

## Supplemental Information

### SEARCH STRATEGY

Date of searches December 31, 2015.

Databases: PubMed, Embase, CINAHL, and Cochrane CENTRAL databases.

We also performed 2 searches in each database:

1. The first, focused strategy looks for any clinical trial (not necessarily randomized), cohort study (retrospective or prospective), case-control study, systematic review, or meta-analysis that specifically mentions juice in the title, abstract, or indexing and also discusses weight/BMI in children; and
2. The second, broader strategy looks specifically for randomized controlled trials (not other clinical trials), cohort studies, case-control studies, systematic reviews, or meta-analyses that are about eating/drinking habits and weight/BMI in children, but which do not mention the term "juice" in the title, abstract, or indexing. This second search strategy is designed to identify large studies of multiple aspects of eating and drinking habits, such as the 2011 *New England Journal of Medicine* article by Mozaffarian et al<sup>47</sup> that analyzes excess weight change in adults associated with many food and beverage types, including 100% fruit juice.

### PubMed

The second PubMed strategy in each set is designed to capture recent, unindexed references.

(1) Juice\* AND ("Beverages"[Mesh] OR "Food Habits"[Mesh] OR

"Diet"[Mesh] OR "Fruit"[mesh]) AND ("Body Weight"[Mesh] OR "Body Mass Index"[Mesh]) AND ("child"[MeSH] OR "adolescent"[mesh] OR "Infant"[Mesh]) AND ("Clinical Trials as Topic"[Mesh] OR "Cohort Studies"[mesh] OR "Controlled Before-After Studies"[mesh] OR "Case-Control Studies"[mesh] OR "Meta-Analysis as Topic"[mesh] OR "Clinical Trial"[Publication Type] OR "Multicenter Study"[Publication Type] OR "Meta-Analysis"[Publication Type] OR "systematic review" OR metaanalys\* OR meta analys\*) AND English[la]

= 84 references

(Juice\* AND ("body weight" OR "weight gain" OR "weight loss" OR "body mass" OR "weight status" OR overweight OR obesity OR obese OR bmi) AND (child OR children\* OR adolescen\* OR teen OR teens OR teenage\* OR preschool\* OR toddler\* OR girls OR boys OR pediatric\* OR pediatric\* OR "school aged" OR "elementary school" OR "grade school" OR "junior high" OR "middle school" OR "high school" OR childhood OR youth OR minors OR baby OR babies OR infant OR infants OR kid OR kids) AND ("clinical trial" OR "clinical trials" OR ((random\* OR cohort\* OR controlled OR control OR multicenter OR "multi center") AND (trial OR trials OR study OR studies)) OR metaanalys\* OR meta analys\* OR "systematic review") AND English[la] AND ("2014"[PDat]: "2016"[PDat])) NOT medline[sb]

= 11 references

(2) ("Diet"[Mesh:noexp] OR "Food Habits"[Mesh:noexp] OR "Beverages"[Mesh] OR "Fruit"[mesh]) AND ("Body

Weight"[Mesh] OR "Body Mass Index" [Mesh]) AND ("child"[MeSH] OR "adolescent"[mesh] OR "Infant"[Mesh]) AND ("Randomized Controlled Trial"[Publication Type] OR "Randomized Controlled Trials as Topic"[Mesh] OR "Cohort Studies"[Mesh] OR "Case-Control Studies"[mesh] OR "MetaAnalysis" [Publication Type] OR "Meta-Analysis as Topic"[Mesh] OR "systematic review" OR metaanalys\* OR meta analys\*) AND English[la]

= 2330 references

((diet OR dietary OR eating OR food OR foods OR beverage\* OR juice\* OR fruit OR fruits OR drink\*) AND ("body weight" OR "weight gain" OR "weight loss" OR "body mass" OR "weight status" OR overweight OR obesity OR obese OR bmi) AND (child OR children\* OR adolescen\* OR teen OR teens OR teenage\* OR preschool\* OR toddler\* OR girls OR boys OR pediatric\* OR pediatric\* OR "school aged" OR "elementary school" OR "grade school" OR "junior high" OR "middle school" OR "high school" OR childhood OR youth OR minors OR baby OR babies OR infant OR infants OR kid OR kids) AND (metaanalys\* OR meta analys\* OR "systematic review" OR ((random\* OR cohort\* OR "case control") AND (trial OR trials OR study OR studies)))) AND ("2014"[PDat]: "2016"[PDat])) NOT medline[sb]

= 666 references

### Embase

(1) Juice\* AND ('diet'/exp OR 'feeding behavior'/exp OR 'beverage'/exp OR 'fruit'/exp) AND ('body weight'/exp OR 'body mass'/exp) AND ('child'/exp OR

'adolescent'/exp) AND ('clinical trial'/exp OR 'clinical trial (topic)'/exp OR 'cohort analysis' OR 'case control study'/exp OR 'meta analysis' OR 'systematic review'/exp OR 'systematic review (topic)'/exp) AND [english]/lim = 45 references

(2) ('diet'/de OR 'feeding behavior'/de OR 'beverage'/exp OR 'fruit'/exp) AND ('body weight'/exp OR 'body mass'/exp) AND ('child'/exp OR 'adolescent'/exp) AND ('randomized controlled trial'/exp OR 'randomized controlled trial (topic)'/exp OR 'cohort analysis'/exp OR 'case control study'/exp OR 'meta analysis'/exp OR 'systematic review'/exp OR 'systematic review (topic)'/exp) AND [english]/lim = 1199 references

#### CTNAHL Plus

(1) 36 references

(MH "Fruit Juices+") OR (MH "Cranberry Juice") OR juice\*

AND

(MH "Diet+") OR (MH "Eating Behavior+") OR (MH "Drinking Behavior") OR (MH "Beverages+") OR (MH "Fruit+")

AND

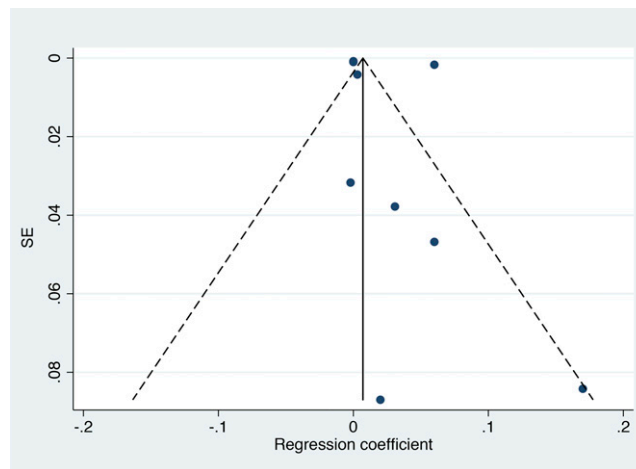
(MH "Body Mass Index") OR (MH "Body Size") OR (MH "Body Surface Area") OR (MH "Body Weight+") OR (MH "Body Weight Changes+")

AND

(MH "Child+") OR (MH "Adolescence+")

AND

(MH "Clinical Trials+") OR (MH "Prospective Studies+") OR (MH



**SUPPLEMENTAL FIGURE 4**

Funnel plot with 95% CIs.

"Retrospective Design") OR (MH "Case Control Studies+") OR (MH "Randomized Controlled Trials") OR (MH "Meta Analysis") OR (MH "Systematic Review")

(2) 1192 references

(MH "Diet") OR (MH "Eating Behavior") OR (MH "Drinking Behavior") OR (MH "Beverages+") OR (MH "Fruit+")

AND

(MH "Body Mass Index") OR (MH "Body Size") OR (MH "Body Surface Area") OR (MH "Body Weight+") OR (MH "Body Weight Changes+")

AND

(MH "Child+") OR (MH "Adolescence+")

AND

(MH "Randomized Controlled Trials") OR (MH "Prospective Studies+") OR (MH "Retrospective Design") OR (MH "Case Control Studies+") OR (MH "Meta Analysis") OR (MH "Systematic Review")

#### Cochrane CENTRAL

(1) [mh beverages] or [mh "food habits"] or [mh diet] or [mh fruit] or feeding or eat or eating or beverage\* or fruit or fruits OR food OR foods OR drink OR drinks OR drinking or diet or dietary

(2) [mh "body weight"] or [mh "body mass index"] or "weight gain" or "weight loss" or overweight or obese or obesity or "body weight" or "body mass"

(3) Juice\*

(4) [mh child] OR [mh adolescent] OR child OR children\* OR adolescen\* OR teen OR teens OR teenage\* OR preschool\* OR toddler\* OR girls OR boys OR pediatric\* OR pediatric\* OR "school aged" OR "elementary school" OR "grade school" OR "junior high" OR "middle school" OR "high school" OR childhood OR youth OR minors OR baby OR babies OR infant OR infants OR kid OR kids #5: #1 AND #2 AND #3 AND #4

Trials (Cochrane Central Register of Controlled Trials): 62 references

**SUPPLEMENTAL TABLE 5** Risk of Bias Assessment of Included Prospective Cohort Studies

Source	Selection			Cohort Comparability		Outcome			Study Quality	
	Representativeness of Exposed Cohort	Selection of Nonexposed Cohort	Ascertainment of Exposure	Outcome of Interest Not Present at Study Start	Adjusted for Total Energy Intake	Adjusted for Age	Assessment of Outcome	Follow-up Length		Attrition
Dong, 2015 <sup>34</sup>	A*	A*	C	Yes*	No	Yes*	B*	Yes*	D	Intermediate
Faith, 2006 <sup>20</sup>	B*	A*	C	Yes*	No	Yes*	B*	Yes*	C	Intermediate
Field, 2003 <sup>36</sup>	B*	A*	C	Yes*	Yes*	Yes*	C	Yes*	B*	High
Libuda, 2008 <sup>35</sup>	A*	A*	B*	Yes*	Yes*	Yes*	B*	Yes*	C	High
Newby, 2004 <sup>24</sup>	C	A*	C	Yes*	Yes*	Yes*	B*	No	C	Intermediate
Shefferly, 2015 <sup>1</sup>	A*	A*	B*	Yes*	No	Yes*	B*	Yes*	C	High
Sonneville, 2015 <sup>12</sup>	A*	A*	C	Yes*	Yes*	Yes*	A*	Yes*	C	High
Striegel-Moore, 2006 <sup>37</sup>	A*	A*	B*	Yes*	Yes*	Yes*	B*	Yes*	B*	High

The risk of bias of cohort studies was evaluated by using the Newcastle-Ottawa Scale. The number of stars denotes the score. A study can be awarded a maximum of 1 star for each numbered item within the selection and outcome categories and a maximum of 2 stars for comparability with other cohort studies. There is no prespecified threshold quality score to distinguish between good and poor quality studies, but for purposes of our report, studies with a score >7 stars are considered good quality, those with a score of 5 to 6 are considered intermediate quality, and those with <5 stars are considered poor quality. Selection: representativeness of exposed cohort: A\*, truly representative of the average 100% fruit juice user; B\*, somewhat representative of the average 100% fruit juice user; C, selected group of participants not likely to be representative of the average 100% fruit juice user; D, no description of the derivation of the cohort. Selection of nonexposed cohort: A\*, drawn from the same community as the exposed cohort; B, drawn from a different source; no description of the derivation of the nonexposed cohort. Ascertainment of exposure: A\*, secure record; B\*, structured interview; C, written self-report; D, no description. Demonstration that outcome was not present at start of study: Yes\* (exclusion of baseline implausible energy intake, history of chronic diseases that may impact weight change); No. Cohort comparability: adjustment for total energy intake: Yes\*, study adjusts or controls for total energy intake; No, study does not adjust or control for total energy intake. Adjustment for age: Yes\*, study adjusts or controls for age, or does subgroup analysis by age; No, study does not adjust or controls for age, and/or no subgroup analysis by age. Outcome: assessment of outcome: A\*, independent blind assessment; B\*, record linkage; C, self-report; D, no description. Was follow-up long enough for outcomes to occur: Yes\*, duration of follow-up  $\geq 1$  year; No, duration of follow-up <1 year. Attrition: A\*, complete follow-up (all participants accounted for); B\*, participants lost to follow-up unlikely to introduce bias: number lost  $\leq 20\%$ , or description of those lost suggesting no different from those followed; C, follow-up rate <80% and no description of those lost; D, no statement.

**SUPPLEMENTAL TABLE 6** Citations of Studies Excluded After Full-Text Review ( $n = 28$ )

Reason for Exclusion ( $n$ )	Ref.
Exposure not 100% fruit juice (17)	10
	48
	49
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Systematic review (5)	10
	59
	60
Outcome not change in BMI or BMI z score (3)	62
	63
	64
Duplicate subjects in the Growing Up Today Study (1) Could not confirm fruit juice was 100% fruit juice (1) Abstract with incomplete reporting of outcome, not published as manuscript (1)	65
	33
	31
	32

## SUPPLEMENTAL REFERENCES

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