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Research Article

Informing Intervention Strategies to Reduce Energy Drink Consumption in Young People: Findings From Qualitative Research

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ABSTRACT

Objective: To determine young people's knowledge of energy drinks (EDs), factors influencing ED consumption, and intervention strategies to decrease ED consumption in young people.

Design: Eight group interviews with young people (aged 12–25 years).

Setting: Community groups and secondary schools in Perth, Western Australia.

Participants: Forty-one young people, 41% of whom were male and 73% of whom consumed EDs.

Phenomenon of Interest: Factors influencing ED consumption and intervention strategies informed by young people to reduce ED consumption.

Analysis: Two researchers conducted a qualitative content analysis on the data using NVivo software.

Results: Facilitators of ED consumption included enhanced energy, pleasant taste, low cost, peer pressure, easy availability, and ED promotions. Barriers included negative health effects, unpleasant taste, high cost, and parents' disapproval. Strategies to reduce ED consumption included ED restrictions, changing ED packaging, increasing ED prices, reducing visibility in retail outlets, and research and education.

Conclusion and Implications: Because many countries allow the sale of EDs to people aged <18 years, identifying ways to minimize potential harm from EDs is critical. This study provided unique insights into intervention strategies suggested by young people to reduce ED consumption. In addition to more research and education, these strategies included policy changes targeting ED sales, packaging, price, and visibility. Future research might examine the feasibility of implementing such interventions.

Key Words: energy drinks, adolescent, young adult, policy, qualitative (*J Nutr Educ Behav*. 2017;49:724-733.)

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INTRODUCTION

Energy drinks (EDs) are nonalcoholic caffeinated beverages containing various carbohydrates, amino acids, vitamins, and sweeteners.[1] The purported benefits of EDs include improved energy, concentration, metabolism, and performance.[1] Global sales of EDs exceed $30 billion,[2] with EDs available in over 160 countries.[3]

The popularity of EDs parallels growing concern about harmful ED consumption. Adverse health effects of EDs typically mirror those of caffeine toxicity, including headaches, nausea, sleep difficulties, seizures, anxiety, cardiac abnormalities, and sudden death.[4-6] People with existing medical conditions such as cardiovascular, renal, or liver disease, diabetes, seizures, and mood disorders

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may be particularly vulnerable to the negative health consequences of EDs.[7]

Given their lower tolerance to caffeine, children and adolescents may be more susceptible than adults to the negative side effects of EDs.[7,8] Indeed, there is no established safe level of caffeine intake for children and adolescents. Furthermore, reports from the US and Australia indicated that caffeine overdoses and adverse reactions to EDs are prevalent and increasing in adolescents.[7,9] Evidence also suggested that some young adults use EDs in combination with alcohol and illicit drugs, potentially affecting brain and cardiovascular functioning and the risk of injury.[10,11]

Regulations of EDs vary internationally. In the US there are no restrictions on ED caffeine levels or caffeine quantity labeling requirements.[7] By contrast, within the European Union, all EDs must be labeled as having high caffeine content, whereas products containing more than 150 mg/L caffeine must state the caffeine level in milligrams per 100 mL.[12] In Australia, EDs contain a maximum of 320 mg/L caffeine and average quantities of all ED ingredients must be stated on a nutritional panel.[13] Although ED sales are unrestricted in Australia, ED labels must recommend a maximum daily intake amount and state that EDs are not recommended for children, pregnant or lactating women, or caffeine-sensitive persons.[13] However, a recent study of 1,992 Australians aged ≥16 years found that fewer than two fifths of ED consumers were aware of the recommended maximum daily intake guidelines present on ED labels.[14]

Australian health professionals and the lay community have expressed concern about the health effects of EDs and support tighter ED regulations. An analysis of pooled data from 3 West Australian Nutrition Monitoring surveys[15] (3,196 people) indicated that in 2012, 89% of participants aged 18–64 years were concerned about the sale of EDs to children, and the proportion of people who were very concerned (79%) increased from 59% in 2001. The Australian Medical Association recommended banning the sale of EDs to individuals aged <18 years, a strategy employed within Denmark, Turkey, Norway, Uruguay, Iceland, and Lithuania.[16,17] In 2014, the Australian Federal Parliament received a petition calling for the ban of ED sales to people aged <18 years, which was signed by over 13,500 people.[18]

Despite recent calls to tighten ED regulations and a growing evidence base of health risks associated with these drinks, many countries such as Australia and the US have not enforced age-specific restrictions on the sale of EDs. Although there is a critical need to identify ways to minimize the potential harm from ED consumption, there is a paucity of research investigating intervention strategies to reduce ED consumption among young people. Thus, using group interviews with young people aged 12–25 years, this study aimed to explore young people's knowledge of EDs, the factors influencing ED consumption or non-consumption in young people, and intervention strategies to decrease ED consumption in young people.

METHODS

Participants and Recruitment

A total of 41 young people attended 1 of 8 group interviews. Participants ranged in age between 12 and 25 years (Table 1). Because factors influencing ED use may vary according to age, participants within each group interview fell within a 5-year age range. Participants were recruited using a convenience sample of young people attending 1 youth group and 2 independent high schools. Young people were also recruited after responding to an advertisement for study participants shared on social media pages of the Telethon Kids Institute and the National Heart Foundation of Australia's Live Lighter Campaign. Recruitment ceased upon data saturation. Eligible participants were aged 12–25 years, English speaking, and living in the Perth metropolitan area, Western Australia. The Greater Perth region contained approximately 2.04 million people in 2015, which was 79% of the state's population. The median age of Perth residents was 35.7 years; children aged <15 years comprised approximately 20% of the population.[19]

Procedure

The University of Western Australia's Human Ethics Committee granted ethical approval. Participants received a study information sheet via e-mail or post before the group interviews, and were contacted the day before the interviews to confirm attendance. Signed, informed consent was obtained from all participants; signed informed parental consent was also obtained for participants aged 12–17 years. An opt-out method of consent was used at 1 school in which parents received an information sheet and a request to notify the research team if they did not want their child to participate. Participants were offered $25 cash (or the equivalent store voucher) as a token of appreciation for participation and to reimburse costs associated with attendance.

A discussion guide was developed before the group interviews using themes from existing research[7,20] and refined after review by an expert panel of 11 researchers (all of whom had experience in qualitative or ED research). The discussion guide contained semistructured questions framed around participants' awareness of ED brands and ingredients, ED consumption patterns and experienced health effects, factors influencing ED consumption (or non-consumption), and strategies for reducing ED consumption. The guide was pilot-tested with 4 adolescents and 5 young adults for comprehension and feasibility.

Group interviews were conducted during September and October, 2015, in rooms at schools, community centers, and libraries throughout metropolitan Perth, Western Australia. Participants completed a brief demographic survey before the group discussion, including the question, *How often do you drink EDs?* At the commencement of the group interviews, participants were shown EDs sold in Australia, as well as non-ED beverages (eg, sports drinks, sodas, and iced coffee), to gauge their awareness of ED brands and clarify which drinks were classified as EDs. The views of different age groups and genders were considered during the group interviews; the facilitator invited less vocal participants to provide their opinions and experiences to the extent they felt comfortable doing

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