

Supplementary material

Results of trim-and-fill test for BMI in SDS

Meta-analysis

	Pooled	95% CI		Asymptotic		No. of
Method	Est	Lower	Upper	z_value	p_value	studies
-----+-----						
Fixed	0.469	0.388	0.550	11.350	0.000	5
Random	1.432	0.639	2.224	3.542	0.000	

Test for heterogeneity: Q= 273.745 on 4 degrees of freedom (p= 0.000)

Moment-based estimate of between studies variance = 0.779

Trimming estimator: Linear

Meta-analysis type: Random-effects model

iteration	estimate	Tn	# to trim	diff
-----+-----				
1	1.432	9	1	15
2	1.080	10	1	2
3	1.080	10	1	0

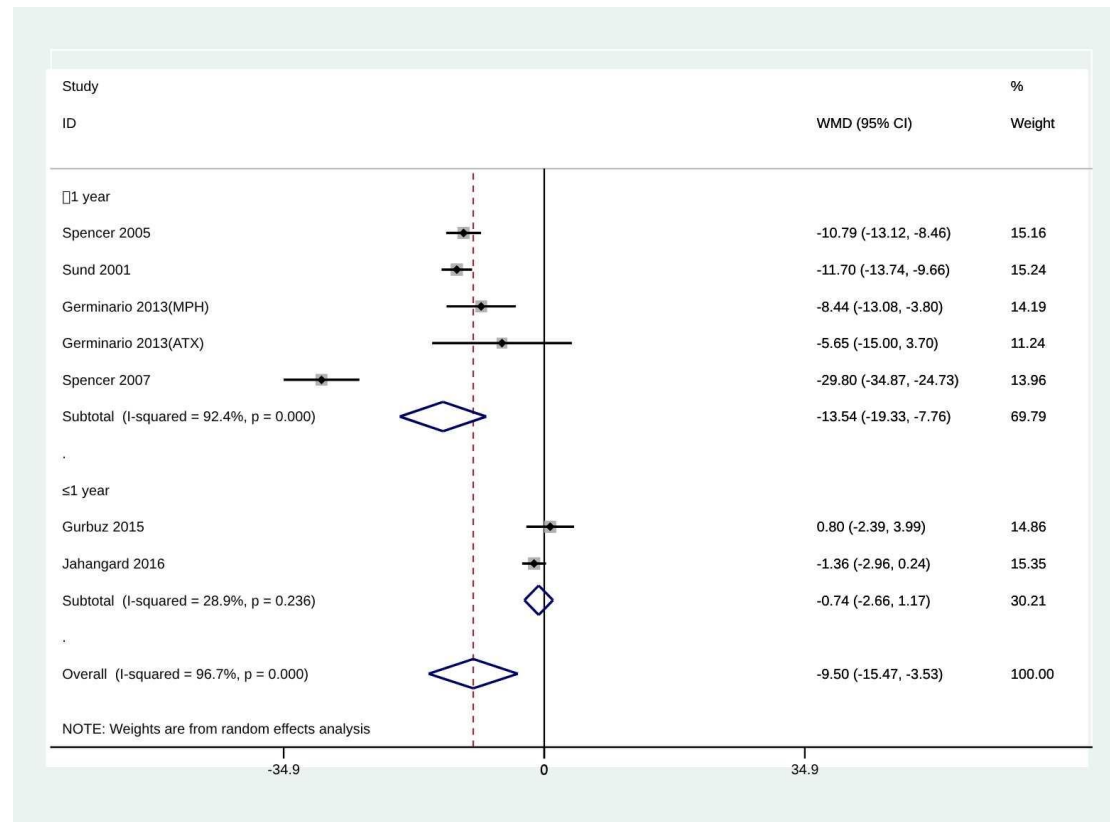
Filled

Meta-analysis (exponential form)

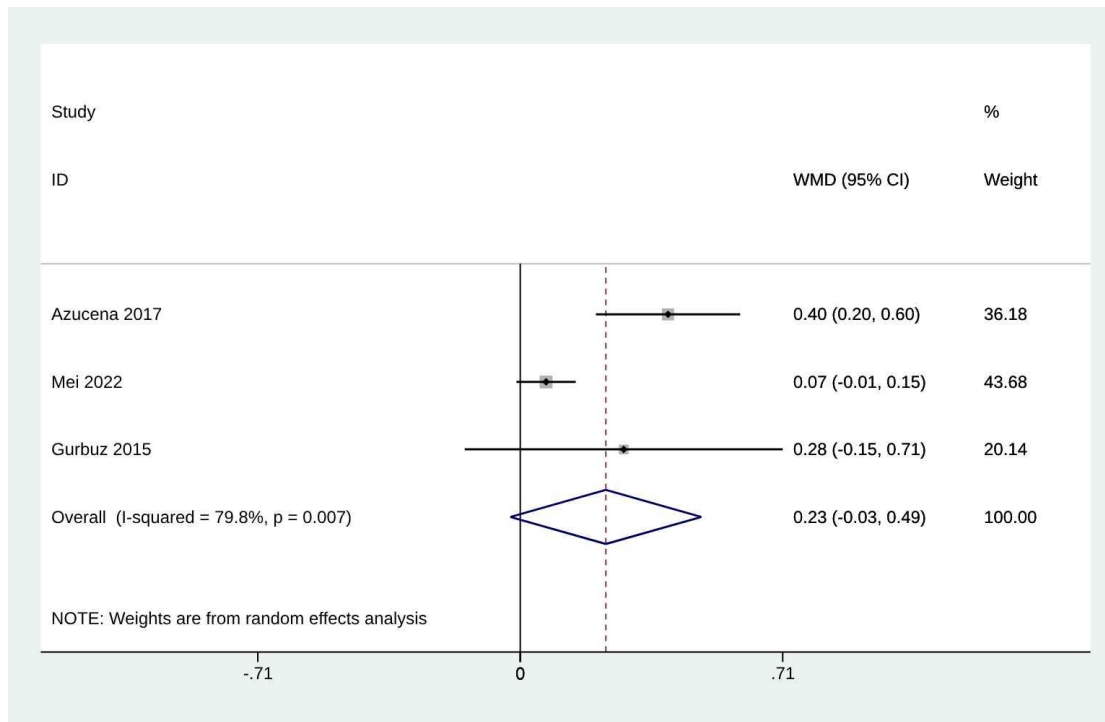
	Pooled	95% CI		Asymptotic		No. of
Method	Est	Lower	Upper	z_value	p_value	studies
-----+-----						
Fixed	1.571	1.449	1.702	11.003	0.000	6
Random	2.951	1.416	6.152	2.888	0.004	

Test for heterogeneity: $Q = 287.240$ on 5 degrees of freedom ($p = 0.000$)

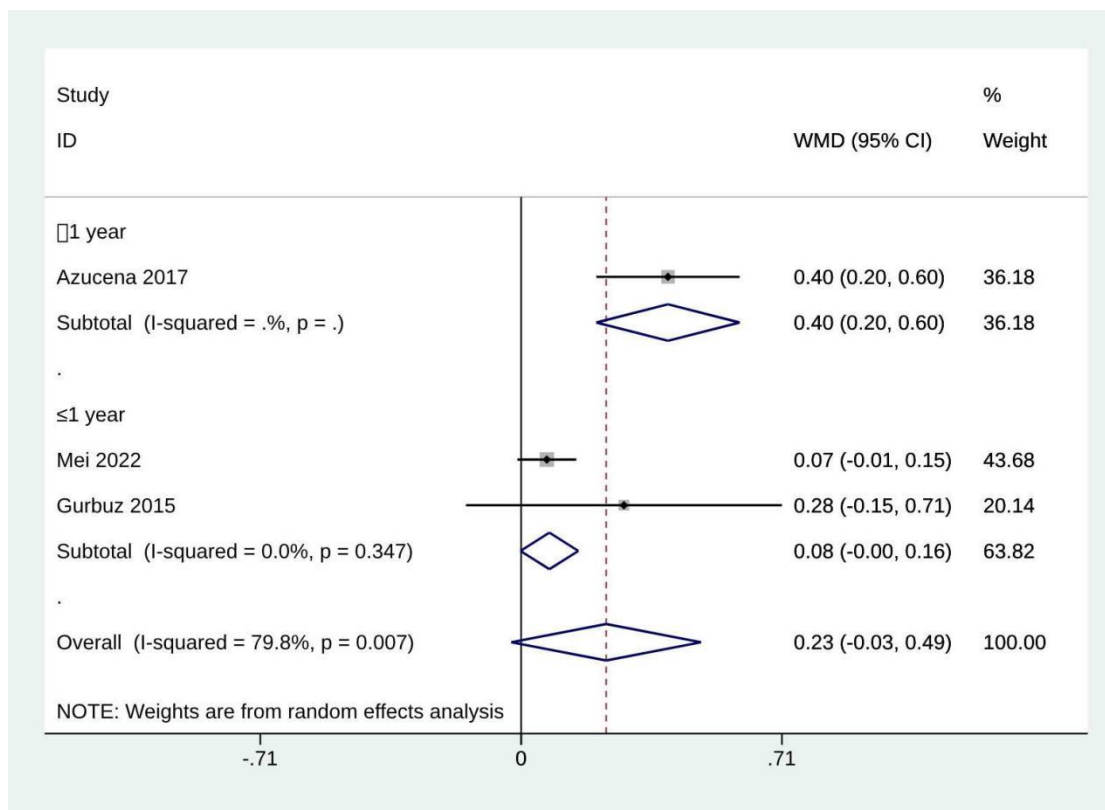
Moment-based estimate of between studies variance = 0.790



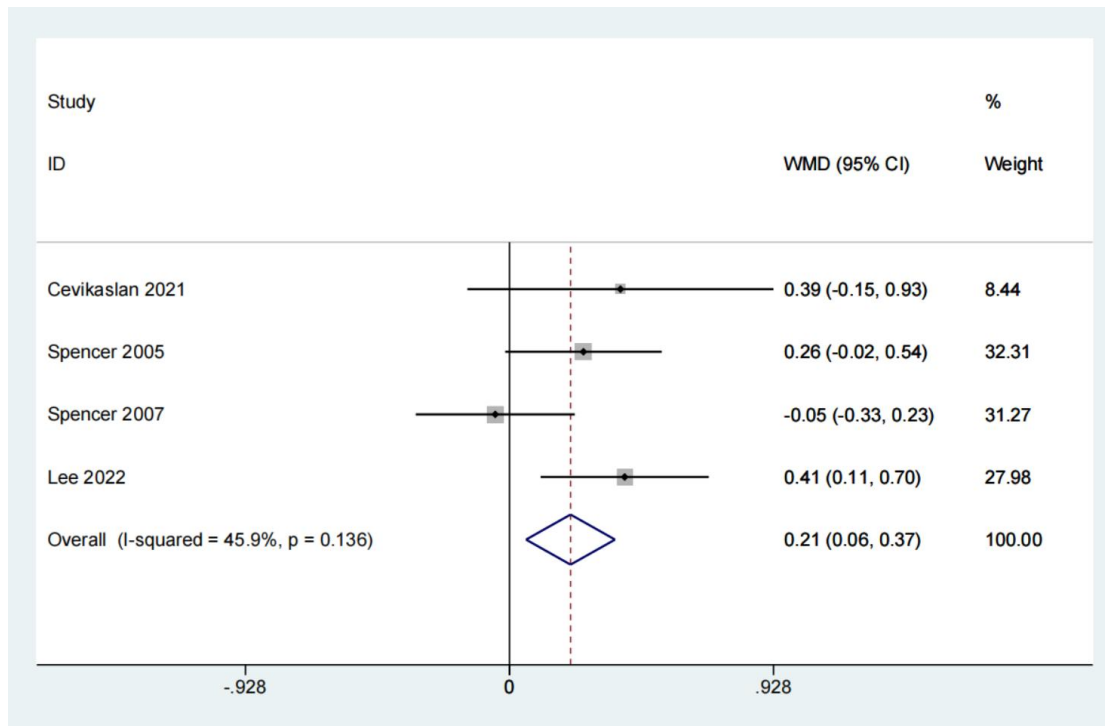
Supplementary Figure1 Forest plot of subgroup analyses on actual weight.



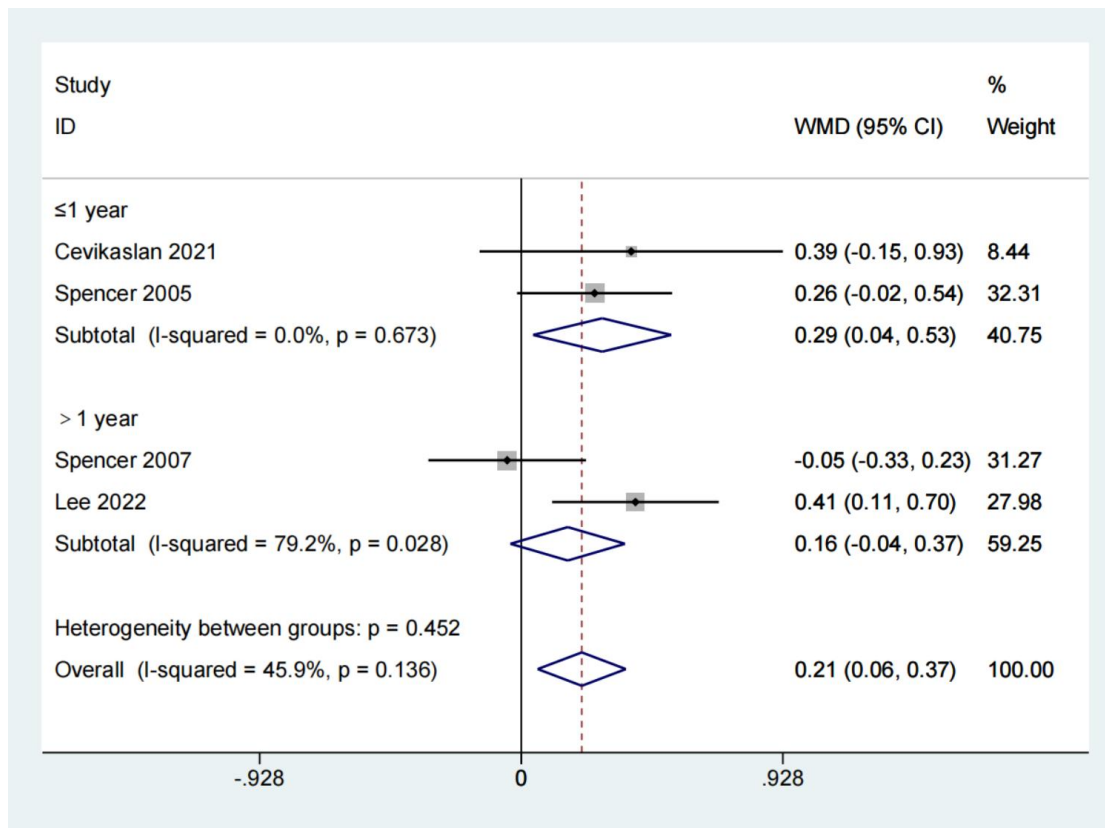
Supplementary Figure 2 Forest plot of weight standard deviation score.



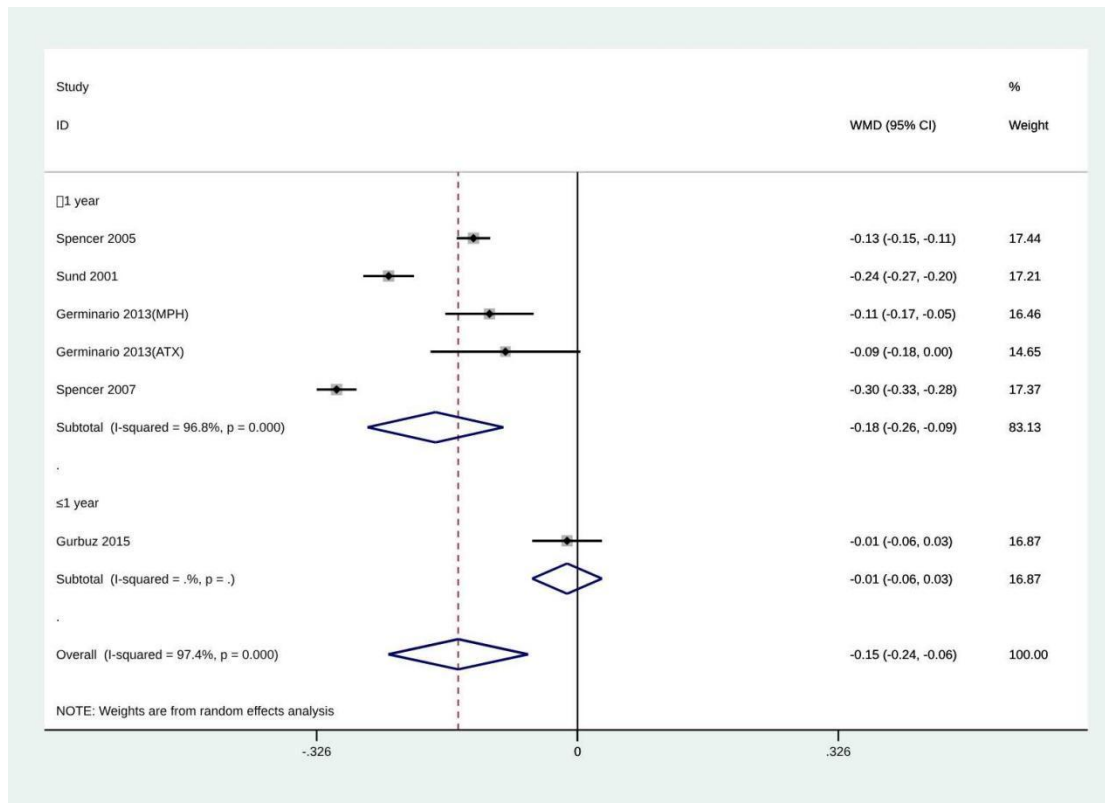
Supplementary Figure 3 Forest plot of subgroup analyses on weight standard deviation score.



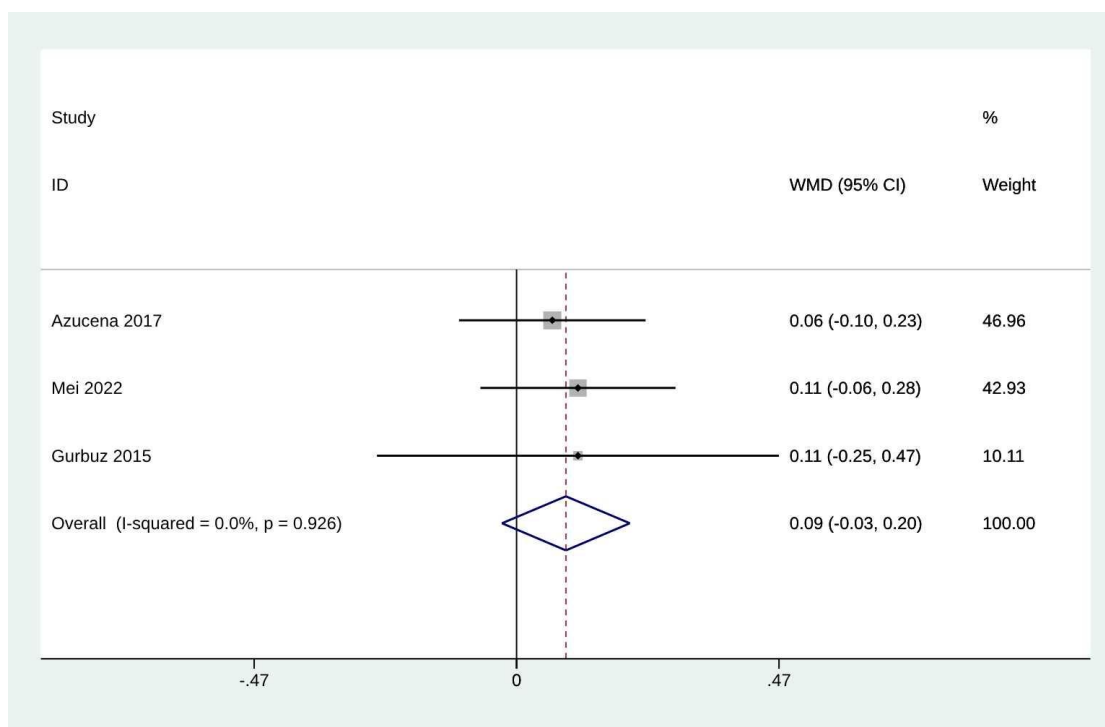
Supplementary Figure 4 Forest plot of weight z score.



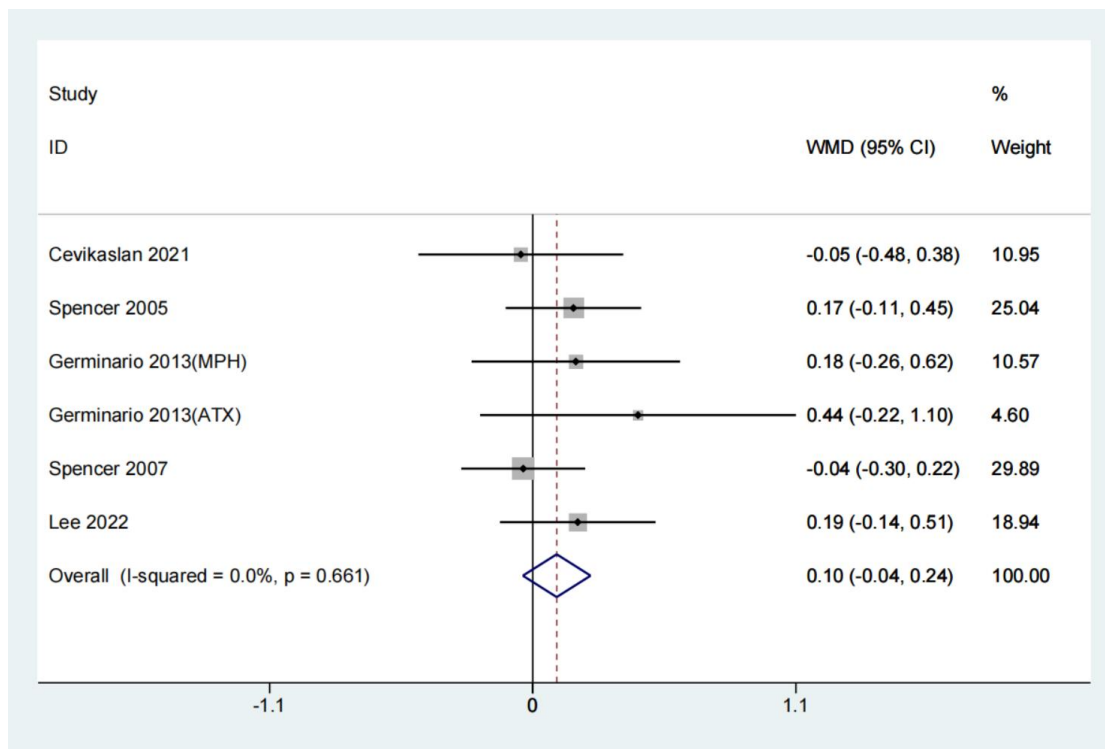
Supplementary Figure 5 Forest plot of subgroup analyses on weight z score.



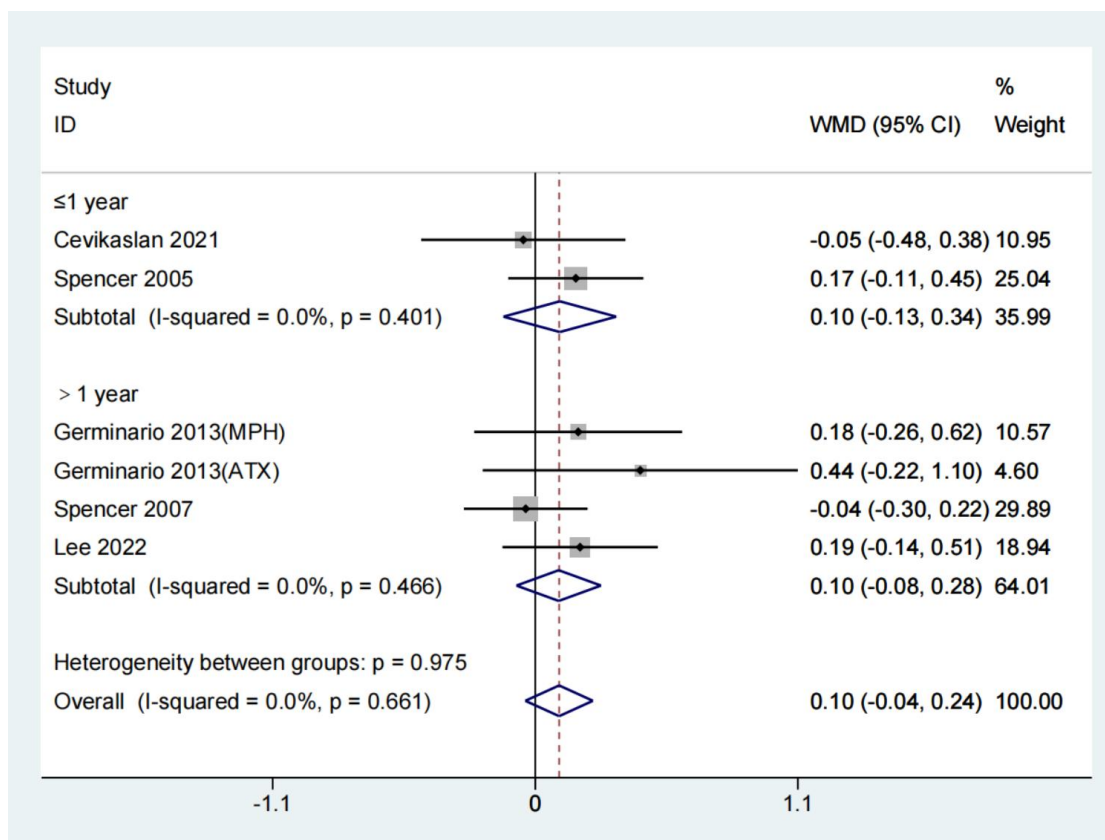
Supplementary Figure 6 Forest plot of subgroup analyses on actual height.



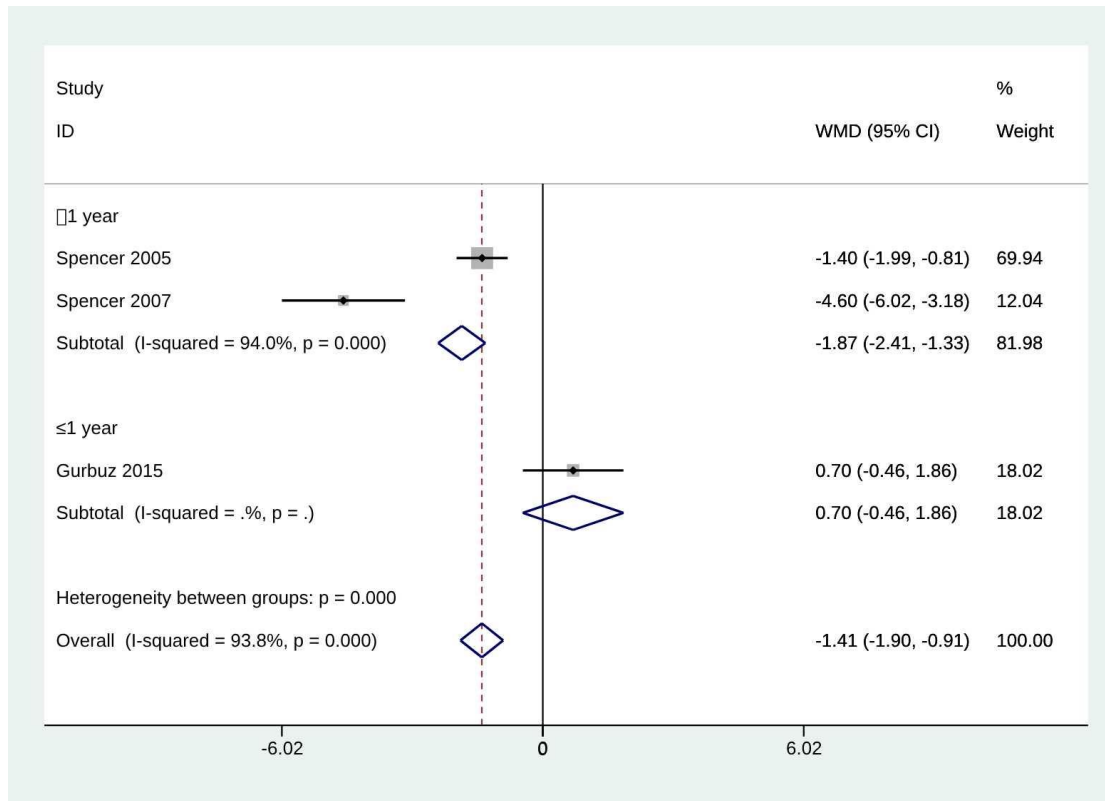
Supplementary Figure 7 Forest plot of height standard deviation score.



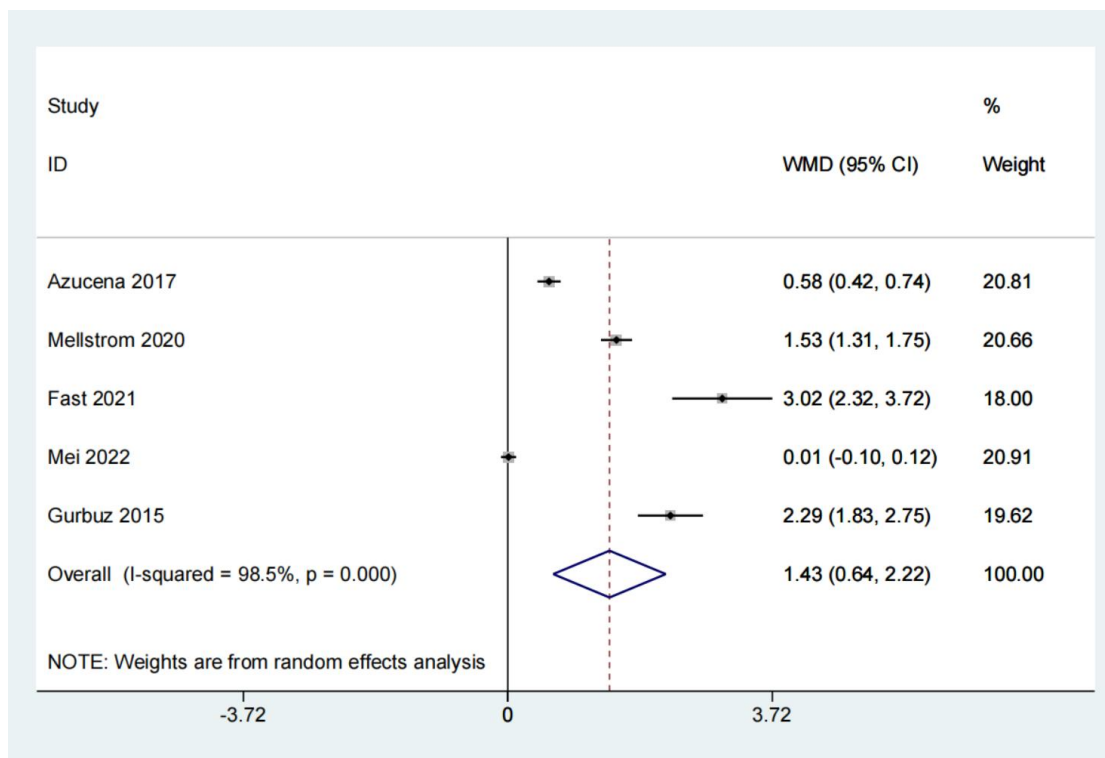
Supplementary Figure 8 Forest plot of height z score.



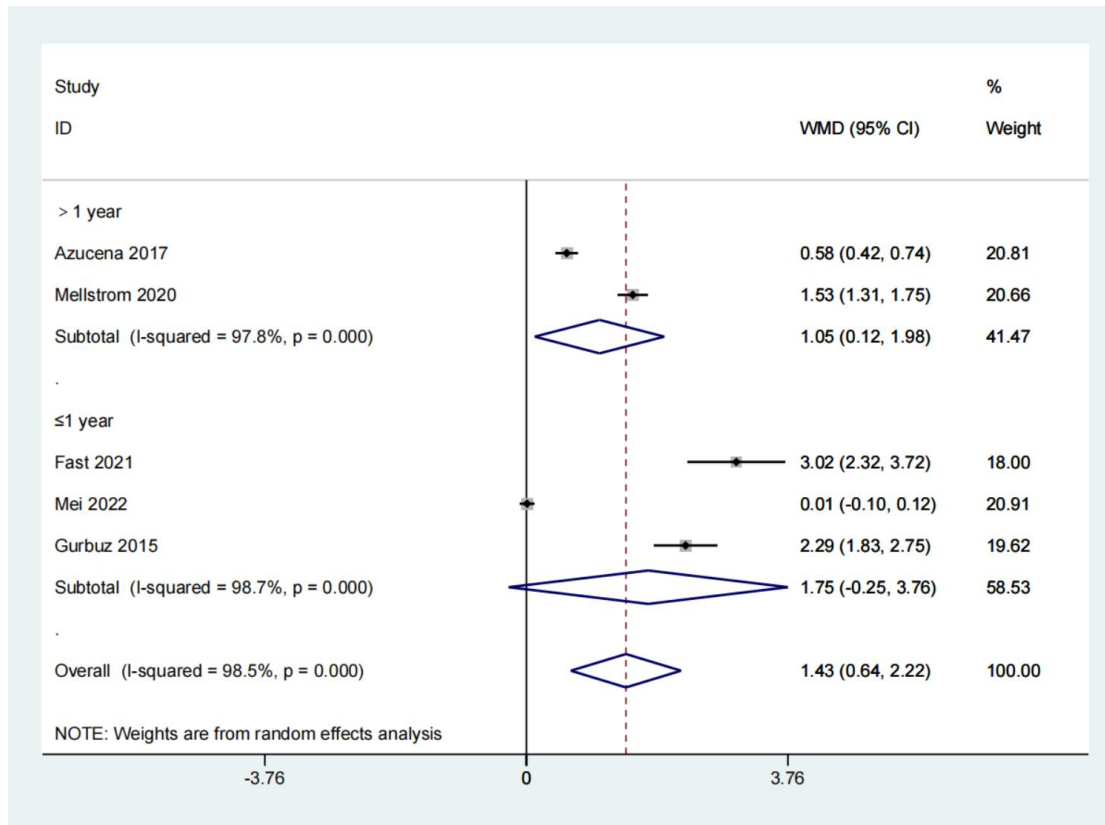
Supplementary Figure 9 Forest plot of subgroup analyses on height z score.



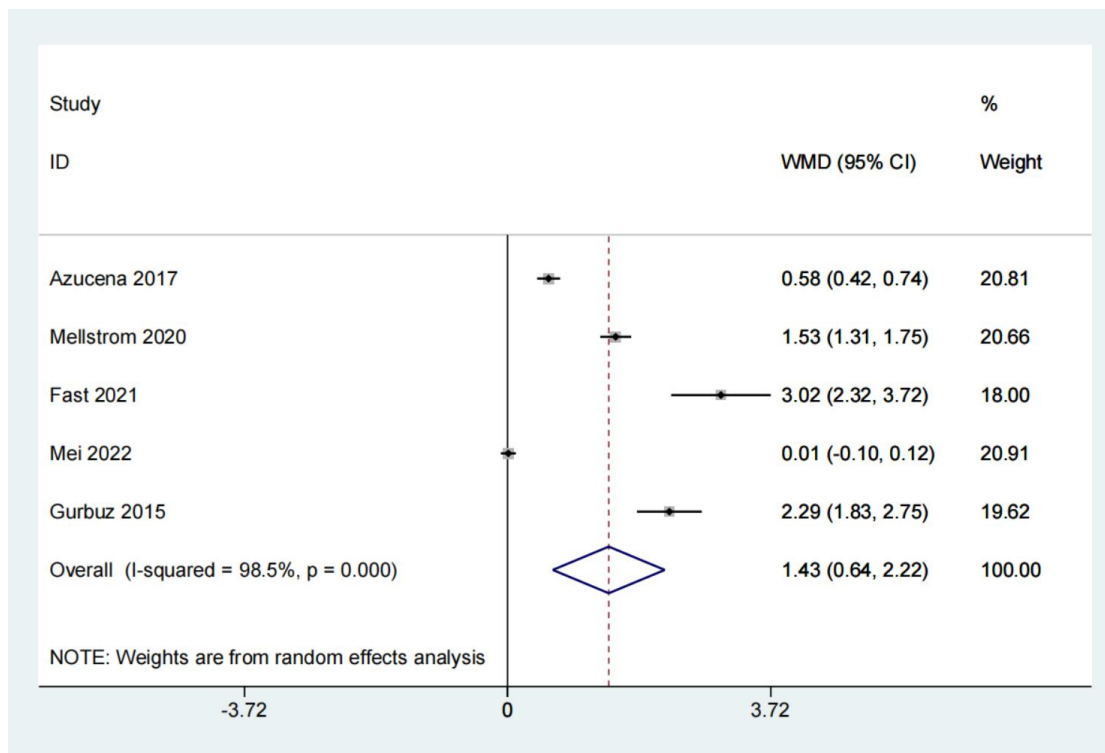
Supplementary Figure 10 Forest plot of subgroup analyses on actual body mass index.



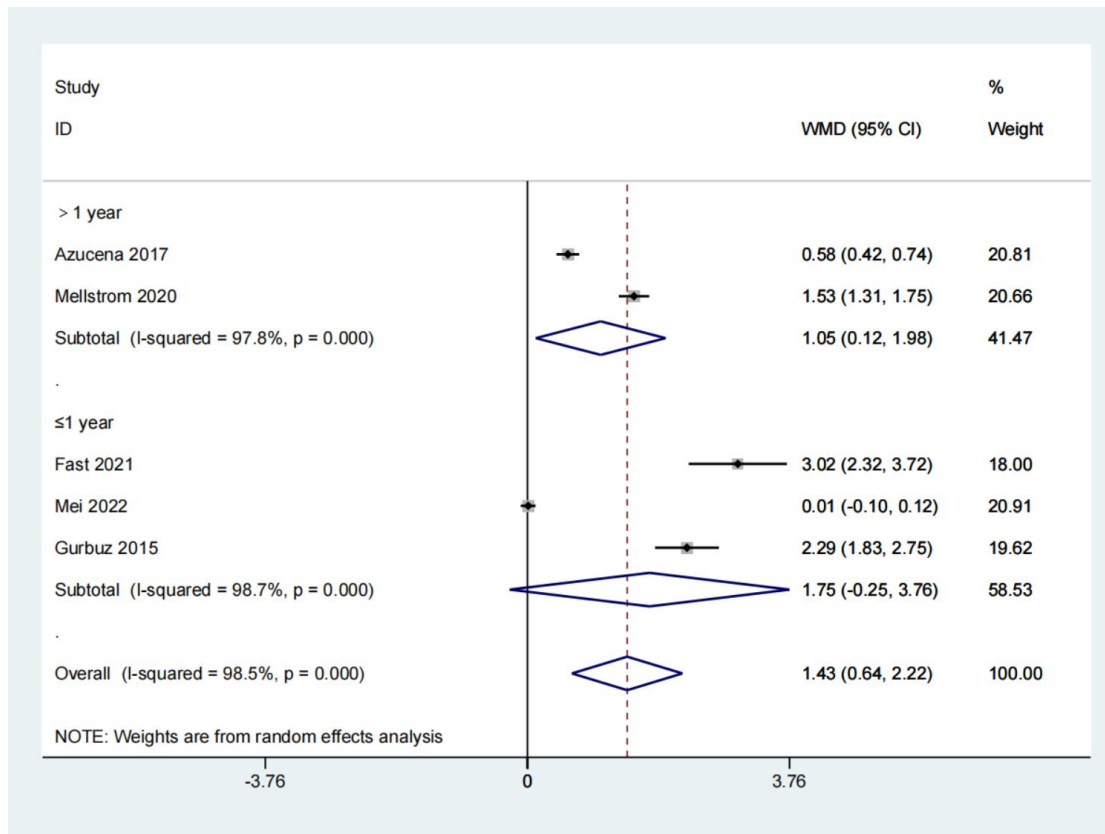
Supplementary Figure 11 Forest plot of body mass index standard deviation score.



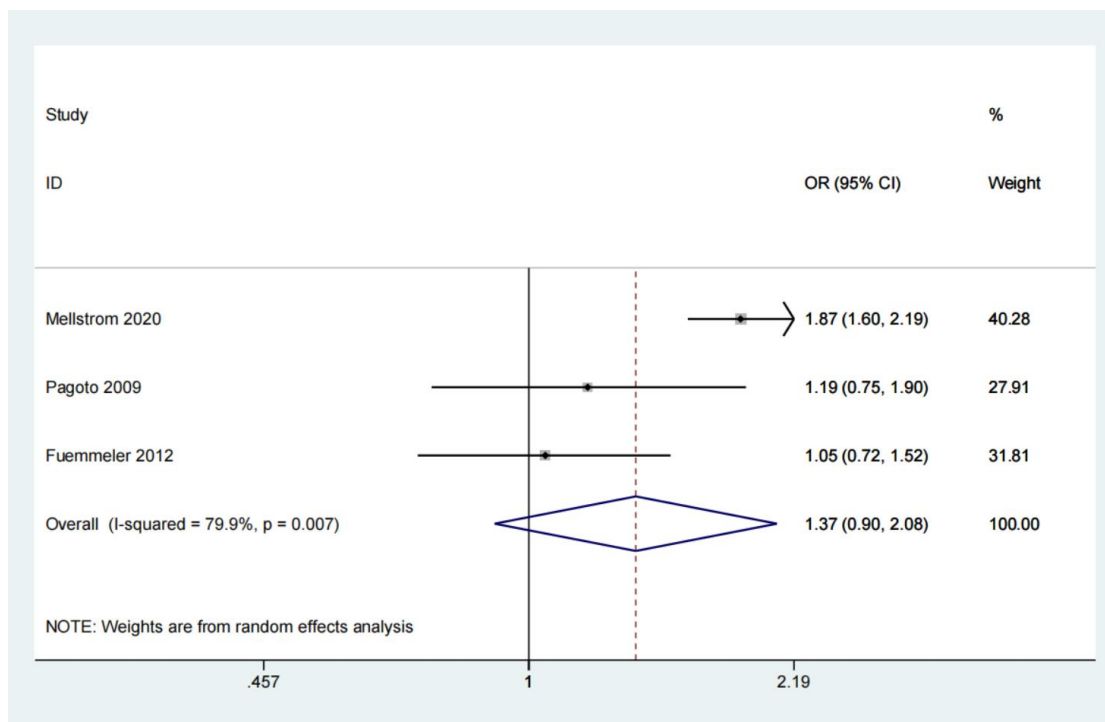
Supplementary Figure 12 Forest plot of subgroup analyses on body mass index standard deviation score.



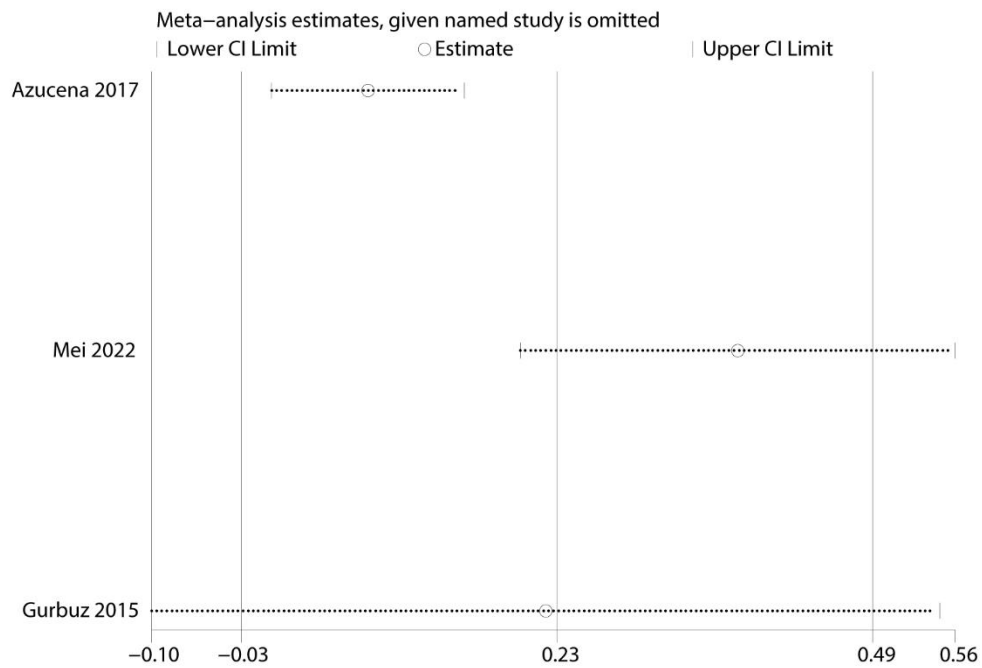
Supplementary Figure 13 Forest plot of body mass index z score.



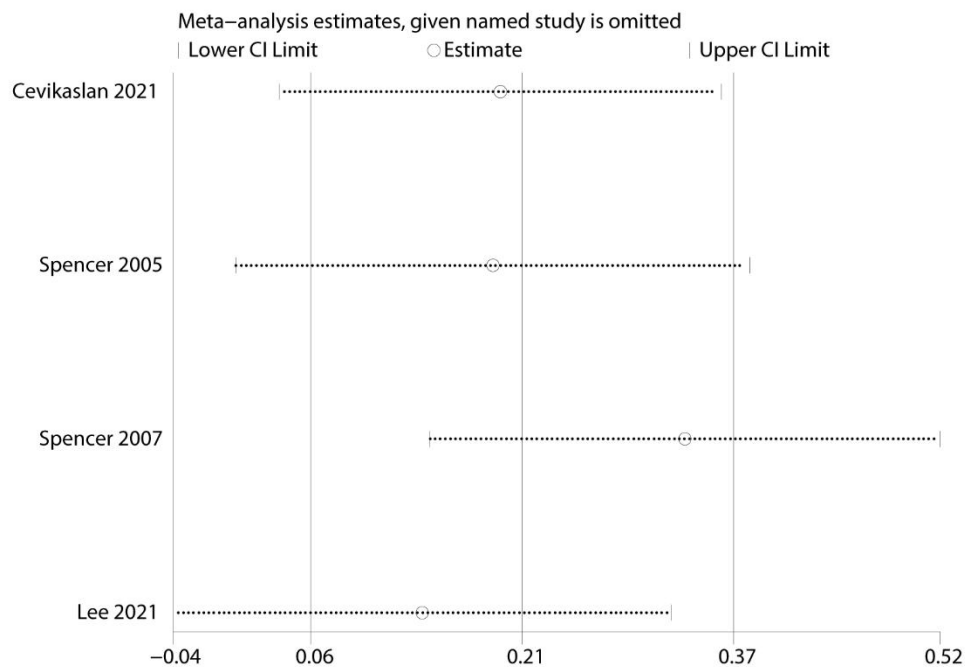
Supplementary Figure 14 Forest plot of subgroup analyses on body mass index z score.



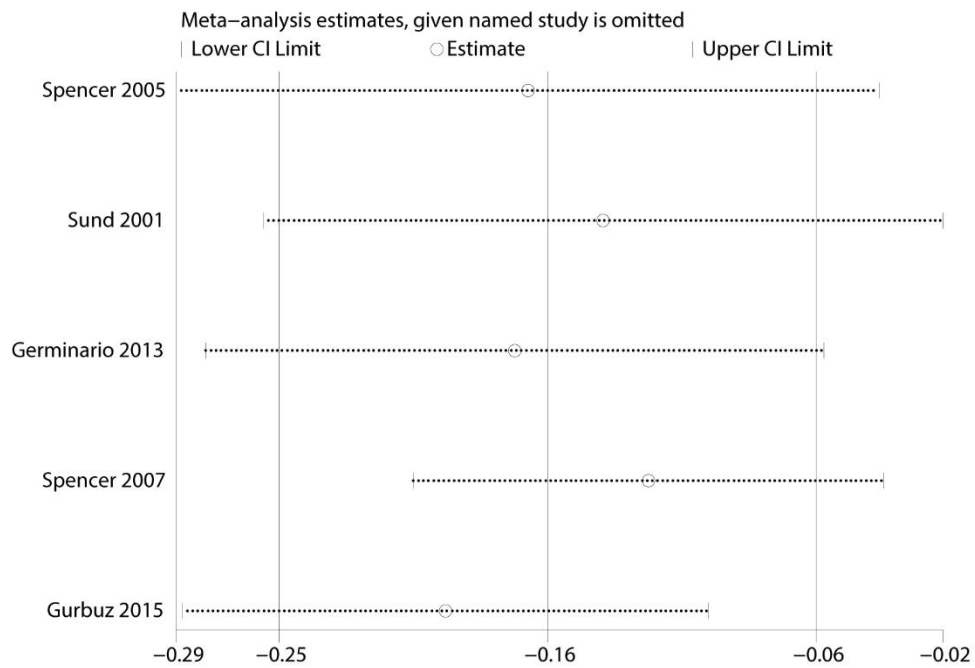
Supplementary Figure 15 Sensitivity analyses of actual weight.



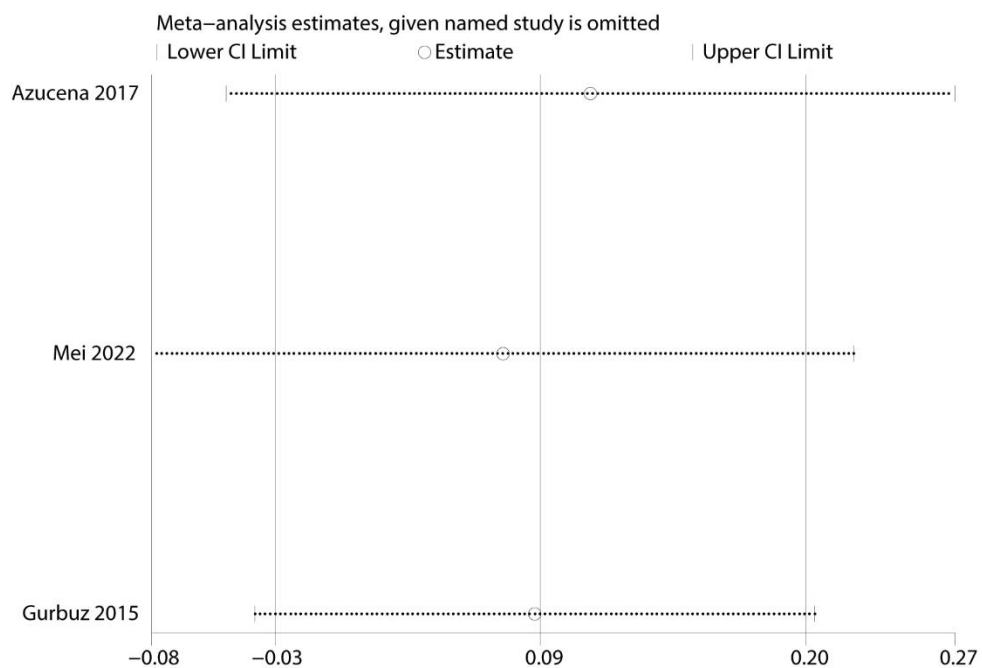
Supplementary Figure 16 Sensitivity analyses of weight standard deviation score.



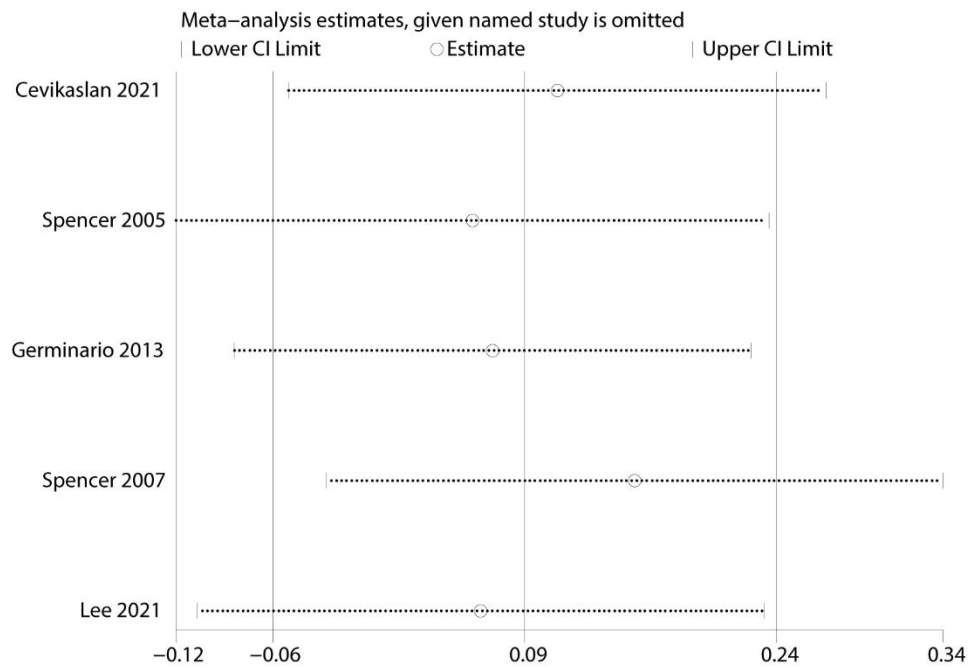
Supplementary Figure 17 Sensitivity analyses of weight z score.



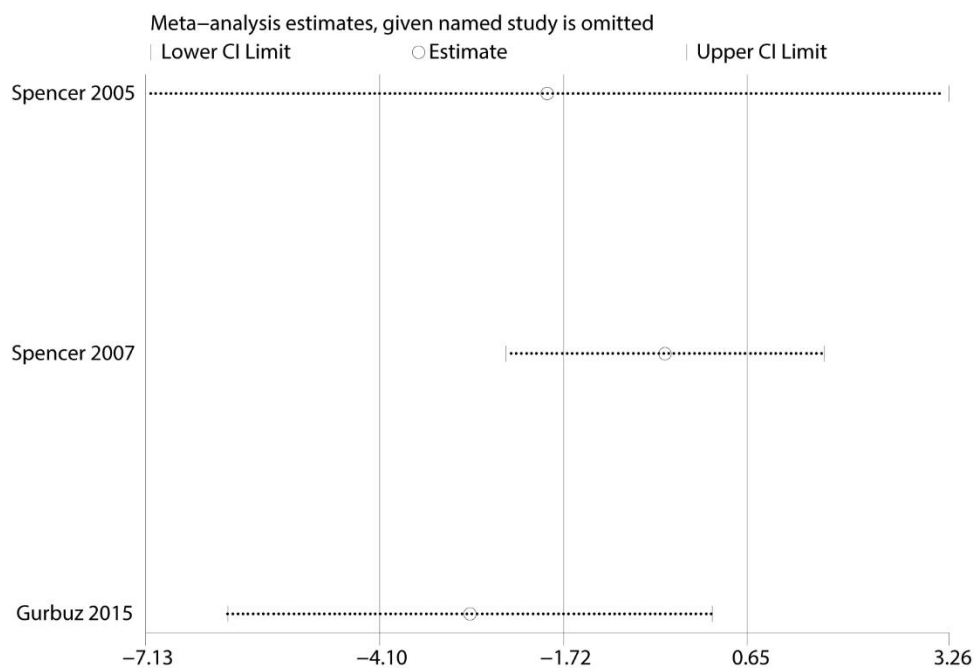
Supplementary Figure 18 Sensitivity analyses of actual height.



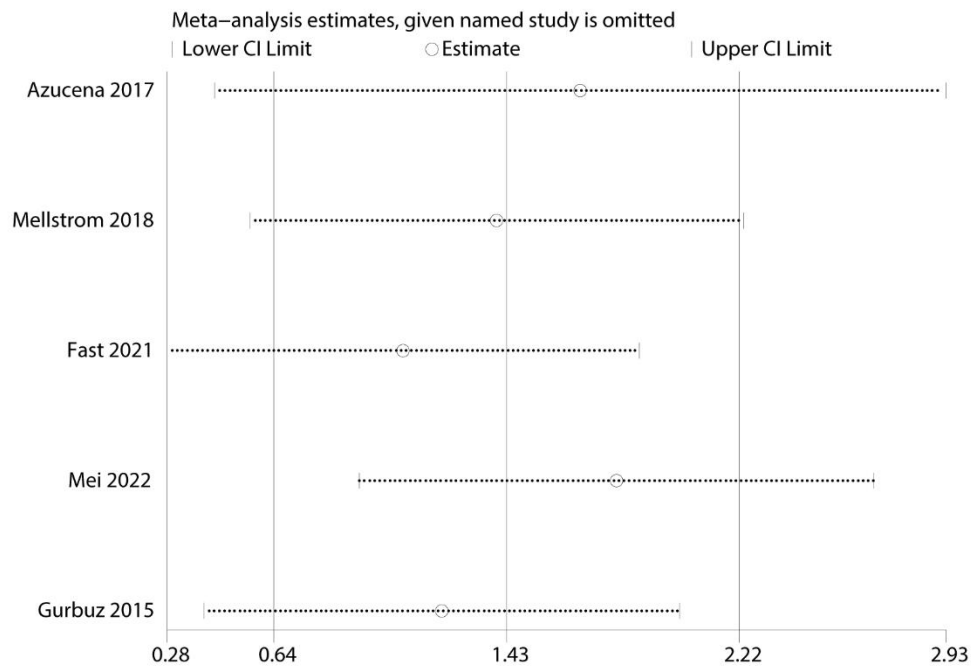
Supplementary Figure 19 Sensitivity analyses of height standard deviation score.



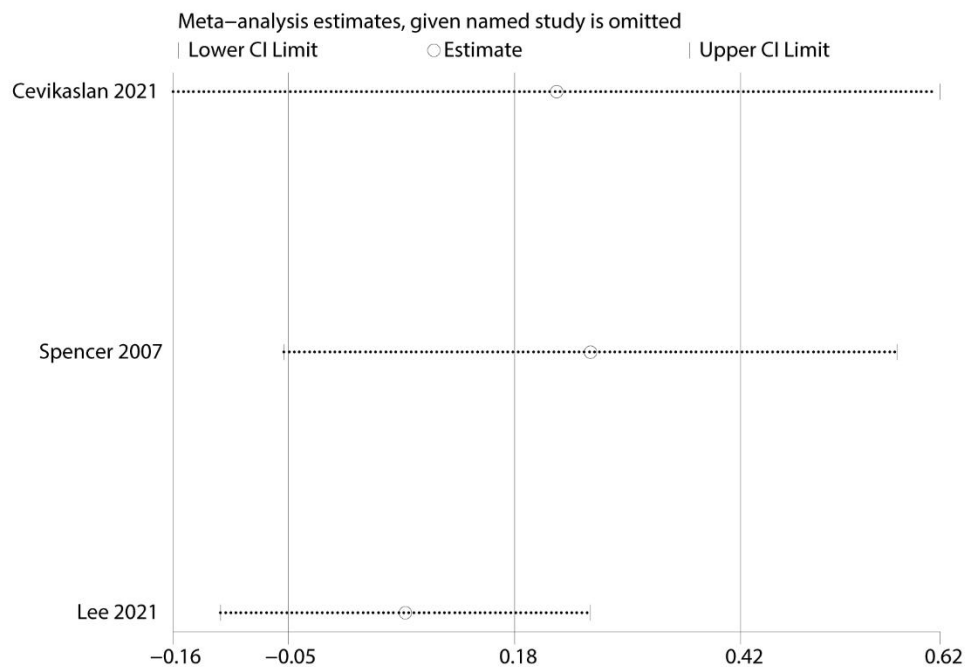
Supplementary Figure 20 Sensitivity analyses of height z score.



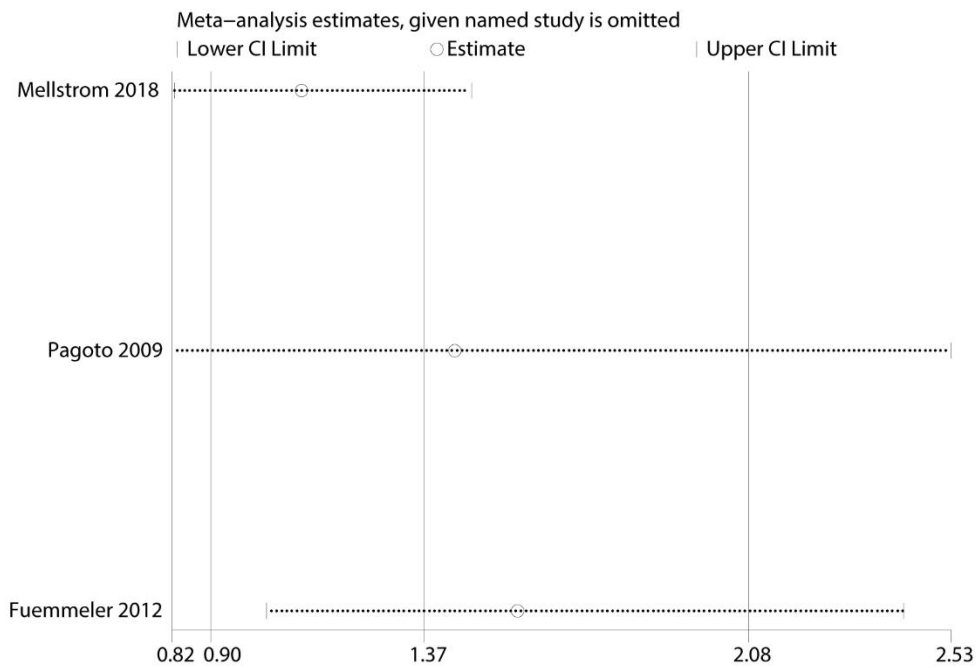
Supplementary Figure 21 Sensitivity analyses of actual body mass index.



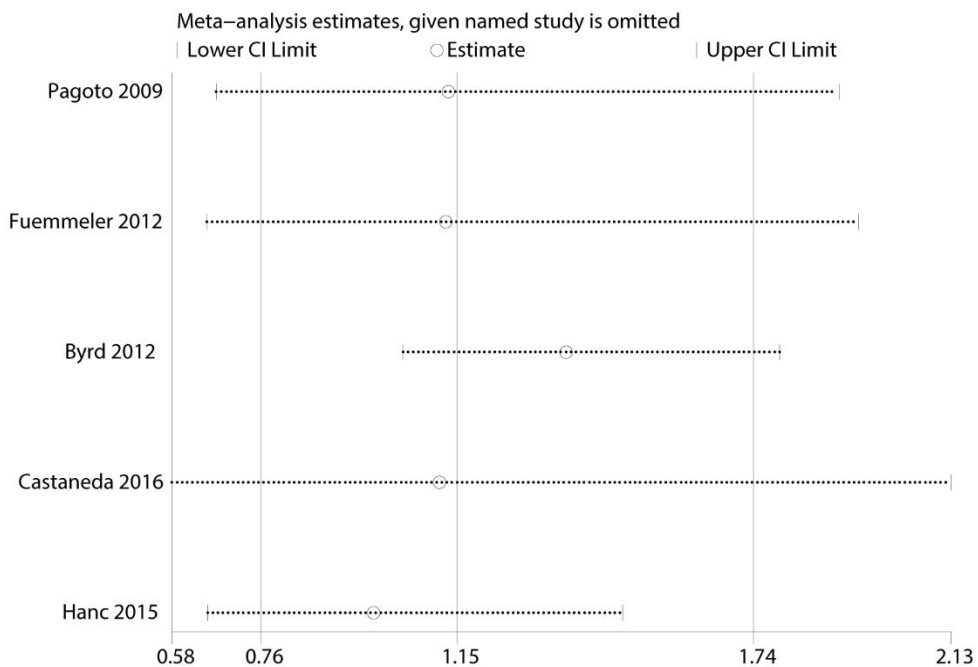
Supplementary Figure 22 Sensitivity analyses of body mass index standard deviation score.



Supplementary Figure 23 Sensitivity analyses of body mass index z score.



Supplementary Figure 24 Sensitivity analyses of odds ratio for attention deficit hyperactivity disorder and overweight.



Supplementary Figure 25 Sensitivity analyses of odds ratio for attention deficit hyperactivity disorder and overweight and obesity.

Supplementary Table 1 Search strategy of PubMed

[illegible]

	(vigil)) OR (modafinil)) OR (Amfebutamone)) OR (Wellbutrin)) OR (Bupropion Hydrochloride)) OR (Quomen)) OR (Zyntabac)) OR (amfebutamone hydrochloride)) OR (aplentin)) OR (budeprion)) OR (buprion hydrochloride)) OR (bupropin)) OR (bupropion)) OR (bupropion hydrobromide)) OR (bupropion)) OR (buxon)) OR (elontril)) OR (forfivo)) OR (odranal)) OR (quomem)) OR (wellbatrin)) OR (wellbutrin retard)) OR (zyban)) OR (zyban sustained release)) OR (Tenex)) OR (Guanfacine Hydrochloride)) OR (Guanfacine Monohydrochloride)) OR (Estulic)) OR (connexyn)) OR (guanfacin)) OR (guanfacinum)) OR (intuniv)) OR (guanfacine)	
#10	((((((((((((Attention Deficit Disorders with Hyperactivity) OR (ADHD)) OR (Attention Deficit Hyperactivity Disorder)) OR (Hyperkinetic Syndrome)) OR (Attention Deficit-Hyperactivity Disorder)) OR (Attention Deficit-Hyperactivity Disorders)) OR (ADDH)) OR (Attention Deficit Hyperactivity Disorders)) OR (Attention Deficit Disorder)) OR (Attention Deficit Disorders)) OR (Minimal Brain Dysfunction)) OR (attention deficit)) OR (attention deficit and disruptive behavior disorders)) OR (attention deficit and disruptive behaviour disorders)) OR (attention deficit disorder with hyperactivity)	62,043
#9	"Body Weight"[Mesh]	534,632
#8	"Body Height"[Mesh]	39,049
#7	"Guanfacine"[Mesh]	769
#6	"Bupropion"[Mesh]	3,346

#5	"Modafinil"[Mesh]	1,443
#4	"Atomoxetine Hydrochloride"[Mesh]	1,381
#3	"Methylphenidate"[Mesh]	7,830
#2	"Amphetamine"[Mesh]	19,642
#1	"Attention Deficit Disorder with Hyperactivity"[Mesh]	34,926

Supplementary Table 2 Search strategy of EMBASE

No.	Query	Results
#18	#17 AND 'human'/de	3900
#17	#15 AND #16	4160
#16	#13 AND #14 OR #13	86956
#15	#10 OR #11 OR #12	1090267
#14	#3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9	90185
#13	#1 OR #2	86956
#12	'body heights':ti,ab,kw OR 'body length':ti,ab,kw OR 'stature':ti,ab,kw OR 'body height':ti,ab,kw OR 'body weights':ti,ab,kw OR 'total body weight':ti,ab,kw OR 'body weight':ti,ab,kw	399490
#11	'body weight'/exp	905403
#10	'body height'/exp	91306
#9	'amfetamine':ti,ab,kw OR 'phenopromin':ti,ab,kw OR 'desoxynorephedrin':ti,ab,kw OR 'phenamine':ti,ab,kw OR 'centramina':ti,ab,kw OR 'fenamine':ti,ab,kw OR 'mydrial':ti,ab,kw OR 'thyramine':ti,ab,kw OR 'amphetamine sulfate':ti,ab,kw OR 'l amphetamine':ti,ab,kw OR 'levo amphetamine':ti,ab,kw OR 'metadate':ti,ab,kw OR 'equasym':ti,ab,kw OR 'methylin':ti,ab,kw OR 'concerta':ti,ab,kw OR 'phenidylate':ti,ab,kw OR 'ritalin':ti,ab,kw OR	26544

'ritaline':ti,ab,kw OR 'tsentedrin':ti,ab,kw OR
 'centedrin':ti,ab,kw OR 'daytrana':ti,ab,kw OR
 'methylphenidate hydrochloride':ti,ab,kw OR
 'methylphenidate':ti,ab,kw OR 'atomaide':ti,ab,kw OR
 'atomoxetine':ti,ab,kw OR 'atomoxetine hcl':ti,ab,kw OR
 'rexit':ti,ab,kw OR 'strattera':ti,ab,kw OR
 'tomoxetine':ti,ab,kw OR 'tomoxetine
 hydrochloride':ti,ab,kw OR 'atomoxetine':ti,ab,kw OR
 'atomoxetine hydrochloride':ti,ab,kw OR 'sparlon':ti,ab,kw
 OR 'nuvigil':ti,ab,kw OR
 'benzhydrysulfinylacetamide':ti,ab,kw OR
 'armodafinil':ti,ab,kw OR 'provigil':ti,ab,kw OR
 'modiodal':ti,ab,kw OR 'alertec':ti,ab,kw OR
 'attenace':ti,ab,kw OR 'modasomil':ti,ab,kw OR
 'modavigil':ti,ab,kw OR 'vigicer':ti,ab,kw OR 'vigil':ti,ab,kw
 OR 'modafinil':ti,ab,kw OR 'amfebutamone':ti,ab,kw OR
 'wellbutrin':ti,ab,kw OR 'bupropion
 hydrochloride':ti,ab,kw OR 'quomen':ti,ab,kw OR
 'zyntabac':ti,ab,kw OR 'amfebutamone
 hydrochloride':ti,ab,kw OR 'aplenzin':ti,ab,kw OR
 'budeprion':ti,ab,kw OR 'buprion hydrochloride':ti,ab,kw
 OR 'bupropin':ti,ab,kw OR 'bupropion':ti,ab,kw OR
 'bupropion hydrobromide':ti,ab,kw OR
 'bupropion':ti,ab,kw OR 'buxon':ti,ab,kw OR
 'elontril':ti,ab,kw OR 'forfivo':ti,ab,kw OR 'odranal':ti,ab,kw
 OR 'quomem':ti,ab,kw OR 'wellbatrin':ti,ab,kw OR
 'wellbutrin retard':ti,ab,kw OR 'zyban':ti,ab,kw OR 'zyban
 sustained release':ti,ab,kw OR 'tenex':ti,ab,kw OR
 'guanfacine hydrochloride':ti,ab,kw OR 'guanfacine

	monohydrochloride':ti,ab,kw OR 'estulic':ti,ab,kw OR	
	'connexyn':ti,ab,kw OR 'guanfacin':ti,ab,kw OR	
	'guanfacinum':ti,ab,kw OR 'intuniv':ti,ab,kw OR	
	'guanfacine':ti,ab,kw	
#8	'guanfacine'/exp	3855
#7	'amfebutamone'/exp	20933
#6	'modafinil'/exp	6443
#5	'atomoxetine'/exp	6570
#4	'methylphenidate'/exp	25180
#3	'amphetamine'/exp	39419
	'attention deficit disorders with hyperactivity':ti,ab,kw OR	
	'adhd':ti,ab,kw OR 'attention deficit hyperactivity	
	disorder':ti,ab,kw OR 'hyperkinetic syndrome':ti,ab,kw OR	
	'attention deficit-hyperactivity disorder':ti,ab,kw OR	
	'attention deficit-hyperactivity disorders':ti,ab,kw OR	
	'addh':ti,ab,kw OR 'attention deficit hyperactivity	
#2	disorders':ti,ab,kw OR 'attention deficit disorder':ti,ab,kw	62414
	OR 'attention deficit disorders':ti,ab,kw OR 'minimal brain	
	dysfunction':ti,ab,kw OR 'attention deficit':ti,ab,kw OR	
	'attention deficit and disruptive behavior	
	disorders':ti,ab,kw OR 'attention deficit and disruptive	
	behaviour disorders':ti,ab,kw OR 'attention deficit disorder	
	with hyperactivity':ti,ab,kw	
#1	'attention deficit hyperactivity disorder'/exp	79014

Supplementary Table 3 Search strategy of Cochrane Library

NO.	Search deatiles	Hits
#1	MeSH descriptor: [Attention Deficit Disorder with Hyperactivity] explode all trees	3485
#2	MeSH descriptor: [Amphetamines] in all MeSH products	2222
#3	MeSH descriptor: [Methylphenidate] explode all trees	1836
#4	MeSH descriptor: [Atomoxetine Hydrochloride] explode all trees	423
#5	MeSH descriptor: [Modafinil] explode all trees	574
#6	MeSH descriptor: [Bupropion] explode all trees	967
#7	MeSH descriptor: [Guanfacine] explode all trees	198
#8	MeSH descriptor: [Body Height] explode all trees	2051
#9	MeSH descriptor: [Body Weight] explode all trees	41393
	(Attention Deficit Disorders with Hyperactivity):ti,ab,kw OR (ADHD):ti,ab,kw OR (Attention Deficit Hyperactivity Disorder):ti,ab,kw OR (Hyperkinetic Syndrome):ti,ab,kw OR (Attention Deficit-Hyperactivity Disorder):ti,ab,kw OR (Attention Deficit-Hyperactivity Disorders):ti,ab,kw OR (ADDH):ti,ab,kw OR (Attention Deficit Hyperactivity Disorders):ti,ab,kw OR (Attention Deficit Disorder):ti,ab,kw	
#10	OR (Attention Deficit Disorders):ti,ab,kw OR (Minimal Brain Dysfunction):ti,ab,kw OR (attention deficit):ti,ab,kw OR (attention deficit and disruptive behavior disorders):ti,ab,kw OR (attention deficit and disruptive behaviour disorders):ti,ab,kw OR (attention deficit disorder with hyperactivity):ti,ab,kw	8271
	(Amfetamine):ti,ab,kw OR (Phenopromin):ti,ab,kw OR	
#11	(Desoxynorephedrin):ti,ab,kw OR (Phenamine):ti,ab,kw OR (Centramina):ti,ab,kw OR (Fenamine):ti,ab,kw OR	7237

(Mydrial):ti,ab,kw OR (Thyramine):ti,ab,kw OR
 (Amphetamine Sulfate):ti,ab,kw OR (l
 Amphetamine):ti,ab,kw OR (levo Amphetamine):ti,ab,kw
 OR (Metadate):ti,ab,kw OR (Equasym):ti,ab,kw OR
 (Methylin):ti,ab,kw OR (Concerta):ti,ab,kw OR
 (Phenidylate):ti,ab,kw OR (Ritalin):ti,ab,kw OR
 (Ritaline):ti,ab,kw OR (Tsentedrin):ti,ab,kw OR
 (Centedrin):ti,ab,kw OR (Daytrana):ti,ab,kw OR
 (Methylphenidate Hydrochloride):ti,ab,kw OR
 (Methylphenidate):ti,ab,kw OR (Atomoxetine HCl):ti,ab,kw
 OR (Atomoxetine):ti,ab,kw OR (Tomoxetine):ti,ab,kw OR
 (Strattera):ti,ab,kw OR (atomaide):ti,ab,kw OR
 (atomoxetin):ti,ab,kw OR (atomoxetine hcl):ti,ab,kw OR
 (atomoxetine hydrochloride):ti,ab,kw OR (recit):ti,ab,kw OR
 (strattera):ti,ab,kw OR (tomoxetine):ti,ab,kw OR (tomoxetine
 hydrochloride):ti,ab,kw OR (atomoxetine):ti,ab,kw OR
 (Atomoxetine Hydrochloride):ti,ab,kw OR
 (Sparlon):ti,ab,kw OR (Nuvigil):ti,ab,kw OR
 (Benzhydrylsulfinylacetamide):ti,ab,kw OR
 (Armodafinil):ti,ab,kw OR (Provigil):ti,ab,kw OR
 (Modiodal):ti,ab,kw OR (Alertec):ti,ab,kw OR
 (attenace):ti,ab,kw OR (modasomil):ti,ab,kw OR
 (modavigil):ti,ab,kw OR (vigicer):ti,ab,kw OR
 (vigil):ti,ab,kw OR (modafinil):ti,ab,kw OR
 (Amfebutamone):ti,ab,kw OR (Wellbutrin):ti,ab,kw OR
 (Bupropion Hydrochloride):ti,ab,kw OR (Quomen):ti,ab,kw
 OR (Zyntabac):ti,ab,kw OR (amfebutamone
 hydrochloride):ti,ab,kw OR (aplenzin):ti,ab,kw OR
 (budeprion):ti,ab,kw OR (buprion hydrochloride):ti,ab,kw

	OR (bupropin):ti,ab,kw OR (bupropion):ti,ab,kw OR (bupropion hydrobromide):ti,ab,kw OR (bupropion):ti,ab,kw OR (buxon):ti,ab,kw OR (elontril):ti,ab,kw OR (forfivo):ti,ab,kw OR (odranal):ti,ab,kw OR (quomem):ti,ab,kw OR (wellbatrin):ti,ab,kw OR (wellbutrin retard):ti,ab,kw OR (zyban):ti,ab,kw OR (zyban sustained release):ti,ab,kw OR (Tenex):ti,ab,kw OR (Guanfacine Hydrochloride):ti,ab,kw OR (Guanfacine Monohydrochloride):ti,ab,kw OR (Estulic):ti,ab,kw OR (connexyn):ti,ab,kw OR (guanfacin):ti,ab,kw OR (guanfacinum):ti,ab,kw OR (intuniv):ti,ab,kw OR (guanfacine):ti,ab,kw ⁷²³⁷ (Body Heights):ti,ab,kw OR (body length):ti,ab,kw OR (stature):ti,ab,kw OR (body height):ti,ab,kw OR (Body Weights):ti,ab,kw OR (total body weight):ti,ab,kw OR (body weight):ti,ab,kw	
#12		89918
#13	#1 OR #10	8271
#14	#2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #11	9078
#15	#8 OR #9 OR #12	106526
#16	((#13 AND #14) OR #13) AND #15	360

Supplementary Table 4 Search strategy of web of science

[illegible]

TS=(strattera)) OR TS=(tomoxetine)) OR TS=(tomoxetine
 hydrochloride)) OR TS=(atomoxetine)) OR TS=(Atomoxetine
 Hydrochloride)) OR TS=(Sparlon)) OR TS=(Nuvigil)) OR
 TS=(Benzhydrylsulfinylacetamide)) OR TS=(Armodafinil))
 OR TS=(Provigil)) OR TS=(Modiodal)) OR TS=(Alertec)) OR
 TS=(attenace)) OR TS=(modasomil)) OR TS=(modavigil)) OR
 TS=(vigicer)) OR TS=(vigil)) OR TS=(modafinil)) OR
 TS=(Amfebutamone)) OR TS=(Wellbutrin)) OR
 TS=(Bupropion Hydrochloride)) OR TS=(Quomen)) OR
 TS=(Zyntabac)) OR TS=(amfebutamone hydrochloride)) OR
 TS=(aplenzin)) OR TS=(budeprion)) OR TS=(buprion
 hydrochloride)) OR TS=(bupropin)) OR TS=(bupropion)) OR
 TS=(bupropion hydrobromide)) OR TS=(buproprion)) OR
 TS=(buxon)) OR TS=(elontril)) OR TS=(forfivo)) OR
 TS=(odranal)) OR TS=(quomem)) OR TS=(wellbatrin)) OR
 TS=(wellbutrin retard)) OR TS=(zyban)) OR TS=(zyban
 sustained release)) OR TS=(Tenex)) OR TS=(Guanfacine
 Hydrochloride)) OR TS=(Guanfacine Monohydrochloride))
 OR TS=(Estulic)) OR TS=(connexyn)) OR TS=(guanfacin)) OR
 TS=(guanfacinum)) OR TS=(intuniv)) OR TS=(guanfacine)
 (((((TS=(Body Heights) OR TS=(body length)) OR
 #3 TS=(stature)) OR TS=(body height)) OR TS=(Body Weights)) 563963
 OR TS=(total body weight)) OR TS=(body weight)
 #4 #2 AND #1 9543
 #5 #4 OR #1 90144
 #6 #5 AND #3 970

Supplementary Table 5 Results of publication bias assessment using Egger's test

outcomes	t	<i>P</i> value
weight in actual value	-1.19	0.299
weight in SDS	1.15	0.457
weight in z-score	0.52	0.656
height in actual value	0.59	0.599
height in SDS	0.40	0.755
height in z-score	0.96	0.408
BMI in actual value	-0.23	0.854
BMI in SDS	3.68	0.035
BMI in z-score	0.85	0.551
OR for overweight	-2.93	0.209
OR for obesity	-0.28	0.799