



BRAIN. Broad Research in Artificial Intelligence and Neuroscience

e-ISSN: 2067-3957 | p-ISSN: 2068-0473

Covered in: Web of Science (ESCI); EBSCO; JERIH PLUS (hkdir.no); IndexCopernicus; Google Scholar; SHERPA/RoMEO; ArticleReach Direct; WorldCat; CrossRef; Peeref; Bridge of Knowledge (mostwiedzy.pl); abcdindex.com; Editage; Ingenta Connect Publication; OALib; scite.ai; Scholar9; Scientific and Technical Information Portal; FID Move; ADVANCED SCIENCES INDEX (European Science

Evaluation Centre, neredataltics.org); ivySCI; exaly.com; Journal Selector Tool (letpub.com); Citefactor.org; fatcat!; ZDB catalogue; Catalogue SUDOC (abes.fr); OpenAlex; Wikidata; The ISSN Portal; Socolar; KVK-Volltitel (kit.edu)

2026, Volume 17, Issue 3, pages: 531-543

Submitted: July 24th, 2026 | Accepted for publication: August 28th, 2026

Parental Perceptions Towards the Impact of Energy Drinks and Psychoactive Substances in Children and Adolescents and the Risk of Worsening of Oral Lichen Planus

Lăcrămioara Ilie

PhD student Dunărea de Jos University of Galați, Romania. lacramioara.ilie@ugal.ro

Eva Maria Elkan*

lecturer at Dunărea de Jos University of Galați, Romania.

cojocarumariaeva@yahoo.com,

<https://orcid.org/0000-0003-2094-1089>

Diana Ciortea

assistant at Dunărea de Jos University of Galați, Romania. diana.ciortea@ugal.ro,

<https://orcid.org/0000-0001-7420-256X>

Angel Liviu Trifan

senior emergency physician at Clinical County Emergency Hospital Sfântul Andrei of Galați, Romania. trifanangel@gmail.com, <https://orcid.org/0000-0001-5308-7283>

Gabriela Stoleriu

Associate professor PhD habil At Dunărea de Jos University of Galați, Romania.

gabriela.stoleriu@ugal.ro,

<https://orcid.org/0000-0002-8211-505X>

Cristina Animarie Mărândel

PhD student at Dunărea de Jos University of Galați, Romania. animarie.marandel@ugal.ro

Laura Cristescu Budală

lecturer at Dunărea de Jos University of Galați laura.cristescubudala@gmail.com,

<https://orcid.org/0009-0003-9907-9715>

Carina Voinescu

Professor PhD habil at Dunărea de Jos University of Galați carina.voinescu@ugal.ro,

<https://orcid.org/0000-0003-2434-808X>

Anamaria Ciubara

Professor habil PhD at University "Dunărea de Jos" Galati, Romania. anamburlea@yahoo.com,

<https://orcid.org/0000-0003-0740-3702>

*Corresponding author: Eva-Maria Elkan e-mail: cojocarumariaeva@yahoo.com

Abstract: The perception of parents regarding the new lifestyle of the adolescents are influenced by the range of potentially addictive substances and behaviours to which the teenagers may be exposed, with parents perceiving more threat in the environment than in the past. The distrust of teenagers in the closest people and friends determines a greater anchoring toward the parents. Parent-adolescent discussions are often challenging and require tact and help them develop the social competences needed to make responsible choices without fear of social failure. We aimed to investigate parents' feelings and concerns, as well as their protective attitudes regarding their children's future. The aim of this study was also action of parental awareness thus improving parental perception, and to offer models of dialogue with the adolescents to the parents, and in this way finally it brings reliable solutions and are preventing the needs of the establishment of long-term psychiatric treatments. Parents' greatest fears are cardiac and neurological diseases that can lead to long-term sequelae and affect adolescents' functioning; at the same time, perceived parental failure may lead to blockages that can be difficult to overcome. Preventing major decompensations is essential, and psychoeducation and the parental perseverance are the key to creating a safe environment and maintaining a balance between adolescents school and emotional lives, preparing them to become a responsible adult who can later build their own family and care for their own children.

Keywords: energy drinks; psychoactive substances; children and adolescents; parental perception; resilience; fortitude.

How to cite: Ilie, L., Elkan, E. M., Ciortea, D., Trifan, A. L., Stoleriu, G., Mărândel, A., Cristescu Budală, L., Voinescu, C., & Ciubara, A. (2026). Parental perceptions towards the impact of energy drinks and psychoactive substances in children and adolescents and the risk of worsening of oral lichen planus. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 17(3), 531-543. <https://doi.org/10.70594/brain/17.3/34>



1. Introduction

Through the substances which are contained in energy drinks, these drinks affect adolescents' entire bodies and influence growth during this period of development. The substances contained in energy drinks may also influence the night-day sleeping pattern. Caffeine contained in these drinks may induce tachycardia in some cases, and, in correlation with the timing of administration from a proper initiative and of proper selections without medical advice of nutrients and energy drinks and with caffeine intake, the sleeping time of teenagers becomes later and their sleep becomes more agitated. One cause is that sugar in greater quantities may cause inflammation in the body in some circumstances, and taurine is an amino acid which, in excess, may damage the brain through neuronal damage if the biological context is met in specific cases (Toshmatova & Saparzhanova, 2026). In the same way as binge drinking occurs in patients with alcohol use disorder, alcohol use may occur in 11% of male teenagers, while the risk is also present in female teenagers, among whom the percentage may rise to 6.9%. In the same way, we can frame the development of a Binge Excessive Energy Charge Actions found in the literature (BEECA), a term used to describe situations in which teenagers drink more than four different energy drinks per day, which happens quite often but is difficult to quantify; therefore, further studies are needed. The pattern of heavy energy drink consumption is more common among male teenagers (Intorre et al., 2026). When an adolescent watches more than three episodes in a single viewing session, we can define this as binge-watching, as it is explained by obtaining immediate gratification, with the aim of forgetting about problems, feeling disconnected and feeling far away from the problems that affect them. At the same time, the level of the feeling of belonging to the school may determine the level of media consumption (Becerra-Arroyo et al., 2026). Some environments and more demanding professions can considerably increase the consumption of energy drinks; thus, among young artisanal gold miners from Ghana aged between 18 and 35 years, 87% consumed energy drinks, while 43.4% reported a desire to consume alcohol-containing drinks. (Nyaaba et al., 2026). In Ghana, the preference of professional drivers for this combination was also analysed, and this type of consumption was termed AmED (alcohol mixed with energy drinks), with this mixture being particularly preferred by younger drivers who, at the same time, have less driving experience (Amoaduand & Odoom, 2026).

The transfer of responsibilities to the kinship caregivers (mostly grandparents, uncles and adult sisters who have their own families will lead to a more relaxed parental perception and a less strict supervision of the teenagers and children by the relatives when the parents are temporarily absent. The explanation is that the relatives are more permissive and they perceive the parents who are absent from home as people who impose too many rules on the children, and the consumption may occur at a family party or an 18th birthday party. In traditional Romanian families, grandparents are highly respected figures, and their word is regarded as "the letter of the law" for the whole family because in Romania we can see the maintenance of a strong family system which helps the younger members of it to overcome difficulties (medical difficulties, financial difficulties, living difficulties and other greater life events) Castiglioni, M., Hărăguș, M., Faludi, C. and Hărăguș, P.T., 2016. Romanian grandparents teach their grandchildren through parables and through their own life experiences and sometimes the grandparents give moralising speeches addressed to the parents in the presence of the parents' children, who are their grandchildren. On the other hand, the parents feel that these discussions of the grandparents with them in the presence of the children create a dissociation which can lead the child to decide not to believe all the advice of the grandparents and not the advice of the parents, and this can sometimes create obstacles when parents leave their child with the extended family (Day et al., 2026). As is known, the relationship between stress and the triggering of autoimmune reactions has been studied, as has the relationship between the stress factors with the oral plan lichen; in turn, oral lichen planus is more frequent in persons with anxiety disorders, because these individuals have more problems with oral health (Yuan&Gao, 2026). The behavioural models of the parents also influence the children because they may see in their homes the consumption of psychotropic substances while the consumption of

illicit substances for recreational purposes has grown by over 23% among people aged 15–64 years. Through psychoactive substances and psychotropic medications, saliva secretion is affected which may impact the oral mucosa as well as the oral microbiota, colonisation by microorganisms (Üstün, 2026). Another sensitive aspect is the emotional closeness of teenagers who may be exposed in forming friendships with peers who consume substances, and they are attached to the friends who are substance users and they have a “feeling of solidarity and friendship” and they consume substances together with these friends. For this reason, probing the surroundings of teenagers by parents together with the discussions about their conceptions and their aspirations are essential for the parents with the aim of gaining access to their child's world, understanding their child's dreams, and understanding their child's dissatisfactions. The parent is like an architect who must know every detail (Congia, 2026). Risk behaviours are associated with energy drink consumption among teenagers such as speeding and listening to loud music, and they want to feel very strong and interesting. Chronic consumption and the consumption of high quantities at the same time are more frequent in the general population, and the percentage is 10% (Marinoni et al., 2022). Adolescents seek strong sensations and new experiences, which can influence them emotionally (Marinoni et al., 2022).

The caffeine content of energy drinks may cause the symptoms of palpitations and restlessness. These drinks also contain guarana, taurine, and ginseng, as well as many other substances. These drinks differ considerably from the sport drinks, which are consumed during physical activity to replenish the body's reserves lost through perspiration. Sport drinks may contain vitamins, minerals and sometimes carbohydrates to help maintain blood glucose levels within the optimal range during physical activity. Some young people combine alcohol with energy drinks, which may aggravate the effects of alcohol and delay its elimination from the stomach. In one energy drink caffeine may be up to 505 mg/doses of energy drink compared to 120 mg of caffeine which is present as a maximal value in a cup of ordinary coffee. The maximum intake for children is reported as 6 mg/kg/day of caffeine (De Sanctis et al., 2017). In children, caffeine reaches peak effects within 30–120 minutes, and methylxanthine will influence the activity of the serotonergic neurons of the child's brain. In children, a caffeine intake of 2.5 mg/kg body weight is considered a safe limit (Ruxton, 2014). In adults, the maximum recommended caffeine intake may be up to 400 mg/day (De Sanctis et al., 2017). Adolescents may believe that energy drinks revitalise, counteract the effects of alcohol, or mask the effects of the alcohol, which is less socially accepted than energy drinks consumption (Dădulescu et al., 2026).

Energy drinks also interfere with calcium metabolism, and carbohydrate intake becomes significant, with values up to 14.2 grams/100 ml (Grembecka et al., 2024). Modification of the oral microbiota results in dental erosion and children who consume energy drinks may develop obesity and may also associate dysmetabolic syndrome, with changes in cholesterol levels, insulin resistance, effects on appetite, and the development of the hypertension in some cases where dietary habits are also unhealthy; therefore, several factors contribute to these conditions (Hines, 2026; Mishra & Mishra, 2010). Sugar-sweetened beverages: general and oral health hazards in children and adolescents (Yildirim, 2023). Even younger children perceive the power of publicity and advertising, and this advertising is also introduced in the online games for the children, a fact that is noted even by the children themselves, because there is market pressure on the customer (Stewart et al., 2025). In the brain, higher levels of dopamine and norepinephrine are produced under the influence of these energy drinks and this state leads the customer to want to repeat energy drink consumption (Teijeiro et al., 2025). The cycle of a habit involves several mechanisms:

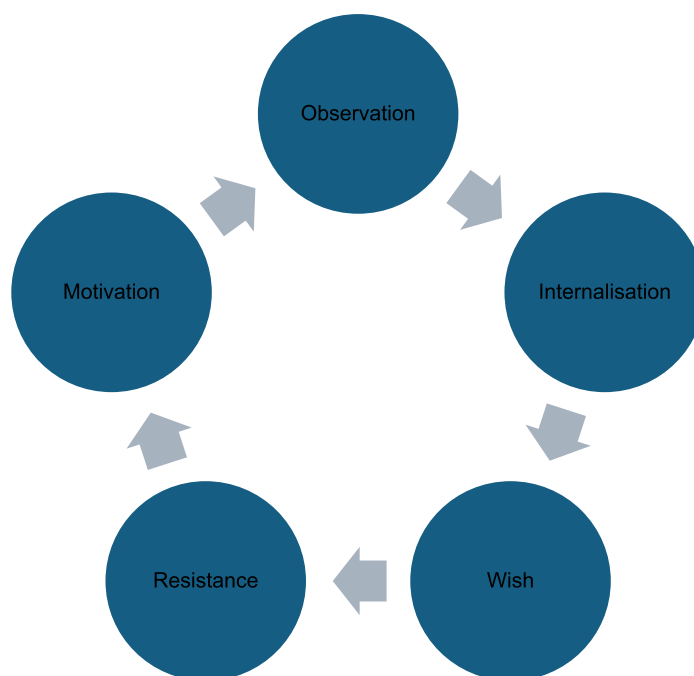


Figure 1. The cycle of a habit, by the author

Children are very attentive observers and they will internalise a wide range of observations they make in the environment in which they live. The wish develops into motivation and they also deal with resistance to the desire for consumption.. Children are testing energy drinks for their taste and to have more energy in sports (Visram et al., 2017).

Complications of energy drink consumption include rhabdomyolysis and renal lesions due to renal overload; ventricular fibrillation induced by energy drinks is difficult to treat, and convulsions may also be present in the patients' history (Mularczyk-Tomczewska et al., 2025).

From a holistic point of view, social relationships are also important, as well as how the parent convinces the child and has a discussion with the child. Problematic behaviours are linked to the idea and the attitudes toward death because these behaviours lead to premature deaths, and they develop chronic diseases earlier, which are difficult to manage. Rapid social changes do not permit them to adapt to the rhythm at which the social changes take place, and therefore they enjoy immediate gratification (Okagbare, 2016).

In some people some of these energy drinks could cause dependence. Girls may even avoid breakfast if they are chronic consumers of energy drinks, and they are happy with the appetite suppression and continue to enjoy drinking energy drinks (Visram et al., 2016).

In adults and children, in the same way as with alcohol drinks, there are weekend consumers of tobacco products, electronic cigarettes, cannabis or alcohol. Some of these substances have an ambiguous legal status, which may increase the use of these products. Externalising behaviours, which are characterised by impulsivity and irritability, may amplify to some degree the excessive consumption of energy drinks. The behaviours are strengthened by the social amplification through advertising for different substances on social platforms (Adella et al., 2026).

The impact of alcohol is on the prefrontal cortex and the hippocampus, and its action is predominant on the synapses, while hepatic involvement caused by alcohol is amplified. The inhalation of cannabis has effects on the immunity of the respiratory mucosa (Ferrara et al., 2026).

In performing athletes, there is also a risk of substance use, the vulnerability of athletes being related to competitive stress, self-esteem, proposed professional objectives and the integration of their activities with routines and daily family life (Castaldelli-Maia et al., 2026).

The perception of the teenagers from Nigeria regarding the danger of using psychoactive substances is very good, with about 85% of teenagers knowing their effects on the human body; however educational efforts must be continued in each state. Even so, 10.79% of teenagers have

self-administered Tramadol and 3.81% have self-administered Rohypnol. The educational narratives must be adapted to the needs of the teenagers to inform them correctly, adapted to their level of understanding and using communication tools to which they have easier access, such as facebook, tik-tok, Instagram; however, we must not abandon the classical methods such as flyers, little brochures, school visits, parent-teacher meetings (Peters et al., 2026).

2. Material and Methods

We administered a questionnaire to 50 families, after obtaining parental consent to take the phone numbers and asking them if they were willing to receive a questionnaire via WhatsApp; however, we received responses from only 7 families this being a strong limitation in our study and substantially limits the interpretation of our results as also the self-selection bias is affected, which represented just 14% of the total parents asked. These are exploratory observations, but, in the future, many more parents may be involved in this kind of exploratory study. We asked the parents the following: "We are inviting you to complete a questionnaire with the aim of studying parental perceptions regarding the impact of energy drinks and psychoactive substances on children and adolescents, which is part of PhD thesis of physician Lacramioara Ilie." The title of the PhD thesis is "The impact of the consumption of psychoactive substances and energy drinks on the health of children and adolescents". We invite you to complete the questions after reading them attentively. The personal data will be anonymised. Thank you for your time. The completion time will be about 7-10 minutes. At the same time, we explained to the respondents that the responses were anonymized, and they expressed their consent to data collection and presentation" so our arguments were strong enough for the parents to can respond. The questionnaire wanted to explore the perception and the feelings of the parents and the possibility through the questionnaire to see the interest of medical care givers and this is also a tool of dialogue with the families so they feel anchored to the medical system. The questionnaire is very new and is the result of our team investigation. The open ended responses were interpreted for the parental perception and we gave examples of the most representative responses but some responses were more similar and so we did not reproduce all of them.

2.1. Objectives

1. To assess parents' perceptions of the severity of the problem for their children
2. To assess indirectly the dynamics of the family across generations, including grandparents.
3. To further educate families, as continuous parental education needs to be implemented
4. To highlight to parents the importance of oral hygiene and the recognition of the oral lichen planus and to reduce the consumption of energy drinks and alcohol and, if possible, to cease consumption.
5. To make grandparents feel part of the family project and to teach them to confront the new modern pathologies of the children they have in care
6. The questions focus on the perceptions of both parents and grandparents regarding the problem and on how the life experiences of grandparents can be integrated into the education of their grandchildren.

2.2. Inclusion and Exclusion Criteria

Inclusion criteria:

- -Parents who had children in consultation in July 2026, but not necessarily consuming energy drinks or psychoactive substances
- -Parents who were over 18 years old

Exclusion criteria:

- -Parents under 18 years old
- -Foster families

- -Personnel from childcare centres
- -Grandparents of the children

2.3. Barriers to Data Collection

- Concern regarding the risk of inadvertently transmitting a virus via a file
- Time spent completing the questionnaire
- Difficulty in taking a position and formulating written answers as required
- Difficulty in adjusting to the subject, which is very sensitive

The age of the responding parents ranged from 30 to 39 years in mothers and from 31 to 49 years in fathers, which shows the receptivity of the middle generation to education regarding healthy nutrition and parents' desire for self-education regarding family and child health. Participation from urban and rural environments was approximately balanced, with four parents from rural areas and three from urban areas. The age of the oldest child of the responding parents ranged from 6 to 23 years, which shows the parents' concern for educating their children about nutrition and well-being. When asked whether they had ever consulted a doctor about the effects of energy drink consumption or the effects of psychoactive substance use by children and adolescents, four parents answered yes and three answered no. We did not interpret the negative answers as a lack of interest in the substances consumed by their children because parents are very attentive to information from the Internet, Google Scholar, online webinars, and parent groups, or use ChatGPT to ask questions. We did not have patients with oral lichen plan diagnosed in this study but further we are interested in this subject because it is overlooked and may create problems to oral health in children.

3. Results

Question: What is your opinion about energy drinks?

Parental answers with explanations were:

Energy drinks are fine as an occasional product for most healthy adults, but they're a poor choice as a daily source of energy.

Bad for health

I think they are good with moderation

It is good as a last resource, occasionally

The parents noted that the consumption of these products by children is not good and may cause concern for the family because the children may develop serious health problems and the parents' responsibility is to explain and educate the child about the consumption of different products available on the market.

In the same way, we wanted to assess the responses regarding psychoactive substances.

Question: What is your opinion about Psychoactive substances

They are very harmful

Psychoactive substances are giving great risks and, in some cases, important medical benefits. Some of the substances (like certain medications) are used sometimes appropriately under medical supervision in some very severe diseases where they are needed, while recreational misuse gives effects like impaired judgment, dependence of physical and physical nature, and other health problems.

Bad for health

Negative impact on health and for the life in general

One answer was also neutral on this subject because parents may want to obtain more information before giving an answer, which is one of the aims of our study.

Question: Has your child's preschool teacher or school teacher discussed energy drinks with you?

From this yes/no question two parents answered that the preschool teacher or school teacher had discussed energy drinks with them. The other five parents answered that this subject had not been discussed by their children's preschool teachers or school teachers.

Question: Has your child's preschool teacher or school teacher discussed psychoactive substances with you?

Similarly, two parents answered positively, while the other five parents stated that they had not discussed psychoactive substances with their children's preschool teachers or school teachers.

Question: What do you think an energy drink is?

An energy drink is a drink that offers you energy at the moment but it lowers the resistance of the body.

Even if the name is energy drink, it doesn't create energy in your body—it more gives stimulation to the nervous system and the installation of sleep is more difficult as the effect persists

A juice with a lot of ingredients like: sugar, caffeine, additives

An substitute for coffee drinks

An illusion

A combination of high dose of caffeine and other substances

These answers reflect the parents' knowledge and critical thinking regarding the content of what their children eat or drink.

Question: What do you think a psychoactive substance is?

The psychoactive substances create a perception of a good mood but they are having negative impact on the body

A psychoactive substance constitutes any substance which affects brain functioning , changing mood and also the awareness. We may include in this long list caffeine products also , alcohol and even nicotine, many prescription medications, and illegal drugs. Whether it's beneficial or harmful depends on the specific substance, the dose, and how it's used.

Drugs

Substances who have actions on nervous system and can make you feel relaxed

O Illusion

A substance that tricks your brain

Question: Do you think that alcohol consumption increases the consumption of energy drinks among teenagers?

Of the seven parents, six answered that alcohol consumption may increase the consumption of energy drinks. One parent did not think that alcohol consumption may lead to greater consumption of energy drinks

Question: Do you think that doctors should visit schools to educate children and teenagers about the effects of energy drinks and psychoactive substances?

All parents strongly agreed that doctors could educate children in schools about energy drinks and consumption of alcohol, caffeine, tobacco and other substances .

Question: Do you think that smoking increases the consumption of energy drinks and/or psychoactive substances?

Six parents agreed that smoking may increase the consumption of energy drinks, while one parent did not agree. Smoking also included vaping, not only conventional smoking. Smoking sometimes takes place in recreational areas where the consumption of alcohol and energy drinks is more common, so the stimulus for consumption may be greater.

Question: How do you think we can prevent the consumption of energy drinks and psychoactive substances among children?

As many awareness campaigns as possible

Sessions of discussions with the children from preschool children to school children and adolescents about healthy lifestyle and dangerous behaviours and communications adapted to their chronological age

Prevention combines education, parental involvement, healthy habits, and supportive communities.

Children who feel informed, supported, and connected are generally less likely to experiment with harmful substances

Yes, you can. We can limit consumption by informing parents, children and through stricter rules regarding the sale and purchase

Active campaigns of prevention

Limit the selling age and teach the side effects

Question: Please list the known effects of energy drinks on the health of children and adolescents.

Devastating effects

Agitation

Energy drink consumption in children and adolescents leads to several potential health effects, like sleep disturbance and cardiac symptoms as also nervous and psychiatric symptoms

Health organizations advise that energy drinks should not be consumed by children or adolescents.

Devastating effects on the health of children

Heart attacks or hyperactive behaviour

Question: Do you think that sports and art can help children to reduce energy drink consumption?

Five parents agreed that art, culture and different occupations for children may reduce energy drink consumption, while the other two parents disagreed.

Question: Do you think that psychotherapy can help children reduce their consumption of energy drinks?

All parents agreed that psychotherapy may help children reduce their consumption of energy drinks. In psychotherapy, the patient can discuss their problems and may feel less burdened by them; being more relaxed, they may experience a less intense desire for immediate gratification, such as experiencing a pleasant taste.

Question: Have you discussed the consumption of energy drinks and psychoactive substances in children with your own parents?

Four parents responded that they had discussed the consumption of energy drinks and psychoactive substances in children with their own parents, while three parents had not yet discussed this subject with them. In traditional Romanian families, grandparents are highly respected and are regarded as mentors; therefore, younger family members may feel embarrassed to discuss certain sensitive subjects with their parents.

Question: What do your parents (the children's grandparents) think about energy drinks consumption?

My parents were not educated in this regard.

Negative

Most grandparents and parents are convinced that children and adolescents need to avoid energy drinks because the energy drinks have bad effects on the health, as also affecting the sleep with important behavioural problems too so the school performance will be affected. Parents generally want to limit or prevent their children's consumption of energy drinks and the parents are giving their children better alternatives, like the water from verified healthy sources of milk.

Not too much

Considers that they should only be consumed in moderation by healthy adults

Not a good opinion

Neutral

Although one parent stated that the grandparents were not educated in this regard, appropriate information and adaptation of the educators' discourse to the grandparents' needs may help them understand how to discuss this subject with the grandchildren.

Question: What do your parents think about psychoactive substance consumption among teenagers?

My parents were not educated in this regard.

Negative

Most parents believe that psychoactive substance use in teenagers is harmful because it can affect how the brain work

They are bad for health

Believes that they are not safe at any age, that they should not be consumed and especially that they should not be so accessible to buy

Not a good opinion

They don't like the idea

4. Discussion

The small sample size is the beginning of further explorations of these problems in the future, and this exploratory study shows us the first steps which must be taken to improve the communication with children's parents regarding dietary advice and interventions. The fact that these parents are under 40 reflects their ongoing commitment to learning more about their children and participating in a process of continuous parenting education, as well as maintaining contact with medical professionals to discover ways to foster resilience and fortitude in their children (Stan, 2026). There is a certain balance between urban and rural areas regarding concerns and responses, as rural areas have also undergone development and urbanisation, and adolescents there face the same issues as their urban counterparts; parents in both settings share significant concerns about young people's consumption of energy drinks and psychoactive substances. It is important to engage parents by providing accurate medical information, as they may struggle to interpret medical concepts found on various platforms or might otherwise accept incorrect answers as valid.

We appreciated the parents' openness in answering questions that were uncomfortable or difficult for them; at the same time, this questionnaire opened up a broader dialogue and raised awareness. Parental willingness to answer opens a new style of communication with the medical staff and the new perspective allows a better understanding of the problem from the parents' point of view. The willingness of the doctors to listen to all parental opinions is a new way of integrating both experiences of the doctors and parents to help children to overcome curiosity and energy drink consumption, which might be greater at this stage of development of the children. The ages of the oldest children also reflect the parents' significant concern regarding the prevention of energy drink and illicit substance use. We noted ages ranging from as young as 6 to as old as 23, demonstrating

that parents remain concerned with guiding their children even after they reach adulthood. Parents often do not assess the risks associated with energy drink and psychoactive substance use in consultation with a doctor, frequently due to the difficulties regarding their son or daughter potentially facing such issues.

Therefore, it is up to the doctor to tactfully initiate discussions about substance use within the family and addiction in general. It is advisable for preschool and schoolteachers to discuss dietary matters, fluid intake, and the impact of various substances—ranging from allergens to cleaning products—on a child's developing body with parents. Teachers thus continue to play an integral role in prevention; interactive sessions can be organised to ensure they are well-informed and able to offer parents the best advice, grounded in the latest medical research. Teachers must be attentive to oral health, and they must know that sometimes low self-control may be associated with oral lichen planus in children (Pippi et al., 2016).

Thus, teachers continue to play an integral role in prevention; interactive sessions can be organised to ensure they are well-informed and able to offer parents the best advice, grounded in the latest medical research. Parents read product labels and gather information from as many sources as possible. During consultations, they often ask about side effects listed on medication leaflets, whether certain foods are suitable, or what kind of sweets their child can eat; their inquiries reflect a genuine desire to be well-informed. Excise taxes on alcoholic beverages are also significant, especially considering that some energy drinks are cheaper than alcohol. Smoking, like energy drinks and other substances with stimulant effects, acts on the reward system, and many teenagers seek immediate rewards in daily life. Therefore, educating them about patience and fair play through cultural activities and sports may help them develop greater self-control and seek healthy role models. Substance use disorders may also be present in children with special needs and/or neuropsychiatric disorders and they and their families must also be very well educated because, in some cases, energy drinks may precipitate epileptic seizures in particular cases more probably in people having epilepsy diagnostic (Calabrò et al., 2012; Iyadurai & Chung, 2007; Brodtkorb et al., 2023) when the child is under treatment for seizures. Some situations might show us that the child has endocrinological problems or appetite problems, so a multidisciplinary team must provide interventions for children regarding a healthy lifestyle and medication. Educators may open sessions with the grandparents of the children from their classrooms because meeting grandparents will help the younger generation of parents and educators to see how grandparents perceive the modern lifestyle and how they can speak with respect of the values of the grandparents' generations about these subjects, some grandparents cannot imagine that one day their grandchildren will have problems with consuming energy drinks or other substances. Although very rare, we must be aware of the realities of modern life, in which even grandparents may be consumers of energy drinks and recreational psychoactive substances.

Proposed solutions for reducing energy drink consumption among children and adolescents:

- Teach children early about the risks in an age-appropriate way.
- Encourage open communication so they feel safe asking questions.
- Set clear family rules and model healthy behaviour.
- Promote sports, hobbies, and friendships that build confidence.
- Ensure good sleep, nutrition, and stress management.
- Limit children's access to energy drinks and psychoactive substances under parental counselling and surveillance .

- Schools and communities should provide prevention programmes and early support for at-risk youth.
- Assigning clear roles within the family, including for the child and adolescent
- Setting a firm boundary regarding the consumption of energy drinks
- Setting a firm boundary regarding risky behaviours, such as unsupervised parkour, combining protein bar consumption with exercise, or performing high-risk gym exercises
- Periodically explaining the effects of various psychoactive substances and the situations that might expose the child to them
- Maintaining contact with the class teacher, who can provide updates on any educational initiatives undertaken by the police and school staff regarding substance use
- Holding health education sessions for parents at kindergartens to raise awareness about the harmful effects of energy drinks on young children
- Creating separate educational flyers for parents
- Creating separate educational flyers for grandparents
- Providing information on general oral health and the risk of developing lichen planus
- Conducting oral health education campaigns that emphasise the need for urgent medical attention if lesions appear on the oral mucosa
- Practising gratitude: teaching the young person to thank neighbours and teachers, to give, to be altruistic, and to help strangers without expecting anything in return—activities that can be shared with parents, who serve as role models

5. Conclusions

Even if the answers were given by a small group of parents, this initial prospective study will open up further research strategies, and together with parents' organization, we will conduct further studies to investigate families' perceptions about dietary habits and the intake of energy drinks in children. More realistic life expectancies of grandparents and children would reduce the desire for immediate reward. The understanding of fundamental human values enables families to communicate better and to have healthy children who refrain from consuming energy drinks and psychoactive substances. Children and adolescents must always be informed about the effects of these substances clearly and without frightening them. Grandparents must be carefully included in educational sessions, not to scare them but to help them to adapt to new realities. The present exploratory study is just a pilot study, but it shows the importance of parental education and the importance of the dialogue with children's parents. Oral health is an important public health issue and the impact of oral microbiome on general health is very important so the oral lichen planus in relation to the use of different substance uses is important to study. The resilient model of fortitude becomes a bridge between generations, making them more powerful, wiser, more anchored in reality and better prepared for the days of tomorrow.

References

Adella, G. A., Gete, D. G., Hoque, Z., & Khanam, R. (2026). The relation between social media use and novel psychoactive substance use among adolescents: The mediating role of

- internalizing and externalizing behaviors. *BMC Psychology*, 14, Article 634. <https://doi.org/10.1186/s40359-026-04407-7>
- Amoadu, M., & Odoom, E. (2026). Alcohol and energy drink co-use among commercial drivers in Ghana: A dangerous mix for occupational health and safety. *Traffic Injury Prevention*, 1–8. Advance online publication. <https://doi.org/10.1080/15389588.2026.2710384>
- Becerra-Arroyo, J., Ruiz-Robledillo, N., Ferrer-Cascales, R., Albaladejo-Blázquez, N., Costa-López, B., & Alcocer-Bruno, C. (2026). Binge-watching and substance use in adolescents: A cross-sectional study of behavioral risk factors and gender differences. *BMC Psychology*, 14, Article 615. <https://doi.org/10.1186/s40359-026-04389-6>
- Brodtkorb, E., Samsonsen, C., & Haut, S. R. (2023). Seizure precipitants. In J. Engel Jr. & S. L. Moshé (Eds.), *Epilepsy: A comprehensive textbook* (3rd ed., p. 1862). Wolters Kluwer.
- Calabrò, R. S., Italiano, D., Gervasi, G., & Bramanti, P. (2012). Single tonic–clonic seizure after energy drink abuse. *Epilepsy & Behavior*, 23(3), 384–385.
- Castaldelli-Maia, J. M., Rodrigues, A. A., Mannes, Z. L., Smith, A., Liebreinz, M., Goutteborge, V., Hainline, B., Reardon, C. L., & McDuff, D. (2026). Substance use patterns in elite athletes: A scoping review of alcohol, performance-enhancing drugs and other psychoactive substances. *British Journal of Sports Medicine*, 60(15), 1143–1157. <https://doi.org/10.1136/bjsports-2025-111489>
- Congia, P. (2026). Distinct social pathways to substance use among Italian adolescents: The roles of affective proximity and substance-specific exposure. *Journal of Public Health*. Advance online publication. <https://doi.org/10.1007/s10389-026-02824-x>
- Dădulescu, A.-M., Glavce, C., & Turcu, S. (2026). Psychosocial vulnerability and the consumption of alcohol and caffeinated beverages among Romanian adolescents during the COVID-19 pandemic: A cross-sectional study. *Psychiatry International*, 7(3), Article 97. <https://doi.org/10.3390/psychiatryint7030097>
- Day, E., Tach, L., & Mihalec-Adkins, B. P. (2026). Perceptions of relationships with kinship caregivers among parents following state-detected psychoactive substance use. *Parenting*, 26(2), 234–258. <https://doi.org/10.1080/15295192.2024.2422871>
- Ferrara, P., Scaltrito, F., Pastore, M., Giardino, I., Cannito, S., Cammisa, I., Serra, G., Corsello, G., & Zona, M. (2026). Effects of adolescent psychoactive substance exposure: Developmental vulnerability and long-term pathophysiology outcomes. *Global Pediatrics*, 16, Article 100339. <https://doi.org/10.1016/j.gped.2026.100339>
- Grembecka, M., Lebieżńska, A., & Szefer, P. (2024). Application of HPLC coupled with a charged aerosol detector to the evaluation of fructose, glucose, sucrose, and inositol levels in fruit juices, energy drinks, sports drinks, and soft drinks. *Beverages*, 10(4), 94.
- Hines, M. (2026). *Effects of “zero sugar” energy drinks on microbial proliferation in relation to the gastrointestinal microbiome*
- Intorre, F., Foddai, M. S., & Venneria, E. (2026). Alcohol and energy drink use among adolescents and young adults: Insights from the ALIMA study. *Nutrients*, 18(14), Article 2323. <https://doi.org/10.3390/nu18142323>
- Iyadurai, S. J. P., & Chung, S. S. (2007). New-onset seizures in adults: Possible association with consumption of popular energy drinks. *Epilepsy & Behavior*, 10(3), 504–508.
- Marinoni, M., Parpinel, M., Gasparini, A., Ferraroni, M., & Edefonti, V. (2022). Risky behaviors, substance use, and other lifestyle correlates of energy drink consumption in children and adolescents: A systematic review. *European Journal of Pediatrics*, 181(4), 1307–1319. <https://doi.org/10.1007/s00431-021-04322-6>
- Mishra, M. B., & Mishra, S. (2010). Sugar-sweetened beverages: General and oral health hazards in children and adolescents. *International Journal of Clinical Pediatric Dentistry*, 4(2), 119.
- Mularczyk-Tomczewska, P., Lewandowska, A., Kamińska, A., Gałęcka, M., Atroszko, P. A., Baran, T., Koweszko, T., & Silczuk, A. (2025). Patterns of energy drink use, risk perception, and

- regulatory attitudes in the adult Polish population: Results of a cross-sectional survey. *Nutrients*, 17(9), Article 1458. <https://doi.org/10.3390/nu17091458>
- Nyaaba, E., Sefa, E. A. O., Epis, V. F., Azong, P., Adu, L. P., & Asante, F. (2026). Well-being under pressure: Psychoactive substance use and mental health outcomes among young artisanal gold miners in Ghana. *International Journal of Social Psychiatry*, 72(5), 1376–1387. <https://doi.org/10.1177/00207640261419133>
- Okagbare, T. E. (2016). *Parent's perception of psychosocial factors associated with health compromising behaviours related to oral health among adolescents in South Africa* [Doctoral dissertation, University of the Western Cape]. UWCScholar. <https://uwcscholar.uwc.ac.za/items/9ea4bbc3-239a-4ed7-864f-2f53f60327d6>
- Peters, O. O., Uche, E. E., & Michael, U. E. (2026). Awareness of the consequences of psychoactive substance abuse among secondary school students in South-Eastern Nigeria, Nigeria. *Journal of Contemporary Academic Research and Methodologies (JCARM)*, 1(2), 257–302. <https://doi.org/10.5281/zenodo.19501173>
- Pippi, R., Romeo, U., Santoro, M., Del Vecchio, A., Scully, C., & Petti, S. (2016). Psychological disorders and oral lichen planus: Matched case–control study and literature review. *Oral Diseases*, 22(3), 226–234. <https://doi.org/10.1111/odi.12423>
- Ruxton, C. H. S. (2014). The suitability of caffeinated drinks for children: A systematic review of randomised controlled trials, observational studies and expert panel guidelines. *Journal of Human Nutrition and Dietetics*, 27(4), 342–357. <https://doi.org/10.1111/jhn.12172>
- De Sanctis, V., Soliman, N., Soliman, A. T., Elsedfy, H., Di Maio, S., El Kholy, M., & Fiscina, B. (2017). Caffeinated energy drink consumption among adolescents and potential health consequences associated with their use: A significant public health hazard. *Acta Biomedica*, 88(2), 222–231. <https://doi.org/10.23750/abm.v88i2.6664>
- Stan, A. (2026, 24 august). *Cuvântul propus de Mirabela Grădinaru la summitul organizat de Olena Zelenska la Kiev, în care s-a lansat un vocabular global al rezistenței*. HotNews.ro. <https://hotnews.ro/mirabela-gradinaru-a-propus-cuvantul-darzenie-pentru-vocabularul-globa-l-al-rezilientei-lansat-la-kiev-la-summitul-organizat-de-olena-zelenska-2332381>
- Stewart, G., Lake, A. A., & Moore, H. J. (2025). A mixed method study exploring children and young people's perception of energy drinks and analysing consumption patterns. *Journal of Human Nutrition and Dietetics*, 38(5), Article e70140. <https://doi.org/10.1111/jhn.70140>
- Teijeiro, A., Pérez-Ríos, M., García, G., Martín-Gisbert, L., Candal-Pedreira, C., Rey-Brandariz, J., Guerra-Tort, C., Varela-Lema, L., & Mourino, N. (2025). Consumption of energy drinks among youth in Spain: Trends and characteristics. *European Journal of Pediatrics*, 184(6), Article 365. <https://doi.org/10.1007/s00431-025-06177-7>
- Toshmatova, G. A., & Saparzhanova, K. T. (2026). The impact of energy drinks on sleep and psychoemotional state of adolescents. *American Journal of Research in Humanities and Social Sciences*, 44, 89–93. <https://americanjournal.org/index.php/ajrhss/article/view/3353>
- Üstün, M. (2026). Psychotropic drugs and their impact on oral health. In E. C. Tümen (Ed.), *International studies in the field of dentistry* (pp. 25–40). Gece Kitaplığı.
- Visram, S., Cheetham, M., Riby, D. M., Crossley, S. J., & Lake, A. A. (2016). Consumption of energy drinks by children and young people: A rapid review examining evidence of physical effects and consumer attitudes. *BMJ Open*, 6(10), Article e010380. <https://doi.org/10.1136/bmjopen-2015-010380>
- Visram, S., Crossley, S. J., Cheetham, M., & Lake, A. (2017). Children and young people's perceptions of energy drinks: A qualitative study. *PLOS ONE*, 12(11), Article e0188668. <https://doi.org/10.1371/journal.pone.0188668>
- Yuan, W., & Gao, Y. (2026). Psychological distress and oral lichen planus: A bidirectional Mendelian randomization study. *Community Dental Health*. Advance online publication. <https://doi.org/10.1177/0265539X261429989>

Yıldırım, L. (2023). The effects of energy drinks on oral health and teeth: Energy drinks: Impact on oral health. *Brazilian Journal of Implantology and Health Sciences*, 5(5), 4503–4521.<https://doi.org/10.36557/2674-8169.2023v5n5p4503-4521>