

Health-care personnel and energy drinks: A new category of subjects at risk?

We read with great interest Aonso-Diego and colleagues' systematic review and meta-analysis analyzing the prevalence of energy drink (ED) consumption among different continents and age groups [1], and we found it of importance with a view to the prevention of chronic disease in young subjects. The authors concluded that the world-wide prevalence of ED consumption appears to be high, particularly among adolescents and young adults.

With reference to the results, we would like to contribute to the discussion. The widespread use of EDs by young people is well known, and there have been several studies of the health effects [2–4]. Chronic non-communicable diseases can be prevented with a holistic approach starting from a young age [5–7]. Dietary and drinking habits profoundly influence the onset of these diseases. The results reported by Aonso-Diego and colleagues can be of great help in setting prevention actions [1]. However, a new category of subjects at risk is emerging: health-care personnel. After the pandemic, greater attention has been paid to the effects of stress on health-care workers, and several studies have been published analyzing life-style changes following stress [8–10].

We have observed an increase in the use of caffeine-rich energy drinks during the recent pandemic, not only among young people but also among nursing students [10, 11]. The use of energy drinks among health-care workers during night shifts are to increase energy levels and focus. High stress levels during the pandemic, when health-care workers were subjected to high work-loads, contributed to increased ED consumption [12–15]. Considering that health-care personnel should be aware of the health effects caused by the consumption of EDs, it can be hypothesized that such consumption is considered temporary by them [16, 17]. However, it should be underlined that the harmful effects on health depend not so much upon the high quantity of caffeine contained in EDs, but on the presence in these drinks of other substances with an energizing action, such as taurine and guarana [3, 18].

In conclusion, we must increase knowledge and awareness among health-care personnel of the potential risk related to high consumption of energy drinks. Furthermore, it is important to inform health-care personnel about the side effects induced by drinks and foods with nutraceutical effects. It is important to monitor the consumption of EDs in other categories of subjects in addition to young people to identify risk trajectories early.

KEYWORDS

burnout, caffeine, Energy drinks, health-care personnel, night shift, stress

AUTHOR CONTRIBUTIONS

Alberto Farinetti: Conceptualization (equal); writing—original draft (equal); writing—review and editing (equal). **Anna Vittoria Mattioli:** Conceptualization (equal); writing—original draft (equal); writing—review and editing (equal).

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DECLARATION OF INTERESTS

None.

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NA.

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REFERENCES

1. Aonso-Diego G, Krotter A, García-Pérez Á. Prevalence of energy drink consumption world-wide: a systematic review and meta-analysis. *Addiction*. 2023;15. <https://doi.org/10.1111/add.16390>
2. Mattioli AV, Pennella S, Farinetti A, Manenti A. Energy drinks and atrial fibrillation in young adults. *Clin Nutr*. 2018;37:1073–4.

3. Costantino A, Maiese A, Lazzari J, Casula C, Turillazzi E, Frati P, et al. The dark side of energy drinks: a comprehensive review of their impact on the human body. *Nutrients*. 2023;15:3922.
4. Chami M, Di Primio S. Energy drink consumption can induce cardiovascular events, two case reports and a literature review. *Toxicol Anal Clin*. 2023. <https://doi.org/10.1016/j.toxac.2023.09.005>
5. D'Ascenzi F, Sciacaluga C, Cameli M, Cecere A, Ciccone MM, di Francesco S, et al. When should cardiovascular prevention begin? The importance of antenatal, perinatal and primordial prevention. *Eur J Prev Cardiol*. 2021;28:361–9.
6. Devesa A, Ibanez B, Malick WA, Tinuoye EO, Bustamante J, Peyra C, et al. Primary prevention of subclinical atherosclerosis in young adults: JACC review topic of the week. *J Am Coll Cardiol*. 2023;82:2152–62.
7. Mattioli AV, Migaldi M, Farinetti A. Coffee in hypertensive women with asymptomatic peripheral arterial disease: a potential nutraceutical effect. *J Cardiovasc Med*. 2018;19:183–5.
8. Qin Z, He Z, Yang Q, Meng Z, Lei Q, Wen J, et al. Prevalence and correlators of burnout among health professionals during different stages of the COVID-19 pandemic in China. *Front Psychol*. 2023;14:1156313.
9. Protano C, Valeriani F, de Giorgi A, Angelillo S, Bargellini A, Bianco A, et al. Consumption of energy drinks among Italian university students: a cross-sectional multicenter study. *Eur J Nutr*. 2023;62:2195–203.
10. Mattioli AV, Sabatini S. Changes in energy drink consumption during the COVID-19 quarantine. *Clin Nutr ESPEN*. 2021;45:516–7.
11. Coppi F, Nasi M, Sabatini S, Bellini P, Generali L, Mecugni D, et al. Lifestyle changes during the first and second waves of the COVID-19 pandemic in medical college students: are there gender-related differences? *Acta Biomed*. 2022;93:e2022312.
12. Kang Y, Yang IS. Korean nurses' energy drink consumption and associated factors. *Nurs Health Sci*. 2023;25:231–8.
13. Markon AO, Ding M, Chavarro JE, Wolpert BJ. Demographic and behavioural correlates of energy drink consumption. *Public Health Nutr*. 2023;26:1424–35.
14. Phillips KE, Kang Y, Kang SJ, Giroto C, Fitzpatrick JJ. Caffeine and high energy drink use and knowledge by nurses in three countries. *Applied Nurs Res ANR*. 2021;58:151414.
15. Mattioli AV, Coppi F, Farinetti A. Energy drink consumption in nurses: is high-stress work relevant to the adoption of poor drinking habits? *Maturitas*. 2023;177:107826.
16. Arria AM, Caldeira KM, Bugbee BA, Vincent KB, O'Grady KE. Trajectories of energy drink consumption and subsequent drug use during young adulthood. *Drug Alcohol Depend*. 2017;(179):424–32.
17. Mattioli AV, Gallina S. Early cardiovascular prevention: the crucial role of nurse-led intervention. *BMC Nurs*. 2023;22:347.
18. Jagim AR, Harty PS, Barakat AR, Erickson JL, Carvalho V, Khurelbaatar C, et al. Prevalence and amounts of common ingredients found in energy drinks and shots. *Nutrients*. 2022;14:314.