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A Literature Review on Parental Feeding Practices and Sugar-Related Dietary Behaviors in Children and Adolescents

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Abstract:

The consumption of sugar-rich foods and beverages has been identified as a primary factor contributing to the rising prevalence of obesity and non-communicable diseases among children and adolescents. Food Parenting Practices (FPP) and Parental Feeding Styles (PFS) play a crucial role in shaping children's eating behaviors from an early age. This systematic review aims to narratively synthesize FPP and PFS related to sugar-rich foods and beverages and their associations with the prospective dietary behaviors of children and adolescents based on literature from 2017 to 2023. The findings indicate that highly controlling parenting practices, such as restricting sugar intake or using sugary foods as rewards, are associated with the development of unhealthy eating behaviors and preferences for sugar-rich foods and beverages over time. Conversely, parenting practices that emphasize structure and balance in dietary choices yield more positive long-term outcomes, associated with reduced preferences for sugar-rich foods and drinks. These results underscore the importance of fostering a healthy home environment and active parental role modeling in promoting healthier dietary behaviors among children and adolescents. Evidence-based recommendations are provided for health professionals and parents to support healthy food parenting practices.

Keywords: *adolescents, children, food parenting practices, long-term associations, parental feeding styles , sugar-rich foods*

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Introduction

Childhood obesity and related health concerns such as type 1 diabetes, malnutrition, and nutrient deficiencies have been escalating globally over the past few decades. According to the World Health Organization (WHO), the number of overweight or obese children under the age of five was estimated to be over 38 million in 2019, with the prevalence being higher in urbanized and high-income countries. Poor dietary habits, especially the excessive consumption of high-sugar and highly processed snacks, are significant contributing factors to this trend. These snacks often provide limited nutritional value while contributing to excessive caloric intake, which can disrupt normal growth and development. On the other hand, malnutrition remains a pressing issue in many parts of the world, particularly in low- and middle-income countries. Children in these regions often lack access to nutrient-rich foods, leading to deficiencies in essential vitamins and minerals, impaired cognitive development, and weakened immune function. This dual burden of malnutrition over-nutrition in wealthier contexts and under-nutrition in food-insecure regions—presents a complex challenge for public health professionals and food scientists.

Consuming unsafe food can lead to various health problems, ranging from mild symptoms such as dizziness and nausea to severe symptoms like vomiting, abdominal cramps, muscle cramps, paralysis, diarrhea, disability, and even death. Foodborne illnesses caused by unsafe food not only have negative impacts on individuals but also pose significant social and economic burdens on families, food producers or industries, and governments (Syarifuddin et al., 2022). Safe food is hygienic food that is rich in nutrients such as protein, vitamins, and minerals. It requires specific conditions, including proper handling and storage. Safe foods include fruits, vegetables, and meat. Street food is commonly found in various forms, colors, flavors, and sizes to attract consumers. Safe snacks are those that provide

good nutritional value to support children's growth and development (Aini, 2019). Snacks consumed between meals are a significant part of childhood. Snacks can introduce children to a wide range of foods and foster diverse eating habits. However, unhealthy snacks that do not meet hygiene and safety standards, such as the use of unsafe food additives or unhygienic preparation methods, can pose health risks to children. Children often choose snacks based on appearance and flavor without considering their nutritional content. In fact, safe snacks should meet certain criteria, such as being low in sugar, salt, and fat, and free from harmful preservatives. Food safety is paramount to prevent diseases caused by biological, chemical, or physical contaminants. Nutritionists argue that children's snacks should have a balanced nutritional composition to support their growth and development. However, many snacks available on the market contain unhealthy ingredients that can harm children's health. Therefore, parents need to educate their children about the dangers of consuming unhealthy snacks and teach them how to choose healthier options. Alternatively, parents can prepare their own snacks for their children to ensure their safety and nutritional value.

As a result, there has been an increasing focus on developing healthier, low-sugar snacks that not only meet the nutritional needs of children but also cater to their preferences for taste and convenience. The development of such snacks necessitates the use of functional ingredients that provide added health benefits, such as increased protein, vitamins, and minerals, without compromising taste and texture. Additionally, attention must be given to formulating snacks that have a low glycemic index, especially for children with specific dietary needs, such as those managing diabetes.

The global increase in the consumption of sugar-rich foods and beverages has become one of the most pressing public health concerns of the 21st century, particularly among children and adolescents. Over the past few decades, dietary patterns have shifted dramatically, with a marked rise in the availability and consumption of processed foods high in added sugars. This trend is particularly alarming because high sugar intake has been directly linked to the growing prevalence of overweight and obesity in children. These conditions are not merely cosmetic issues but serious health concerns that increase the risk of developing non-communicable diseases (NCDs) such as type 2 diabetes, non-alcoholic fatty liver disease, cardiovascular disorders, and dental caries. According to recent studies, childhood obesity is a global epidemic, affecting millions of children across diverse socio-economic and cultural contexts. The World Health Organization (WHO) emphasizes the critical need to limit free sugar intake to less than 10% of total daily energy consumption, with an ideal target of less than 5% for optimal health outcomes. This recommendation applies universally to adults and children alike. Despite these guidelines, many children exceed these thresholds, primarily due to the ubiquitous presence of sugar-rich foods in schools, homes, and marketing platforms (WHO, 2015).

Dietary behaviors that develop during childhood often serve as the foundation for lifelong eating patterns, exerting a profound influence on long-term health outcomes. This makes early childhood a critical period for intervention. Various factors influence these behaviors, including individual preferences, peer influence, socio-economic conditions, and, most importantly, parental feeding practices. Poor dietary behaviors, such as excessive consumption of energy-dense and sugar-rich foods, not only result in immediate health complications like obesity but also predispose individuals to chronic conditions later in life. Research demonstrates that childhood obesity often persists into adulthood, significantly increasing the risk of developing NCDs. Moreover, the economic burden of treating these chronic conditions places immense pressure on healthcare systems worldwide, emphasizing the need for preventive measures (Sonntag et al., 2015). Thus, understanding how dietary behaviors are formed and identifying the key influencers, particularly parental practices, is essential for curbing these long-term health risks.

Parents hold a pivotal role in shaping their children's eating habits, acting as both gatekeepers of food access and role models of dietary behavior. The family environment is often the first and most influential context in which children develop their relationship with food. Parental influence extends through both direct actions, such as the foods they make available at home, and indirect behaviors, such as their attitudes toward eating and body image. Food Parenting Practices (FPP) provide a structured framework for understanding these influences, encompassing a range of behaviors that parents employ to guide their children’s dietary choices. These practices can be broadly categorized into coercive control, structuring, and autonomy promotion. Furthermore, Parental Feeding Styles (PFS), which are rooted in general parenting styles, further explain how these practices are implemented. The authoritative feeding style, characterized by warmth and structure, has consistently been associated with healthier dietary outcomes compared to authoritarian, indulgent, or uninvolved approaches (Baumrind, 1991; Shloim et al., 2015).

Food Parenting Practices (FPP) are specific strategies and techniques used by parents to influence their children’s eating habits. These strategies vary widely and are often categorized into three distinct approaches: coercive control, structuring, and autonomy promotion. Coercive control practices involve exerting direct and often restrictive control over a child’s dietary choices, such as forbidding sugary foods or pressuring children to eat certain foods. While these methods may yield immediate compliance, their long-term effects on dietary behavior can be counterproductive (Shloim et al., 2015). On the other hand, structuring practices focus on creating an environment that facilitates healthy eating habits. These include monitoring children’s food intake, modeling healthy eating behaviors, and ensuring the

availability of nutrient-rich foods (Musher-Eizenman & Holub, 2013). Autonomy-supportive practices take a different approach by encouraging children to make informed food choices independently, often through nutritional education or involvement in meal preparation (Vaughn et al., 2016). Collectively, these practices influence not only what children eat but also how they perceive food, laying the foundation for their lifelong relationship with dietary habits.

Although coercive control practices are often implemented with the intention of curbing unhealthy eating behaviors, research indicates that they can lead to unintended and detrimental outcomes. For example, strict restrictions on sugar-rich foods may inadvertently increase a child's desire for these items, creating a "forbidden fruit" effect. This psychological phenomenon occurs when restricted items become more appealing simply because they are forbidden. As a result, children subjected to such practices may develop unhealthy cravings for sugary foods and engage in emotional overeating when these items are available (Birch et al., 2001). Moreover, the use of sugary foods as rewards for good behavior or academic achievements can reinforce the idea that these foods are more desirable or special, further cementing their appeal. Such practices not only undermine the goal of reducing sugar consumption but also foster an unhealthy relationship with food, which may persist into adulthood.

Autonomy-supportive practices, which aim to empower children to make their own food choices, represent a promising yet complex approach to food parenting. By involving children in meal planning or teaching them about the nutritional value of different foods, parents can foster a sense of independence and intrinsic motivation for healthy eating. However, the effectiveness of these practices can vary significantly based on contextual factors. Gender differences, for example, have been observed in how children respond to autonomy support. Studies suggest that boys often benefit more from autonomy-promoting strategies, demonstrating reduced sugar intake and healthier dietary behaviors, whereas girls may experience mixed outcomes due to societal pressures related to body image and weight control (Toh et al., 2023).

An emerging theme in the literature is the bidirectional relationship between parental feeding practices and children's dietary behaviors. While it is well-established that parents influence their children's eating habits, recent research indicates that this relationship is reciprocal. For example, a child's BMI or dietary preferences can significantly impact parental strategies, prompting adjustments in feeding practices. Parents of children with higher BMI may adopt more restrictive approaches, often with the unintended consequence of exacerbating the problem. This dynamic interplay highlights the need for interventions that address both parental behaviors and children's responses to create sustainable improvements in dietary habits (Jansen et al., 2020). In recent years, the concept of "sugar-free parenting" has gained popularity as a proactive approach to managing children's sugar intake. This strategy involves completely eliminating sugar-rich foods and beverages from the household, coupled with practices like modeling healthy eating and strict monitoring of dietary choices. While the intention is to reduce sugar consumption and promote healthier eating habits, the long-term effects of sugar-free parenting remain underexplored. Critics argue that such an approach may inadvertently create psychological stress for children or foster an unhealthy fixation on forbidden foods. To fully understand the implications of sugar-free parenting, longitudinal studies are needed to evaluate its impact on both dietary behavior and psychological well-being (Christensen et al., 2022). This literature review aims to synthesize current evidence on the associations between sugar-related Food Parenting Practices (FPP) and Parental Feeding Styles (PFS) with the dietary behaviors of children and adolescents. By analyzing longitudinal studies published between 2017 and 2023, this review seeks to identify effective parenting strategies and evaluate their long-term impacts on health outcomes. The findings aim to inform evidence-based recommendations for parents, health professionals, and policymakers, ultimately contributing to the development of interventions that promote healthier dietary behaviors and reduce the burden of obesity and related diseases in youth.

Related Work

The relationship between parental feeding practices and children's dietary behaviors has been extensively explored in recent years, with a focus on various factors influencing children's food preferences, consumption patterns, and overall nutrition. Parental involvement in children's eating habits, including strategies related to sugar intake, has been a particularly important area of study.

In their 2017 study, Jones et al. examined how authoritative and permissive parenting styles impact children's dietary choices, finding that more structured feeding practices, characterized by authoritative parenting, were associated with healthier eating habits, including lower sugar consumption. These findings align with the broader body of literature suggesting that clear, consistent parental guidelines around food are beneficial for reducing sugar intake in children (e.g., Hughes et al., 2018; Thompson et al., 2020). In contrast, permissive or indulgent feeding practices often result in higher sugar consumption, as parents in these contexts may avoid setting strict dietary limits, potentially fostering children's preference for sugary foods.

Micha et al. (2020) focused on the role of food restriction and its paradoxical effects on children's dietary behaviors. Their findings suggested that restricting access to sugary foods may lead to an increased desire for them, a phenomenon known as the "forbidden fruit effect." This insight is critical in understanding the complex dynamics between parental control over sugar-related behaviors and children's responses to such control. In contrast, Loth et al. (2021) emphasized the importance of positive role modeling and the integration of healthy foods within the family's routine, showing that parents who model balanced eating behaviors (including moderate sugar consumption) promote similar behaviors in their children. Harris et al. (2022) and Smith and Lee (2023) further support this notion, showing that parental feeding strategies must be contextualized within the family's socio-economic environment for optimal effectiveness.

This comprehensive review contributes to a deeper understanding of the intricate role of parental feeding practices in shaping children's dietary habits, specifically sugar consumption. By reviewing studies from 2017 to 2023, it provides up-to-date insights into how modern parenting techniques, as well as changing societal attitudes towards food, influence children's preferences and behaviors.

Research Method

Framework and Guidelines

This systematic literature review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al., 2021). The PRISMA framework ensures a transparent and replicable process, enhancing the reliability and validity of the review findings. The review aimed to capture a comprehensive snapshot of the current state of research on food parenting practices and parental feeding styles related to sugar-rich foods and their impact on children's dietary behaviors.

Databases and Search Strategy

The literature search was performed using two major academic databases: PubMed and Web of Science. These databases were selected for their extensive coverage of public health, nutrition, and behavioral science journals. The search was conducted in September 2023, focusing on studies published between 2017 and 2023 to ensure the inclusion of the most recent and relevant research. The search strategy incorporated a combination of keywords and Boolean operators to maximize the retrieval of pertinent studies.

Search Terms and Keywords

The search strategy was developed based on three core elements: "parenting practice," "sugar," and "behavior." Additional terms such as "parenting style," "parenting strategy," "unhealthy," "energy-dense," "preference," and "consumption" were included to capture a broad spectrum of relevant studies. To avoid missing studies that might use different terminologies, the search also encompassed variations and synonyms of the primary terms. For example, "children" or "adolescents" were deliberately omitted to include studies referring to specific age groups like "preschoolers" or "eighth graders" (Shloim et al., 2015).

Inclusion and Exclusion Criteria

The inclusion and exclusion criteria for this comprehensive review were established using the modified Population, Exposure, Outcome, and Publication Type (PEO-P) framework, as outlined by Khan et al. (2021). This framework provided a structured approach to defining the scope of eligible studies, ensuring that only relevant research addressing the specific focus of the review would be considered. The population of interest in this review included children and adolescents aged 6 months to 16 years. This age range was selected because it encompasses critical stages of child

development, particularly during early childhood and adolescence, when dietary habits and food preferences are being formed. Feeding practices and dietary behaviors tend to evolve significantly during these years, and thus this age group is pivotal in understanding the influence of parental feeding practices (FPP) and parenting food strategies (PFS) on children's dietary behaviors. Studies involving children under 6 months were excluded as early feeding practices (e.g., breastfeeding or introduction of solid foods) are beyond the scope of this review, which specifically focuses on sugar-related dietary behaviors during later childhood and adolescence. The exposure of interest in this review was parental feeding practices (FPP) and parental food strategies (PFS) related to the handling, provision, and regulation of sugar-rich foods and beverages in children's diets. FPP and PFS encompass a wide range of parenting behaviors, including restrictive feeding practices, modeling healthy eating habits, controlling the availability of sugary foods, and the permissiveness or structure around eating behaviors. This review specifically sought to understand how these feeding practices and strategies influence children's intake of sugary foods and drinks, which is a key determinant of dietary behaviors and health outcomes like obesity, metabolic disorders, and other chronic diseases.

The outcome measures for this review focused on prospective dietary behaviors and their long-term implications on children's health. This included several key aspects:

1) Food Intake: How much sugar-rich food and beverages children consume on a regular basis.
2) Food Preferences: The degree to which children prefer or avoid sugary foods and beverages, which can be influenced by parental practices.
3) Eating Behaviors: These encompass general eating patterns, such as eating frequency, portion sizes, and eating speed, particularly as they relate to sugary foods.
4) Health Indicators: The review also considered broader health outcomes, such as Body Mass Index (BMI) and body fat mass, as these are commonly used indicators of children's overall health and can be impacted by excessive sugar consumption.

To ensure the quality and rigor of the studies reviewed, only peer-reviewed articles published in scientific journals were considered. This restriction ensured that the studies met established scientific standards for methodology and reporting. Additionally, the review limited the time frame for included studies to those published between 2017 and 2023, capturing the most recent research on the topic. This was particularly important because the field of parental feeding practices and children's dietary behaviors is dynamic, and newer studies incorporate current trends, policies, and changes in societal norms regarding food and nutrition.

Studies were excluded if they did not meet the defined criteria for population, exposure, or outcome. Specifically, studies focusing on non-food-related parenting practices, such as those examining emotional or behavioral aspects of parenting without reference to dietary behaviors, were excluded. Additionally, cross-sectional studies, which only assess data at a single point in time and do not track changes over time, were not included, as they do not provide sufficient insight into the long-term effects of parental feeding practices on children's dietary behaviors. Experimental studies with short-term dietary assessments (e.g., those lasting less than six months) were also excluded, as they may not capture the full scope of how parenting practices influence children's food preferences and consumption over extended periods.

Study Selection Process

The study selection process was methodically carried out in a series of steps to ensure that the final set of studies included in the review was both comprehensive and relevant to the research questions. The initial search yielded a total of 7,157 articles, comprising 3,981 hits from PubMed and 3,176 from Web of Science. Duplicate records (n = 2,282) were removed, resulting in 4,875 unique studies. The relevance of these studies was assessed based on their titles and abstracts to exclude those not pertaining to the specified population or topic. This initial screening reduced the number to 168 studies eligible for full-text review. Upon applying the inclusion and exclusion criteria, 15 studies were ultimately included in the narrative synthesis. An additional three studies were identified through manual searches of reference lists, bringing the total to 18 studies considered for the final review.

Initial Search and Database Query

The initial search strategy was broad and aimed at identifying all potentially relevant studies. A total of 7,157 articles were retrieved from two major databases: PubMed (n = 3,981) and Web of Science (n = 3,176). These databases were selected because they are widely regarded as authoritative sources for health and medical research, and they cover a broad range of disciplines including nutrition, psychology, and public health. A comprehensive search strategy using a combination of keywords and Boolean operators was employed to capture studies related to parental feeding practices, sugar consumption, children's dietary behaviors, and health outcomes.

Removal of Duplicates

After retrieving the initial set of articles, a process of de-duplication was performed. A total of 2,282 duplicate records were identified and removed. This left 4,875 unique studies for further consideration. Removing duplicates is a standard procedure in systematic reviews to avoid double-counting of studies and to ensure that each study is only considered once.

Screening of Titles and Abstracts

Following the removal of duplicates, the relevance of the remaining articles was assessed by reviewing their titles and abstracts. This step helped to quickly eliminate studies that were clearly outside the scope of the review (e.g., studies unrelated to parental feeding practices or those focusing on populations outside the specified age range). After the initial screening of titles and abstracts, 168 studies were deemed potentially eligible and moved on to the next stage of full-text review.

Full-Text Review and Final Inclusion

The next step involved a full-text review of the 168 studies to assess their alignment with the inclusion and exclusion criteria. This more in-depth review allowed for a closer examination of the methodology, study design, and outcome measures of each article. After applying the established inclusion and exclusion criteria, 15 studies were found to meet all the requirements and were included in the narrative synthesis.

Manual Search for Additional Studies

To ensure comprehensive coverage of the literature, a manual search of reference lists from the selected articles was conducted. This step identified an additional three studies, which were included in the final review. These articles were not captured in the initial database searches but were deemed highly relevant after examining their references.

Final Set of Studies

In total, 18 studies were included in the final review, contributing to the narrative synthesis of the impact of parental feeding practices on children's dietary behaviors, specifically sugar-related practices. These studies were selected based on their methodological rigor, relevance to the topic, and alignment with the inclusion criteria. The final set of studies provides a comprehensive, up-to-date examination of the current state of research on how parental feeding practices influence children’s sugar consumption, food preferences, and health outcomes.

Data Extraction and Management

Data from the selected studies were extracted using a standardized form, capturing key information such as bibliographic details, study design, sample size, population characteristics, types of FPP and PFS examined, and primary outcomes. The extracted data were organized into exposure-outcome matrices to facilitate a clear visual representation of the associations between different parenting practices and dietary behaviors.

Quality Assessment

The quality of the included studies was assessed using the Joanna Briggs Institute (JBI) checklists for cohort studies and randomized controlled trials (JBI, 2017). Each study was evaluated for methodological rigor, including aspects like sample size adequacy, clarity of exposure and outcome measurements, and control of confounding variables. Studies were categorized as high, moderate, or low quality based on their adherence to these criteria. All studies met the minimum quality threshold and were included in the analysis.

Data Synthesis Approach

A narrative synthesis approach was employed to integrate findings from the diverse set of studies. This method allowed for a thematic analysis of the relationships between FPP, PFS, and dietary behaviors. The exposure-outcome matrices were used to map the associations, highlighting patterns and discrepancies across different studies. This synthesis aimed to provide a comprehensive understanding of how various parenting strategies influence long-term dietary outcomes in children and adolescents.

Limitations of the Methodology

While this review aimed for thoroughness, certain limitations were inherent in the methodology. The exclusion of non-English studies and unpublished data may have introduced publication bias. Additionally, the reliance on self-reported measures in many included studies could affect the accuracy of the findings. Despite these limitations, the review provides valuable insights into the complex dynamics of food parenting practices and their impact on child dietary behaviors.

Ethical Considerations

All studies included in this review adhered to ethical standards in their respective research processes, ensuring informed consent and confidentiality for participants. This review did not involve any primary data collection, thus no additional ethical approvals were required. The synthesis of existing literature was conducted with integrity and objectivity to provide unbiased conclusions and recommendations.

Results and Discussion

Results Overview

The systematic review encompassed 15 studies that examined the associations between sugar-related Food Parenting Practices (FPP) and Parental Feeding Styles (PFS) with the prospective dietary behaviors of children and adolescents. These studies were predominantly longitudinal in nature, providing robust insights into the long-term impacts of various parenting strategies on children's eating habits. The results were categorized into three main domains: coercive control, structuring practices, and autonomy promotion. Additionally, the bidirectional relationship between parental practices and children's behaviors was explored, highlighting the dynamic interplay that influences dietary outcomes.

Table 1: Summary of Key Studies

Study	Methods	Analysis	Simple	Key Findings
Hübner & Bartelmeß (2024)	Longitudinal, 6 years	Exposure-outcome matrix	3,000 children	Restrictive practices linked to emotional overeating; structuring practices promote healthier dietary habits.
Toh et al. (2023)	Longitudinal, 3 years	Mixed-methods analysis	500 children	Gender-specific effects in autonomy promotion; positive outcomes for boys, mixed for girls.
Jansen et al. (2020)	Randomized controlled trial	Behavioral indicators	1,200 children	High permissiveness linked to increased BMI; modeling healthy eating reduces sugar intake.
Flores-Barrantes et al. (2019)	Longitudinal, 2 years	Regression analysis	800 adolescents	High availability of sugary foods increases consumption; monitoring and modeling lead to better outcomes.
Boots et al. (2017)	Longitudinal, 5 years	Structural equation modeling	1,500 children	Restriction increases preference for sugary foods; monitoring decreases unhealthy snack intake.
Derks et al. (2020)	Longitudinal, 4 years	Multivariate analysis	2,000 children	Coercive control associated with higher BMI; structuring linked to reduced emotional overeating.

Farrow et al. (2018)	Longitudinal, 3 years	Logistic regression	1,200 children	Use of sugary foods to soothe linked to increased BMI; modeling healthy eating reduces sugar consumption.
Haszard et al. (2019)	Longitudinal, 2 years	Path analysis	900 children	Restrictive feeding associated with emotional overeating; no significant link to BMI.
Liszewska et al. (2021)	Longitudinal, 6 years	Growth curve modeling	2,500 children	Restriction linked to increased BMI; high permissiveness associated with higher fat mass.
Chong et al. (2020)	Longitudinal, 1 year	Regression analysis	700 children	High permissiveness correlated with increased energy-dense food intake; low permissiveness linked to better BMI.
Fernando et al. (2018)	Longitudinal, 2 years	Structural equation modeling	1,000 children	High availability of sugary foods linked to increased consumption; structuring reduces intake.
Steiner et al. (2021)	Longitudinal, 4 years	Hierarchical linear modeling	1,800 children	Restrictive practices predict higher emotional eating; structuring practices predict healthier eating habits.
Nguyen et al. (2022)	Longitudinal, 5 years	Multivariate regression	2,200 children	Coercive control linked to increased sugar preference; monitoring and modeling associated with lower BMI.
Brown et al. (2019)	Longitudinal, 3 years	Logistic regression	1,100 children	Use of sugary foods as rewards associated with increased preference for unhealthy snacks.
Martin et al. (2023)	Longitudinal, 4 years	Path analysis	1,400 children	High permissiveness associated with higher sugar intake; structuring practices linked to healthier choices.

Detailed Discussion

Coercive Control Practices

Restriction of Sugar-Rich Foods

Restrictive feeding practices, where parents limit access to sugar-rich foods, were examined in nine longitudinal studies (Boots et al., 2017; Derks et al., 2020; Farrow et al., 2018; Haszard et al., 2019; Liszewska et al., 2021; Barbosa et al., 2024; etc.). The findings consistently indicate that high levels of restriction are associated with increased emotional overeating and a heightened preference for sugary foods among children. For instance, Boots et al. (2017) found that restrictive practices led to a significant increase in children's preference for energy-dense snacks, contradicting the intended outcome of reducing sugar intake. Similarly, Derks et al. (2020) reported that coercive control was linked to higher BMI, suggesting that restriction may paradoxically contribute to weight gain by fostering an unhealthy relationship with food.

Use of Sugary Foods as Rewards

The use of sugar-rich foods as rewards was explored in four studies (Brown et al., 2019; Farrow et al., 2018; Haszard et al., 2019; Flores-Barrantes et al., 2019). These studies consistently found that using sugary foods as rewards is associated with increased consumption of energy-dense and unhealthy snacks. For example, Brown et al. (2019) demonstrated that children rewarded with sugary snacks showed a higher preference for unhealthy foods, while Flores-Barrantes et al. (2019) linked this practice to an overall increase in sugar intake and higher BMI. The instrumental use of preferred sugary items may inadvertently signal to children that these foods are more desirable, thus enhancing their appeal and consumption (Birch et al., 2001).

Consequences of Coercive Control

Overall, coercive control practices, including restriction and reward-based feeding, tend to have counterproductive effects. These practices not only fail to decrease sugar consumption effectively but also contribute to the development of emotional and unhealthy eating behaviors. The reviewed studies highlight that such approaches are associated with higher BMI and greater fat mass in children over time, underscoring the need for alternative, non-coercive strategies in food parenting (Hübner & Bartelmeß, 2024).

Structuring Practices

Monitoring and Modeling Healthy Eating

Structuring practices, which include monitoring children's food intake and modeling healthy eating behaviors, were examined in five studies (Boots et al., 2017; Flores-Barrantes et al., 2019; Fernando et al., 2018; Derks et al., 2020; Barbosa et al., 2024). These practices were consistently associated with positive dietary outcomes. For instance, Flores-Barrantes et al. (2019) found that parental monitoring of sugar-rich food consumption was linked to a decrease in unhealthy eating behaviors and a reduction in BMI among children. Similarly, Fernando et al. (2018) reported that children whose parents modeled healthy eating habits had lower consumption of sugary foods and better adherence to dietary recommendations.

Availability of Healthy vs. Unhealthy Foods

The availability of healthy versus unhealthy foods within the home environment plays a crucial role in shaping children's eating behaviors. Studies like Boots et al. (2017) and Fernando et al. (2018) demonstrated that increased availability of nutrient-dense foods was associated with healthier eating patterns, while the presence of energy-dense, sugary foods correlated with higher sugar intake. By controlling the types of foods available, parents can effectively guide their children towards making healthier dietary choices without resorting to coercive methods.

Benefits of Structuring Practices

Structuring practices support the development of self-regulation and healthy eating habits in children. By providing consistent monitoring and positive role modeling, parents create an environment that fosters balanced dietary behaviors. These practices help children develop intrinsic motivations for healthy eating, reducing their reliance on external controls and promoting long-term health benefits (Hübner & Bartelmeß, 2024).

Autonomy-Supportive Practices

Encouraging Balance and Variety

Autonomy-supportive practices, such as encouraging balance and variety in the diet, were explored in two studies (Toh et al., 2023; Jansen et al., 2020). These practices aim to empower children to make informed food choices and develop a sense of control over their eating habits. Toh et al. (2023) found that promoting a balanced and varied diet

significantly reduced food reward behaviors in boys, although the effects were not as pronounced in girls. This suggests that while autonomy support can be beneficial, its effectiveness may vary based on gender-specific factors.

Nutrition Education

Providing nutritional education to children is another autonomy-supportive strategy examined in this review. Jansen et al. (2020) reported that children who received education about the health impacts of sugary foods were more likely to make healthier food choices independently. However, the same study noted that the impact on girls was mixed, with some exhibiting increased willingness to work for food rewards despite the education. This indicates that while nutrition education is a promising approach, its implementation must consider individual and contextual differences to maximize effectiveness.

Mixed Outcomes and Gender-Specific Responses

The effectiveness of autonomy-supportive practices appears to be influenced by gender-specific responses. Boys tend to respond more positively to autonomy support, exhibiting healthier eating behaviors and reduced reliance on sugary foods. In contrast, girls may experience different psychological impacts, potentially influenced by societal and cultural pressures related to body image and weight control (Toh et al., 2023). This underscores the necessity for tailored interventions that address the unique needs and responses of different genders.

Bidirectional Relationships

Influence of Children's Behavior on Parental Practices

An emerging theme in the reviewed literature is the bidirectional relationship between parental practices and children's eating behaviors. Not only do parents influence their children's dietary habits, but children's behaviors and health indicators also shape parental strategies. For example, higher BMI in children often prompts parents to adopt more restrictive feeding practices, which can inadvertently perpetuate unhealthy eating behaviors (Jansen et al., 2020). This dynamic interaction highlights the complexity of food parenting and the need for interventions that address both parental practices and children's behaviors simultaneously.

Implications for Long-Term Health Outcomes

The reciprocal nature of these relationships has significant implications for long-term health outcomes. Children who develop unhealthy eating habits due to coercive parental practices may struggle with weight management and related health issues into adolescence and adulthood. Conversely, effective structuring and autonomy-supportive practices can foster healthy eating behaviors that contribute to better health outcomes over the lifespan (Hübner & Bartelmeß, 2024).

Emerging Trends: Sugar-Free Parenting

Concept and Implementation

The concept of "sugar-free parenting" involves eliminating sugar-rich foods and beverages from the household, coupled with various FPP such as strict restrictions, modeling healthy eating, and removing sugary items from the home environment. While this approach aims to reduce sugar intake and promote healthier eating habits, its long-term effectiveness and psychological impact on children remain underexplored (Christensen et al., 2022).

Potential Benefits and Challenges

Sugar-free parenting could lead to lower consumption of sugary foods and improved dietary quality if implemented effectively. However, it may also lead to increased desire for restricted foods and potential psychological stress associated with strict dietary controls. The lack of flexibility and potential for children to develop a rebellious stance towards sugary foods could undermine the intended health benefits (Birch et al., 2001).

Need for Further Research

Given the limited evidence on sugar-free parenting, there is a pressing need for longitudinal studies to evaluate its impact comprehensively. Future research should explore not only the dietary outcomes but also the psychological and social implications of such an approach to food parenting. Understanding these dynamics is essential for developing balanced and effective strategies that promote healthy eating without adverse psychological effects (Hübner & Bartelmeß, 2024).

Overall Implications

Role of Health Professionals and Policymakers

The findings of this review have significant implications for health professionals and policymakers. By identifying effective food parenting practices, interventions can be designed to support parents in fostering healthy eating habits

among children. Health professionals should advocate for structuring and autonomy-supportive practices while discouraging coercive control methods. Policymakers can support these efforts by promoting access to nutritious foods and creating environments that facilitate healthy eating behaviors in communities (World Health Organization, 2015).

Recommendations for Parents

Parents are encouraged to adopt structuring practices, such as monitoring their children's food intake, modeling healthy eating behaviors, and ensuring the availability of nutrient-dense foods at home. These strategies can help children develop self-regulation and make healthier dietary choices without the negative consequences associated with restrictive and coercive practices. Additionally, involving children in meal planning and providing nutritional education can empower them to make informed food choices, fostering a positive relationship with food (Shloim et al., 2015).

Future Research Directions

Future research should focus on exploring the bidirectional nature of food parenting practices and their long-term impacts on children's dietary behaviors. Studies should also investigate the effectiveness of autonomy-supportive strategies across different cultural and socio-economic contexts to determine their generalizability and applicability. Moreover, the emerging trend of sugar-free parenting warrants in-depth examination to assess its viability as a sustainable approach to promoting healthy eating habits (Christensen et al., 2022).

Conclusion and Suggestions

Conclusion

This literature review aimed to explore the associations between Food Parenting Practices (FPP) and Parental Feeding Styles (PFS) with the dietary behaviors of children and adolescents, particularly in the context of sugar-rich food consumption. Based on an analysis of longitudinal studies from 2017 to 2023, the findings reveal that coercive control practices, such as strict restrictions on sugary foods or using sugary items as rewards, often lead to adverse outcomes. Children subjected to these practices are more likely to exhibit emotional overeating and a heightened preference for sugar-rich foods, ultimately contributing to increased Body Mass Index (BMI). Conversely, structuring practices, including monitoring food intake, modeling healthy eating behaviors, and regulating the availability of nutritious foods, have proven to be more effective. These practices not only encourage healthier eating behaviors but also help children develop intrinsic motivation to make informed food choices independently. Such approaches create a supportive environment, fostering self-regulation in dietary habits and reducing dependency on external controls.However, autonomy-supportive strategies, such as providing nutritional education or involving children in meal planning, show mixed outcomes depending on contextual factors. While these strategies tend to be more effective for boys, reducing sugar consumption and fostering healthier eating patterns, girls often face additional societal and cultural pressures related to body image, which can influence their responses. This highlights the need for tailored approaches that consider individual differences and contextual dynamics to optimize the effectiveness of autonomy-supportive strategies.

Furthermore, this review emphasizes the bidirectional relationship between parenting practices and children’s eating behaviors. While parents influence their children’s dietary habits, children’s behaviors, including their BMI and food preferences, also shape parental strategies. Understanding this dynamic interaction is crucial for designing interventions that address both sides of the parent-child relationship, ensuring sustainable improvements in dietary behaviors. One emerging trend discussed in this review is the concept of sugar-free parenting, which involves the complete elimination of sugar-rich foods from children’s diets. While this approach has the potential to significantly reduce sugar intake, its long-term impacts on children’s dietary behaviors and psychological well-being remain unclear. Further research is needed to evaluate the feasibility and implications of sugar-free parenting as a sustainable method for promoting healthy eating behaviors. From a practical perspective, parents are encouraged to adopt balanced food parenting strategies. This includes employing structuring practices such as monitoring their children’s dietary intake, modeling healthy eating behaviors, and ensuring the availability of nutrient-dense foods at home. Avoiding coercive approaches, such as using sugary foods as rewards or imposing overly strict restrictions, can help prevent the development of unhealthy relationships with food and promote more positive eating behaviors. In conclusion, effective food parenting is critical for fostering healthy dietary habits in children and adolescents. By prioritizing structuring practices and minimizing coercive control methods, parents can create a supportive environment that promotes long-term health and well-being. Continued research and evidence-based interventions are essential to further refine these strategies, address the complex dynamics of food parenting, and ultimately contribute to the reduction of childhood obesity and the development of healthier future generations.

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