

Supplementary file 3: Details of included studies (RCT = randomised, controlled trial; non-RCT = non-randomised controlled trial; AS = artificial sweetener, CVD = cardiovascular disease); *For profit funding includes sponsoring of study material, i.e. intervention substances, as well as financial sponsoring for conducting the study

Study ID	Study design	Population	N Intervention	N Control	N overall / at baseline	For-profit funding*	Intervention	Source	Dose	Duration	Control	Outcomes
1. Baird 2000	RCT	Adults, healthy	77	31	118	yes	Sucralose	Liquid	in ascending dose (125, 250 and 500 mg during week 1-3, 4-7 and 8-12, respectively)	90 days / 12 weeks	Fructose	Body weight, CVD, adverse effects
2. Ballantyne 2011	RCT	Adults, overweight males	20	20	40	yes	Aspartame	Liquid	No information, only no. and kJ of drinks	8 weeks	Sucrose	Body, weight, eating behaviour, preference for sweet taste, mood
3. Blackburn 1997	RCT	Adults, overweight	82	81	186	yes	Aspartame	Mixed	No information	16 weeks	"Avoidance of low energy sweeteners"	Body weight, eating behaviour, preference for sweet taste, adverse effects
4. Bosetti 2009	Case-control study	Adults	-	-	3117	no	Saccharin	Mixed	No information	10-16 years	No intervention	Cancer
5. Cabaniols 2011	Case-control study	Adults	122	122	244	no	Aspartame	Mixed	No information	5 years	No intervention	Cancer
6. Cartwright 1981	Case-control study	Adults probably	-	-	1901	no	Saccharin	Tabletop sweetener	No information	at least 1 year	No intervention	Cancer
7. Colditz 1990	Cohort study	Adults, female	-	-	31940	no	Saccharin	Mixed	0.0 - 5.8, or more than 5.8 g	8 years	No intervention	Body weight
8. deRuyter 2012	RCT	Children, healthy	319	322	641	no	Combination of NSSs (40 mg sucralose, 10 mg acesulfame-K)	Liquid	40 mg sucralose, 10 mg acesulfame-K	18 months	Sucrose	Body weight, eating behaviour
9. Duran Aguero 2014	Cross-sectional study	Children	-	-	1224	no	Aspartame, acesulfame, cyclamate, saccharin	Mixed	No information	No information	No exposure	Body weight

10. Duran Aguero 2015	Cross-sectional study	Adults	-	-	1224	no	Acesulfame or sucralose or aspartame	Mixed	No information	No information	No exposure	Body weight
11. Eeden 1991	RCT	Adults, with aspartame sensitivity	32		44	yes	Aspartame	Capsule	30 mg/kg bw	7 days	Placebo	Adverse effects
12. Fernandes 2013	Cross-sectional study	Adults	-	-	261	no	Aspartame or saccharin or sucralose	Mixed	No information	No information	No exposure	Body weight, CVD
13. Frey 1976	RCT	Children	61	65	126	yes	Aspartame	Mixed	Depending on age: 610, 800, 1600, 2000, 2400 mg	13 weeks	Sucrose	Body weight, eating behaviour, CVD, kidney disease, adverse effects
14. Gallus 2007	Case-control study	Adults	10510	7028	17538	no	Saccharin or aspartame	Mixed	No information	2 years	No intervention	Cancer
15. Goodman 1986	Case-control study	Adults probably	-	-	534	no	Saccharin	Mixed	No information	No information	No intervention	Cancer
16. Guo 2014	Cohort study	Adults	-	-	566398; 263923 with enough data	no	Saccharin	Tabletop sweetener	No information	10 years	Sugar	Mood
17. Gurney 1997	Case-control study	Children	56	94	150	no	Aspartame	Mixed	No information	No information	No exposure	Cancer
18. Howe 1977	Case-control study	Adults	-	-	1264	no	Saccharin	Mixed	No information	No information	No intervention	Cancer
19. Iscovich 1987	Case-control study	Adults probably	-	-	351	no	Saccharin	Mixed	No information	No information	No intervention	Cancer
20. Kanders 1988	RCT	Adults, overweight	29	30	59	yes	Aspartame	Mixed	278mg - 311mg - 383 mg increase over time	12 weeks	No intervention	Body weight, preference for sweet taste, CVD
21. Kessler 1978	Case-control study	Adults	-	-	519	no	Saccharin or cyclamate	Mixed	No information	No information	No intervention	Cancer
22. Kim 2011	RCT	Adults probably	9	12	21	no	Aspartame	Liquid	No information	4 weeks	Sugar	Body weight, CVD

23. Knopp 1976	RCT	Children, overweight	22	33	59	yes	Aspartame	Capsule	2.7 00 mg	7 weeks	Placebo	Body weight, eating behaviour, diabetes, CVD, kidney disease, adverse effects
24. Kuk 2016	Cross-sectional study	Adults	-	-	2856	no	Aspartame or saccharin	Mixed	No information	No information	No exposure	Body weight, diabetes, preference for sweet taste, CVD
25. Kuzma 2015	Cross-over RCT	Adults	-	-	10	no	Aspartame	Liquid	-	8 days	Glucose or fructose	Body weight, eating behaviour
26. Lee 2012	RCT	Adults probably	unclear	unclear	51	no	Aspartame	Liquid	up to 600mg or more / day	2 weeks	Sugar	Diabetes, cancer
27. Lim 2006	Cohort study	Adults	-	-	473984	no	Aspartame	Liquid	No information	No information	Aspartame	Cancer
28. Lindseth 2014	RCT	Adults	-	-	30	no	Aspartame	Mixed	10 mg / kg bw or 25 mg / kg bw	8 days	Aspartame	Mood, adverse effects, neurocognition
29. Maersk 2012	RCT	Adults, overweight	12	10/13/12	60	yes	Aspartame	Liquid	No information	6 months	Mix of glucose and fructose	Body weight, diabetes, CVD
30. Maki 2008	RCT	Adults	50	50	100	yes	Stevia	Capsule	1000 mg	4 weeks	Placebo	Body weight, CVD
31. McCullough fin	Cohort study	Adults	-	-	101638	no	Aspartame	Tabletop sweetener	No information	No information	Aspartame	Cancer
32. Moller-Jensen 1983	Case-control study	Adults probably	-	-	1156	no	Saccharin or cyclamate	Mixed	No information	No information	No intervention	Cancer
33. Momas 1994	Case-control study	Adults	219	792	1011	no	Saccharin	Mixed	No information	No information	No intervention	Cancer
34. Mommsen 1983	Case-control study	Adults	-	-	141	no	Saccharin	Mixed	No information	No information	No intervention	Cancer
35. Naismith 1995	Cross-over non-RCT	Adults	-	-	6	no	Combination of NSSs (acesulfame-k, aspartame)	Mixed	No information	10 days	Sugar	Body weight, eating behaviour

36. Naismith 1995	Cross-over non-RCT	Adults	-	-	14	no	Combination of NSSs (acesulfame-k, aspartame)	Mixed	No information	10 days	Sugar	Body weight, eating behaviour
37. Najem 1982	Case-control	Adults	76	150	226	no	Saccharin	Mixed	No information	No information	No intervention	Cancer
38. Nomura 1991	Case-control	Adults	261	522	783	no	Saccharin	Mixed	No information	No information	No intervention	Cancer
39. Parker 1997	Cohort	Adults	-	-	465	no	Saccharin	Mixed	0-28.2g	1 year exposure	Sugar or no exposure	Body weight
40. Porikos 1982	Cross-over non-RCT	Adults	-	-	6	yes	Aspartame	Mixed	No information	12 days	Sugar	Body weight, eating behaviour, preference for sweet taste
41. Raben 2001	RCT	Adults, overweight	20	21	41	yes	Combination of AS (54% aspartame, 23% cyclamate, 22% acesulfame K, and 1% saccharin)	Mixed	4800, 5700, or 6700 mg depending on weight group	10 weeks	Sucrose	Body weight, diabetes, eating behaviour, preference for sweet taste, CVD
42. Reid 2007	RCT	Adults	68	65	133	no	Aspartame	Liquid	No information	4 weeks	Sucrose	Body weight, eating behaviour
43. Reid 2010	RCT	Adults, overweight	29	24	71	yes	Aspartame	Liquid	No information	4 weeks	Sucrose	Body weight, eating behaviour, preference for sweet taste.
44. Reid 2014	RCT	Adults, obese	21	20	44	yes	Aspartame	Liquid	No information	4 weeks	Sucrose	Body weight, eating behaviour, preference for sweet taste.
45. Serra-Majem 1996	Cross-sectional	Adults, mostly	441	2009	2450	yes	Cyclamate	Mixed	0.38 - 3.50 unit not given	2 days prior to survey	No exposure	Body weight
46. Simon 1975	Case-control	Adults	135	538	673	no	Cyclamate	Liquid	No information	No information	No exposure	Cancer

47. Spiers 1998	Cross-over RCT	Adults	-	-	48	yes	Aspartame	Capsule	45 mg / kw bw, low: 15 mg/kg bw	20 days	Placebo	Mood, adverse effects, neuro-cognition
48. Stanhope 2013	non-RCT	Adults	23	18/16/28	80	no	Aspartame	Liquid	No information	12 days	Sugar	CVD
49. Stanhope 2015	non-RCT	Adults	23	18/16/28	85	no	Aspartame	Liquid	No information	2 weeks	Sugar	CVD
50. Taljaard 2013	RCT	Children	103	104/103/103	414	yes	Sucralose	Liquid	No information	20 weeks	Sucrose	Body weight, eating behaviour, neurocognition
51. Tordoff 1990	Cross-over non-RCT	Adults	-	-	41	no	Aspartame	Liquid	590 mg	21 days	High fructose corn syrup	Body weight, eating behaviour, preference for sweet taste
52. Warrington 2011	RCT	Adults	12	12	24	yes	Advantame	Capsule	0.375–0.5 mg/kg body weight	4 weeks	Placebo	Diabetes, CVD, kidney disease, adverse effects
53. Wolraich 1994	Cross-over non-RCT	Children, Partly with sugar sensitivity reported by parents	-	-	48	yes	Aspartame or saccharin	Mixed	Aspartame: preschool: 693 mg, school-age: 864 mg, saccharin: preschool: 214, School-age: 256 mg	3 weeks	Sugar	Eating behaviour, diabetes, preference for sweet taste, mood, behaviour, neurocognition
54. Wulaningsih 2017	Cross-sectional	Adults	-	-	15731	no	Aspartame	Mixed	No information	No information	No exposure	Body weight
55. Yu 1997	Case-control	Adults	127	254	381	no	Saccharin	Mixed	No information	Up to more than 15 years	No exposure	Cancer
56. Zanela 2002	non-RCT	Children	50	50/50/50	200	no	Stevia	Mouthrinse	No information	4 weeks	Water	Dental health