs 2.5	-	-	<0.001
	Prats-Puig et al 2013.	-	90.31±61.46 vs. 32.30±21.29	-	<0.0001
miR-140-5p	Al-rawaf HA et al. 2018	13.5 vs 4	-	-	<0.001
	Prats-Puig et al 2013.	-	32.66±18.13 vs. 23.15±17.50	-	0.001
miR-143	Al-rawaf HA et al. 2018	14 vs 3.5	-	-	<0.001
	Can et al. 2015	-	30.5 vs 115.35	-	0.001
miR-532-5p	Al-rawaf HA et al. 2018	8 vs 17	-	-	<0.001
	Prats-Puig et al 2013.	-	10.49±7.75 vs. 5.49±4.28	-	0.001
miR-423-5p	Al-rawaf HA et al. 2018	4 vs 14	-	-	<0.001
	Prats-Puig et al 2013.	-	2.16±1.35 vs. 1.13±0.77	-	<0.0001
miR-146a	Al-rawaf HA et al. 2018	4 vs 15	-	-	<0.001
	Cui et al. 2017	-	-	3.8	<0.01
miR-26b	Cui et al. 2017	-	-	3.2	<0.01
miR-26b-5p	Iacomino et al. 2016	-	-	25.37	<0.05
miR-486	Cui et al. 2017	-	-	>6	<0.01
miR-486-5p	Prats-Puig et al 2013.	-	88.75±61.51 vs. 40.17±28.44	-	<0.0001
miR-486-3p	Prats-Puig et al 2013.	-	13.92±10.44 vs. 7.33±5.53	-	<0.0001
miR-130	Al-rawaf HA et al. 2018	16 vs 5	-	-	<0.001
miR-130a-3p	Ouyang et al. 2017	-	-	1.38	0.018
miR-130b	Prats-Puig et al 2013.	-	24.32±8.46 vs. 16.19±9.58	-	<0.0001
miR-520c-3p	Al-rawaf HA et al. 2018	6 vs 18	-	-	<0.001
miR-15a	Al-rawaf HA et al. 2018	9 vs 23	-	-	<0.001
miR-15b	Cui et al. 2017	-	-	>6	<0.01

miR-146b	Cui et al. 2017	-	-	>6	<0.01
miR-20a	Cui et al. 2017	-	-	3.2	<0.05
miR-197	Cui et al. 2017	-	-	- 4.2	<0.01
miR-301a-3p	Ouyang et al. 2017	-	-	1.33	0.011
miR-199a-3p/199b-3p	Ouyang et al. 2017	-	-	1.5	0.017
miR-191-5p	Ouyang et al. 2017	-	-	1.26	0.018
miR-361-5p	Ouyang et al. 2017	-	-	1.33	0.031
miR-126-3p	Ouyang et al. 2017	-	-	1.26	0.042
Let-7g-5p	Ouyang et al. 2017	-	-	-1.16	0.043
miR-4454	Ouyang et al. 2017	-	-	-2.12	0.043
miR-31-5p	Iacomino et al. 2016	-	-	4.9499	<0.05
miR-2355-5p	Iacomino et al. 2016	-	-	6.5216	<0.05
miR-1231	Iacomino et al. 2016	-	-	-8.7217	<0.05
miR-361-3p	Iacomino et al. 2016	-	-	-4.8918	<0.05
miR-136-5p	Iacomino et al. 2016	-	-	-4.8356	<0.05
miR-320a	Iacomino et al. 2016	-	-	-9.9692	<0.05
miR-206	Iacomino et al. 2016	-	-	-6.0515	<0.05
miR-335	Can et al. 2015	-	2.6 vs 11.6	-	<0.001
miR-27	Can et al. 2015	-	77.0 vs 124.00	-	0.032
miR-378	Can et al. 2015	-	6.0 vs 18.00	-	<0.001
miR-370	Can et al. 2015	-	501.0 vs 1687.0	-	0.045
miR-758	Can et al. 2015	-	175.45 vs 482.75	-	0.006
miR-221	Prats-Puig et al 2013.	-	8.49±7.01 vs. 50.36±45.32	-	<0.0001
miR-28-3p	Prats-Puig et al 2013.	-	5.21±2.80 vs. 8.84±4.06	-	<0.0001
miR-125b	Prats-Puig et al 2013.	-	0.48±0.38 vs. 0.92±0.88	-	0.001
miR-16-1	Prats-Puig et al 2013.	-	187.04±117.17 vs. 113.22±119.48	-	0.001
miR-328	Prats-Puig et al 2013.	-	7.06±4.02 vs. 11.44±9.97	-	0.001
miR-363	Prats-Puig et al 2013.	-	6.11±5.27 vs. 3.97±4.02	-	0.001
miR-122	Prats-Puig et al 2013.	-	37.44±35.74 vs. 23.46±24.83	-	0.001
miR-33a	Carolan et al. 2013	-	-	-	0.001
miR-33b	Carolan et al. 2013	-	-	-	0.017

12 **Table S2.** Differences in miRNA expression between children with obesity and insulin resistance  
 13 and children with obesity and insulin sensitivity

<b>Differences in miRNA expression (fast).</b>			
<b>miRNAs</b>	<b>Author</b>	<b>Effect size: fold change (cases <i>vs</i> controls)</b>	<b>p</b>
miR-122-5p	Masotti et al. 2016	2.82±0.49	0.037
miR-34a-5p		2.41±0.39	0.032
miR-320a		1.55±0.11	0.014
miR-505-3p		3.11±0.65	0.03
miR-26b-5b		1.63±0.17	0.02
miR-146a-5p		1.48±0.09	0.014
miR-148b-3p		1.47±0.18	0.032
miR-342-3p		1.46±0.25	0.05
miR-190a		-3.04±0.39	0.032
miR-200c-3p		-2.78±0.46	0.032
miR-205-5p		-2.60±0.44	0.032
miR-95		-1.72±0.26	0.032
miR-19a-3p		-1.55± 0.21	0.032
miR-660-5p		-1.50± 0.19	0.032
<b>Differences in miRNA expression after glucose oral tolerance test</b>			
<b>miRNAs</b>	<b>Author</b>	<b>Effect size: fold change (cases <i>vs</i> controls)</b>	<b>p</b>
miR-190a	Masotti et al. 2016	2.04±0.77	0.046
miR-200c-3p		3.88±0.82	0.015
miR-95		-3.31±1.35	0.044
miR-30b-5p		-1.82±0.54	0.027
miR-194-5p		2.05±0.53	0.028
miR-885-5p		4.42±1.42	0.044
miR-424-5p		-2.06±0.84	0.044
miR-301a-3p		-2.50±1.07	0.015
miR- 130b-3p		-2.32±0.92	0.046
miR-584-5p		2.45±1.08	0.046

