

Terms of Reference

The Committee would welcome written submissions addressing this issue, including:

- The evidence on the potential physical and mental health effects of energy drinks on children and young adults;*
- How marketing affects consumption, including for example links to 'gaming';*
- What links there are between use of energy drinks and other behaviours, and whether energy drink consumption drives those behaviours or vice versa;*
- What gaps there are in the evidence-base on these physical, mental and behavioural factors;*
- What the evidence is on the risks being increased, or reduced, through the way energy drinks are consumed;*
- The extent to which drinks being carbonated affects their consumption and marketing;*
- What controls, regulation or awareness-raising are in place for energy drinks;*
- What further controls, regulation or awareness-raising are required, and where responsibility/accountability for that should lie.*

Introduction

The RCPCH welcomes the opportunity to contribute to this inquiry looking at the impact of energy drinks (EDs), specifically implications for children and young people (CYP) in recognition of the emerging evidence base linking EDs to a range of negative health outcomes. It is right that there be increased scrutiny on food and beverages that have low or no nutritional or therapeutic value, contain potentially harmful ingredients, and are heavily marketed to CYP.

Health implications of energy drink consumption

There is no evidence that caffeine and other stimulant substances contained in energy drinks have a benefit or place in the diet of children and adolescents.

Research indicates that there are a range of negative health implications related to the consumption of EDs. A recent survey of over 2000 youth and young adults aged 12-24 years in Canada found that more than half who had consumed EDs reported adverse outcomes, some serious enough to warrant seeking medical help.¹

¹ <http://cmajopen.ca/content/6/1/E19.full.pdf+html>

Although there are limitations in the current evidence base with a reliance on cross sectional studies and small study populations, energy drink consumption by young people has been repeatedly found to be associated with higher rates of risk seeking behaviours such as smoking, alcohol and other substance use, poor mental health, adverse cardiovascular effects as well as physical symptoms such as headaches, stomach aches, hyperactivity and insomnia.²³ As with other beverages with a high sugar content, consumption of EDs has also been shown to be associated with adverse metabolic, dental and renal effects, including overweight and obesity, dental decay and kidney disease.⁴

Impact of energy drink consumption on behaviour

Consumption of EDs has been found to be associated with a range of health risk behaviours, some of which are mentioned previously. A longitudinal study in the Netherlands of 509 adolescents focusing on young adolescents' socio-emotional and cognitive development found that the consumption of one or more EDs per day may have a negative impact on daily life behaviours related to executive function (i.e. mental processes that enable us to plan, focus attention, remember instructions, and juggle multiple tasks successfully).⁵ A recent study of adolescents in New Zealand using data from a national survey of 8500 high school students found that one third of students reported to have consumed EDs in the last week, with consumption associated with binge drinking, smoking, unsafe sexual practice, violence behaviours, risky motor vehicle use and disordered eating behaviours. Furthermore, consumption was linked to depressive symptoms, greater emotional difficulties and lower subjective well-being.⁶

Energy drinks and the role of alcohol

The interplay of EDs and consumption of alcohol presents a worrying threat to public health, and is a potential indicator of increased risk of substance use or abuse as well as other health-compromising behaviour.⁷⁸ A longitudinal study in the US of 508 late adolescents found that when EDs are consumed alongside alcohol, adolescents are more likely to consume more alcohol, become more

² Visram, S. et al. Consumption of energy drinks by children and young people: a rapid review examining evidence of physical effects and consumer attitudes. (2016). *BMJ Open*; 6: e010380
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5073652/pdf/bmjopen-2015-010380.pdf>

³ Al-Shaar, Laila et al. "Health Effects and Public Health Concerns of Energy Drink Consumption in the United States: A Mini-Review." *Frontiers in Public Health* 5 (2017): 225. *PMC*. Web. 3 Apr. 2018.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5583516/pdf/fpubh-05-00225.pdf>

⁴ Al-Shaar, Laila et al. "Health Effects and Public Health Concerns of Energy Drink Consumption in the United States: A Mini-Review." *Frontiers in Public Health* 5 (2017): 225. *PMC*. Web. 3 Apr. 2018.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5583516/pdf/fpubh-05-00225.pdf>

⁵ Van Batenburg-Eddes, Tamara et al. "The Potential Adverse Effect of Energy Drinks on Executive Functions in Early Adolescence." *Frontiers in Psychology* 5 (2014): 457. *PMC*. Web. 3 Apr. 2018.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4033167/>

⁶ Utter, J, Denny, S, Teevale, T & Sheridan, J. Energy drink consumption among New Zealand adolescents: Associations with mental health, health risk behaviours and body size. *J Paediatr Child Health*. 2018 Mar;54(3):279-283. doi: 10.1111/jpc.13708. Epub 2017 Sep 14. <https://onlinelibrary.wiley.com/doi/pdf/10.1111/jpc.13708>

⁷ Pound CM, Blair B; Canadian Paediatric Society, Nutrition and Gastroenterology Committee, Ottawa, Ontario. Energy and sports drinks in children and adolescents. 2017. *Paediatr Child Health*. 2017 Oct;22(7):406-410. doi: 10.1093/pch/pxx132. Epub 2017 Oct 6. <https://www.ncbi.nlm.nih.gov/pubmed/29491725>

⁸ Dawodu, A. & Cleaver, K. Behavioural correlates of energy drink consumption among adolescents: A review of the literature. *Journal of Child Health Care*. (2017). <http://journals.sagepub.com/doi/pdf/10.1177/1367493517731948>

intoxicated, and experience more negative consequences compared with when they drank alcohol without the addition of EDs.⁹

Marketing of energy drinks

Marketing of EDs to CYP is of considerable public health concern. Research has demonstrated that there is a clear link between the food and drink adverts children see, their food and drink choices and how much they eat, with children being particularly vulnerable to brand recognition and preference from as early as 18 months of age.^{10,11} Recent qualitative research looking specifically at children's perception of EDs in the UK found that purchasing decisions were influenced by the relatively low price of many EDs and their widespread availability, with gendered branding also having an important role.¹²

The RCPCH believes that current rules to restrict exposure to all High Fat Sugar and Salt (HFSS) adverts do not go far enough in protecting children when they watch TV the most, between 6pm and 9pm, as this viewing period does not typically feature children-specific programming. A study by the University of Liverpool found that the majority (59%) of food and drink adverts shown during family viewing time (6pm-9pm) would be banned from children's TV however current restrictions only apply when children are over-represented in the audience, compared to the total viewing population, by 20%. Therefore while 27% of children's viewing takes place during children's TV where HFSS restrictions apply, 49% of children's viewing takes place in adult air time where HFSS restrictions do not apply, peaking between 7pm and 8pm. A 9pm watershed therefore is the most effective way to reduce children's exposure to food and drink marketing.¹³

Controls and regulation

We start from the observation that caffeine and other stimulant substances contained in energy drinks have no place in the diet of children and adolescents.

The growing market for EDs and the potential for harms to CYP warrants further scrutiny and strategies to limit consumption. The American Academy of Paediatrics recommend that EDs are not appropriate for children and adolescents and should never be consumed.¹⁴ Several supermarkets in the UK have banned the sale of EDs to children and young people under the age of 16 years. While these voluntary measures taken by specific supermarket outlets should be applauded, a mandatory code would be welcomed as it is inevitable that children and young people will be able to purchase EDs with relative ease from alternate providers.

⁹ Patrick, Megan E., and Jennifer L. Maggs. "Energy Drinks and Alcohol: Links to Alcohol Behaviors and Consequences Across 56 Days." *The Journal of adolescent health : official publication of the Society for Adolescent Medicine* 54.4 (2014): 454–459. PMC. Web. 3 Apr. 2018. [http://www.jahonline.org/article/S1054-139X\(13\)00511-9/pdf](http://www.jahonline.org/article/S1054-139X(13)00511-9/pdf)

¹⁰ Public Health England (October 2015). Sugar Reduction: the evidence for action.

<https://www.gov.uk/government/publications/sugar-reduction-from-evidence-into-action>

¹¹ Robinson TN, Borzekowski DLG, Matheson DM, Kraemer HC. Effects of Fast Food Branding on Young Children's Taste Preferences. *Arch Pediatr Adolesc Med.* 2007;161(8):792–797. doi:10.1001/archpedi.161.8.792

¹² Visram S, Crossley SJ, Cheetham M, Lake A (2017) Children and young people's perceptions of energy drinks: A qualitative study. *PLoS ONE* 12(11): e0188668. <https://doi.org/10.1371/journal.pone.0188668>

¹³ <http://obesityhealthalliance.org.uk/wp-content/uploads/2017/11/A-Watershed-Moment-report.pdf>

¹⁴ American Academy of Paediatrics. Clinical Report—Sports Drinks and Energy Drinks for Children and Adolescents: Are They Appropriate? (2011) <http://pediatrics.aappublications.org/content/pediatrics/early/2011/05/25/peds.2011-0965.full.pdf>

Research priorities

As stated previously the current evidence base is limited mainly to cross sectional studies with small population groups. The majority of research to date has focused on the role of sugar and caffeine in EDs, however less is known about the impact of other ingredients such as taurine. There is limited evidence on the role of energy drink consumption on both short and long term educational and social outcomes.¹⁵ Gender differences in both use and impact, particularly after puberty, warrant further consideration. Further investigation of the interplay between energy drink consumption and adolescent sleep disturbance is also required.

About the RCPCH

The College is a UK organisation which comprises over 15,000 members who live in the UK, Ireland and abroad and plays a major role in postgraduate medical education, as well as professional standards.

The College's responsibilities include:

- setting syllabuses for postgraduate training in paediatrics
- overseeing postgraduate training in paediatrics
- running postgraduate examinations in paediatrics
- organising courses and conferences on paediatrics
- issuing guidance on paediatrics
- conducting research on paediatrics
- developing policy messages and recommendations to promote better child health outcomes
- service delivery models to ensure better treatment and care for children and young people

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¹⁵ Visram S, Cheetham M, Riby DM, *et al* Consumption of energy drinks by children and young people: a rapid review examining evidence of physical effects and consumer attitudes. *BMJ Open* 2016;**6**:e010380. doi: 10.1136/bmjopen-2015-010380 <http://bmjopen.bmj.com/content/6/10/e010380>