Review: soft drink consumption is associated with increased energy intake and body weight


Q Is soft drink consumption associated with increased energy intake, increased body weight, displacement of nutrients, and an increased risk of chronic disease?

METHODS

Data sources: Medline, PsycINFO, Web of Science database, bibliographies of identified articles, and authors of included articles.

Study selection and assessment: articles that assessed the relation between soft drink consumption and the 4 primary outcomes listed below. 88 articles (cross-sectional studies, longitudinal studies, and randomised controlled trials) were included in the analysis.

Outcomes: main outcomes were energy intake, body weight, milk intake, and calcium intake. Secondary outcomes were nutrition and health. Effect sizes were calculated and interpreted as follows: <0.10 was considered a small effect size, 0.25 as medium, and >0.40 as large.

MAIN RESULTS

Only the results of meta-analyses of randomised controlled trials and longitudinal studies are reported here. Soft drink consumption was associated with increased energy intake and body weight and reduced milk and calcium intake (table). The associations between soft drink consumption and intake of various nutrients and various health conditions were not presented by study type and so are not reported here.

CONCLUSION

Soft drink consumption is associated with increased energy intake and body weight and reduced milk and calcium intake.

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Associations between soft drink consumption and various outcomes*

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Number and type of studies</th>
<th>Mean effect size (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy intake</td>
<td>5 longitudinal studies</td>
<td>0.24 (p = 0.001)</td>
</tr>
<tr>
<td></td>
<td>4 long-term randomised controlled trials (consumption over 3–10 wks)</td>
<td>0.30 (p &lt; 0.001)</td>
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<tr>
<td></td>
<td>12 short-term randomised controlled trials (consumption over a meal or single day)</td>
<td>0.21 (p = 0.004)</td>
</tr>
<tr>
<td>Body weight</td>
<td>(10)† longitudinal studies</td>
<td>0.09 (p &lt; 0.001)</td>
</tr>
<tr>
<td>Milk intake</td>
<td>7 randomised controlled trials</td>
<td>0.24 (p &lt; 0.001)</td>
</tr>
<tr>
<td>Calcium intake</td>
<td>5 longitudinal studies</td>
<td>0.13 (p = 0.004)</td>
</tr>
</tbody>
</table>

*Effect sizes < 0.10 were considered to be small, 0.25 to be medium, and >0.40 to be large.

†Information provided by author.
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