

やめれば体脂肪を
落としやすいくなる習慣5選

① 飲み物でカロリー摂取する

Sugar-sweetened beverages and weight gain in children and adults: a systematic review and meta-analysis¹⁻³

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ABSTRACT
Background: The relation between sugar-sweetened beverages (SSBs) and body weight remains controversial.

Objective: We conducted a systematic review and meta-analysis to summarize the evidence in children and adults.

Design: We searched PubMed, EMBASE, and Cochrane databases through March 2013 for prospective cohort studies and randomized controlled trials (RCTs) that evaluated the SSB weight relation. Separate meta-analyses were conducted in children and adults and for cohorts and RCTs by using random- and fixed-effects models.

Results: Thirty-two original articles were included in our meta-analysis: 20 in children (15 cohort studies, $n = 25,745$; 5 trials, $n = 2772$) and 12 in adults (7 cohort studies, $n = 174,282$; 5 trials, $n = 292$). In cohort studies, one daily serving increment of SSBs was associated with 0.096 (95% CI: 0.02 , 0.16) and 0.05 (95% CI: 0.01 , 0.07) unit increase in BMI in children and 0.22 kg (95% CI: 0.06 , 0.34) and 0.12 kg (95% CI: 0.01 , 0.14) weight gain in adults over 1 y in random- and fixed-effects models, respectively. RCTs in children showed reductions in BMI gain when SSBs were reduced (random and fixed effects: -0.17 (95% CI: -0.39 , 0.05) and -0.12 (95% CI: -0.22 , -0.2)), whereas RCTs in adults showed increases in body weight when SSBs were added (random and fixed effects: 0.85 kg (95% CI: 0.50 , 1.20) kg). Sensitivity analyses of RCTs in children showed more pronounced benefits in preventing weight gain in SSB substitution trials (compared with school-based educational programs) and among overweight children (compared with normal-weight children).

Conclusion: Our systematic review and meta-analysis of prospective cohort studies and RCTs provides evidence that SSB consumption promotes weight gain in children and adults. *Am J Clin Nutr* 2013;98:1084-1092.

INTRODUCTION

As the search for solutions to the worldwide epidemic of obesity continues, the relation between consumption of sugar-sweetened beverages (SSBs)¹ and body weight has become a matter of much public and academic interest. SSBs are composed of energy-containing sweeteners such as sucrose (50% glucose, 50% fructose), high-fructose corn syrup (HFCS; most often 45% glucose and 55% fructose), or fruit juice concentrates that are added to the beverage by manufacturers, establishments, or individuals and usually contain >25 kcal per 8 fluid ounces. Although temporal patterns from the United States have shown a decrease in added sugar consumption between 2000 and 2008, primarily from reductions in SSBs, average intakes still exceed recommended limits and SSBs continue to be the largest contributor to added sugar and

top sources of calories in the US diet (1). Globally, intake of SSBs has been increasing steadily, because of rapid urbanization and heavy marketing in low- and middle-income countries (2).

Within the past 2 decades, a number of epidemiologic studies both in children and adults have evaluated the association between SSB intake and weight gain and obesity. In general, findings from large observational studies support a link between SSB consumption and development of obesity (3, 4). However, controversy remains whether the association is causal and whether public action should be taken on the basis of the observational evidence. Recently, several randomized controlled trials (RCTs) have been performed to evaluate whether adding SSBs into the habitual diet can increase body weight or if substituting SSBs by other low- or noncaloric beverages can reduce weight gain or facilitate weight loss. The results have been mixed as a result of heterogeneity in study design, sample size, and study duration.

For clinicians and policymakers to make informed evidence-based recommendations about SSBs, the totality of the available evidence needs to be examined in a thorough and systematic manner. Thus, we conducted a systematic review and meta-analysis of prospective cohort studies and RCTs in children and adults to provide a comprehensive summary of the literature evaluating SSBs and body weight gain.

METHODS

Literature search

Standard methods were used for conducting and reporting meta-analyses (5). Relevant articles were identified by searching

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¹Superfoods: the SSB giants (HR0845, F30 (R&D); USCA155626, and HR40712).

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³Address correspondence to F.B. Hu, Food Insecurity questionnaire, HFCS, high-fructose corn syrup, RCT, randomized controlled trial, SSB, sugar-sweetened beverage, WHO, weighted mean difference.

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- 砂糖入りの飲料を頻繁に摂取する習慣は体重や不安のリスクを上昇させる。

高カロリーだが満腹感を感じにくい

インスリン抵抗性の増加

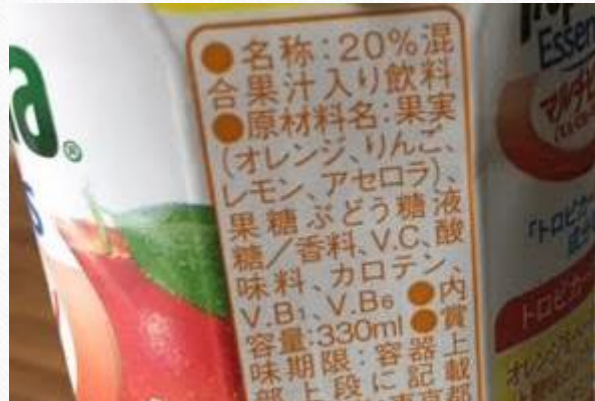
代謝性症候群の増加
(高血圧や高脂血症などの生活習慣病)

健康リスクの増加

ジュースは糖分が多いため
果物の摂取がオススメ

砂糖入り飲料を摂取した場合に、
大人と子供に起きる症状を表した論文

果糖ブドウ糖液糖とは



でんぷんを原料として作るぶどう糖（グルコース）と果糖（フルクトース）の混合液。

でんぷんには、とうもろこしでんぷん、じゃがいもでんぷんあるいはさつまいもでんぷんなどが利用されている。でんぷんそのものには甘味はありませんが、でんぷんに酵素を添加し分解していくことで甘みをもつぶどう糖や果糖が作られていく。

栄養成分表示(1本(65ml)当たり):熱量 50kcal たんぱく質 0.8g
脂質 0.1g 炭水化物 11.5g 食塩相当量 0~0.1g

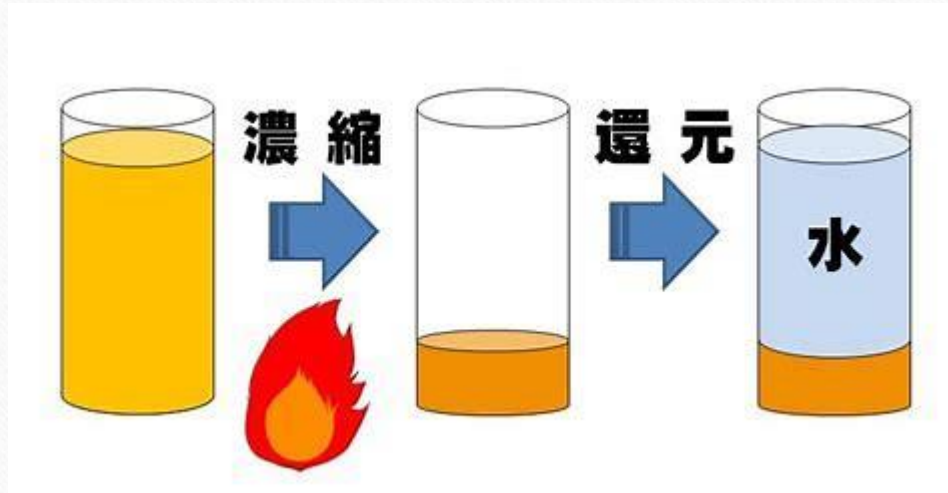
関与成分:L.カゼイ YIT 9029(シロタ株)200億個

種類別 乳製品乳酸菌飲料
無脂乳固形分 3.1% 乳脂肪分 0.1%
原材料名 ぶどう糖果糖液糖(国内製造)、砂糖、脱脂粉乳/香料
内容量 325ml(65ml×5本) 賞味期限 上部に記載 保存方法 10℃以下
製造者 (株)岩手ヤクルト工場
岩手県北上市相去町大松沢1-45

- 果糖含有率50%未満→ぶどう糖果糖液糖
- 果糖含有率50%以上90%未満→果糖ぶどう糖液糖
- 果糖含有率90%以上→高果糖液糖

中毒性や糖化のリスクに注意

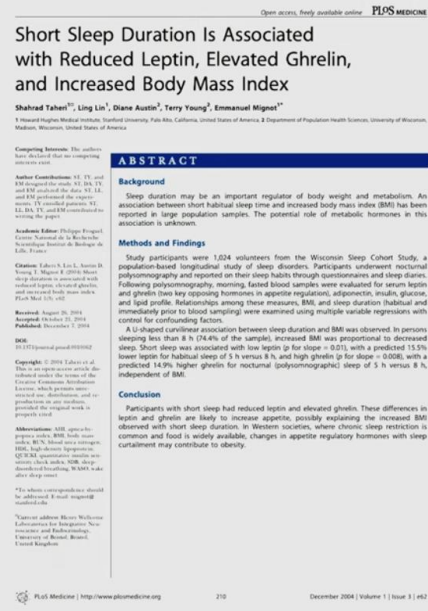
濃縮還元とは



濃縮還元は果汁の水分を飛ばし作った濃縮原料に、新たに水分を加えて元の濃度に戻す製法のこと。

- 主に**輸送コストを抑える**ための方法。
- **長期保存が可能**。
- 果物本来の風味が損なわれるため砂糖や香料が添加されている可能性アリ。
(加糖5%以下ならば100%ジュースと表記しても良い)という規定がある。

②短時間の睡眠



1.レプチンの減少

レプチンは食欲を抑制する効果があり、十分な量が分泌されると満腹感を感じやすくなる。



睡眠不足によりレプチンのレベルが下がる。



身体は満腹感を感じにくくなり過食に繋がりやすくなる。食欲が増える

2.グレリンの増加

グレリンは空腹感を促すホルモンでホルモンレベルが上がると空腹感が増加



睡眠不足はグレリンの分泌を促す



睡眠時間が体重とホルモンバランスにどのような影響を及ぼすかを表した論文

定期的な睡眠スケジュール
や睡眠環境(湿度や室温)

③ 食事記録をとらない



- 無意識に摂取しているカロリーを可視化できる。
- 食事記録をとることで食事の傾向が見えてきて対策も明確化する。

食事記録が成人の過体重・肥満問題にどのように寄与するかをまとめた論文

④加工食品を食べ野菜や汁物を食べない



加工食品の摂取が体重増加・体脂肪増加に及ぼす影響をまとめた論文

- 加工度の高い食品を食べた群は、加工度の低い食品を食べた群に比べて1日あたり500kcal多く摂取しており、これが体重・体脂肪の増加に繋がったとまとめる。
- 加工食品は**カロリー密度が高いわりに食べやすく満腹感を感じにくい**。

カロリー密度が低い食品には**水分や食物繊維が多い**果物や野菜、きのこ、海藻などが含まれる。

カロリー密度が高い食品には、脂肪分や糖分が豊富であり、**食物繊維が少なく消化が早い**ことで**空腹感を感じやすい**のがデメリット。

⑤有酸素運動をしない



筋トレと有酸素運動の併用で
体脂肪量の変化をまとめた論文

- 筋トレに加えて有酸素運動を行うことで、体脂肪の減少と除脂肪体重の増加に繋がる。
- 筋トレ ➡ 筋肉量と基礎代謝量の増加
- 有酸素運動 ➡ カロリー消費を促進

まとめ

カロリー摂取は飲料や加工食品から摂取せず、
自然な食事で栄養バランスを整え、
適度に動いてしっかり寝ればOK。