



Mini Review

Impact of Balanced Lifestyles on Childhood Development: A Study at Crèche

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Abstract

Introduction: In our fast-paced world, children's dietary habits and behaviour are increasingly concerning, with a tendency toward indulging in sweets and snacks. Insights are derived from observations of 20 children at a crèche facility.

Temptation of sweets: Children's inherent attraction to sweet and salty snacks challenges maintaining a healthy diet. Excessive consumption can lead to health issues, recognizing the pivotal role parents and caregivers play in guiding children toward healthier choices.

Significance of a balanced diet: A well-rounded and nutritious diet is crucial for a child's physical and mental development. Providing fruits, vegetables, whole grains, and lean proteins is essential.

Role of activities: Diversifying a child's routine with engaging activities is a powerful strategy to redirect their focus from unhealthy snacks. Sports, arts, outdoor play, and educational games promote physical fitness, creativity, and cognitive development, contributing to a well-balanced lifestyle.

Strategies for encouraging healthy choices:

- Lead by example: Modelling healthy habits inspires children to adopt similar behaviour.
- Educate about nutrition: Imparting knowledge about the nutritional value of foods equips children to make informed choices.
- Make healthy options accessible: Stocking the kitchen with nutritious snacks makes it convenient for children to opt for healthier alternatives.
- Limit unhealthy choices: Setting clear limits on sugary snacks helps children develop moderation and self-control.
- Create a fun and active environment: Fostering an enjoyable environment involves family outings, games, and making exercise a natural part of daily life.

Results: Encouraging results were observed among the 20 children. Two children, aged around 12, demonstrated awareness of healthy habits. Excluding these two, others showed positive changes in behaviour towards sweets and snacks through activities and counselling.

Conclusion: Maintaining a balance between a child's consumption of sweets and snacks and engaging in diverse activities is crucial for overall development. A combination of nutritious choices and engaging activities guides children toward a path of health and happiness

More Information

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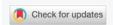
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Keywords: Children's dietary habits; Balanced diet; Sweet and salty snacks; Nutrition education; Physical activity; Positive behavior; Well-being; Obesity; Dental health; Parental influence; Healthy choices; Lifestyle; Crèche facility; Child healthy





Introduction

In today's dynamic and fast-paced world, the dietary habits of children have undergone a significant shift, increasingly gravitating towards sweets and snacks [1,2]. This shift has sparked growing concerns among parents, educators, and health professionals regarding the potential impact on children's health and behaviour. This article seeks to unravel the intricate relationship between the modern dietary landscape and its repercussions on childhood development [3]. Drawing on the nuanced insights gained from a meticulous study conducted at a local crèche, where the behaviour of 20 children was observed, we embark on a journey to explore the pivotal role that balance plays in fostering positive behaviour and ensuring the comprehensive well-being of our youngest generation.

The contemporary environment presents a unique set of challenges, with sugary temptations ubiquitous and accessibility to a variety of snacks at an all-time high [4].



This has ignited a collective awareness of the need to strike a delicate equilibrium between indulgence in these treats and the incorporation of engaging activities into children's daily lives. The observations gleaned from the crèche provide a valuable lens through which we can scrutinize the real-world implications of these dietary patterns on the behaviour and overall health of young individuals [5].

As we delve into the multifaceted dimensions of this issue, it becomes evident that parents, caregivers, and educators hold the key to navigating this delicate balance. By understanding the intricate interplay between dietary choices and activities, we can craft strategies that empower children to make healthier decisions, instil positive behaviours, and cultivate a lifelong appreciation for a well-balanced lifestyle [1,3,6,7].

This exploration is not merely an examination of dietary habits; it is a call to action, a roadmap for guiding our children toward a future where health and happiness intertwine. Let us embark on this journey together, navigating the complexities of childhood development with a keen focus on balance and holistic well-being [8].

The temptation of sweets

Navigating the irresistible allure of sweet and salty snacks proves to be a significant hurdle in the endeavour to uphold a nourishing and well-balanced diet for children. Their intrinsic inclination towards these indulgent treats poses a formidable challenge, as the consequences of indulging in excess sugar can extend far beyond momentary satisfaction. The potential health issues arising from the overconsumption of sugary treats are diverse and impactful, ranging from the looming spectre of obesity to the development of dental problems and nutrient deficiencies.

The peril of childhood obesity, a pressing concern in today's society, is exacerbated by the allure of sugary delights [6,9-13]. Beyond the immediate pleasure derived from these treats, the persistent intake of excessive sugar can contribute to weight-related health issues with enduring implications for a child's overall well-being [12]. Dental health, too, is placed at risk as frequent consumption of sugary snacks is linked to an increased likelihood of cavities and other oral health complications. The impact extends further into the realm of nutrition, with the potential for nutrient deficiencies to arise when a child's diet is dominated by these sweet temptations.

In light of these challenges, the pivotal role assumed by parents and caregivers in guiding children toward healthier choices becomes increasingly evident. Recognizing and embracing this responsibility is paramount, as the influence wielded by adults in shaping a child's dietary habits is unparalleled [5,14,15]. Creating an environment that encourages alternatives to sugary snacks, coupled with providing education on the potential health repercussions of

excessive sugar intake, highlights the vital role that parents and caregivers play in fostering a foundation of well-being.

The significance of this role extends beyond immediate dietary decisions, encompassing the cultivation of a child's understanding of food choices and the establishment of habits that contribute to long-term health. As stewards of a child's nutritional journey, parents and caregivers are instrumental in shaping preferences for wholesome foods, thereby mitigating the adverse effects posed by the tempting allure of sweets and salty snacks [16]. Through intentional guidance and thoughtful interventions, a robust foundation can be laid for a lifetime characterized by health-conscious decisions and overall well-being [12,15].

The significance of a balanced diet

The importance of maintaining a balanced and nutritious diet cannot be overstated when considering its pivotal role in shaping the physical and mental development of children [15,17,18]. A well-rounded dietary regimen serves as not only a foundation but a cornerstone for the holistic growth and well-being of young individuals. It encompasses a diverse array of foods, incorporating essential elements such as fruits, vegetables, whole grains, and lean proteins, each playing a unique role in fostering optimal health.

Ensuring a comprehensive selection of foods is crucial, as this diversity provides a spectrum of essential nutrients necessary for various aspects of a child's development [2,19]. From supporting physical growth to nurturing cognitive functions, the inclusion of a wide range of food groups contributes to the overall vitality and resilience of young bodies and minds [20,21].

Beyond the mere provision of nourishing foods, there exists a profound significance in empowering children with knowledge about the importance of making wholesome food choices. This educational aspect transcends the immediate dietary considerations, laying the groundwork for the development of informed and health-conscious habits that extend well into adulthood. By instilling an understanding of the nutritional value of different foods, children are equipped with the tools to make informed decisions about their diet, fostering a sense of agency and responsibility for their own well-being.

This approach to dietary education is transformative, as it not only addresses immediate health concerns but establishes a framework for lifelong habits. The habits cultivated during childhood, under the guidance of an emphasis on wholesome food choices, contribute significantly to an individual's overall health trajectory. Thus, the significance of a balanced diet goes beyond the plate, becoming a fundamental factor in shaping the future health and well-being of the younger generation.

Exemplifying healthy habits emerges as a powerful



strategy for inspiring children to embrace similar behaviours [19,20,22]. Serving as a role model, adults can wield substantial influence by showcasing a balanced approach not only to eating but also to a spectrum of activities. This demonstration sets forth a positive precedent, illustrating the integration of health-conscious choices into daily life.

Leading by example extends beyond mere words; it encompasses tangible actions that children can observe and internalize. By showcasing a commitment to a well-rounded diet and engaging in diverse activities, adults provide a living example of the positive impact such habits can have on overall well-being. This approach fosters a sense of emulation, as children are more likely to adopt behaviours that they witness consistently modelled by trusted adults in their lives.

Moreover, this strategy goes beyond the realm of individual choices, contributing to the creation of an environment where health-conscious decisions are normalized. The collective influence of adults adopting and demonstrating healthy habits creates a culture that encourages and supports the integration of these behaviours into the broader community or family unit.

In essence, leading by example is not just about personal choices; it is about actively shaping an environment that promotes and reinforces healthy behaviours. Through consistent modelling of a balanced lifestyle, adults become catalysts for positive change, inspiring children to view health-conscious choices as not only beneficial but also as an integral and natural part of their daily lives.

The role of activities

Engaging children in a variety of activities plays a pivotal role in redirecting their focus away from unhealthy snacks, presenting a potent strategy for their holistic development. Whether involving them in sports, encouraging artistic endeavors, fostering outdoor play, or incorporating educational games, these diverse activities transcend mere entertainment. They serve as catalysts for physical fitness, creativity, and cognitive development, collectively contributing to the cultivation of a well-balanced lifestyle.

The multifaceted nature of this approach extends beyond the immediate goal of diverting attention from unhealthy snacks [17]. Participation in sports fosters physical fitness, promoting the development of motor skills, coordination, and overall health. Creative pursuits such as arts and crafts stimulate imagination and artistic expression, nurturing a well-rounded cognitive skill set. Outdoor play not only encourages physical activity but also provides opportunities for social interaction and an appreciation for the natural environment [23]. Educational games, on the other hand, engage the mind and enhance cognitive abilities, contributing to intellectual growth.

Incorporating such a diverse range of activities into a child's routine is more than just a means of preventing

unhealthy snacking; it becomes a holistic approach to child development. This strategy not only provides an alternative focus but also instills discipline by introducing structured and purposeful elements into their daily lives. Moreover, the positive behaviour cultivated through these activities extends beyond the immediate context, influencing various aspects of a child's life.

Ultimately, the role of activities in a child's routine is transformative, contributing significantly to their overall well-being. It goes beyond the surface level of entertainment, serving as a foundation for a balanced and disciplined lifestyle. By embracing this multi-faceted approach, parents and caregivers actively contribute to the positive development of children, fostering habits that extend far beyond the immediate moment and lay the groundwork for a healthy and fulfilling future.

Strategies for encouraging healthy choices

Setting an example serves as a potent strategy for motivating children to embrace healthy habits [15]. By modelling behaviours that prioritize well-being, adults can inspire children to adopt similar positive practices. This involves not only showcasing a balanced approach to eating but also actively participating in diverse activities, thereby establishing a positive precedent for overall health and lifestyle choices [20].

Leading by example involves embodying the values and behaviours that one wishes to instill in children. This goes beyond verbal instruction, as actions speak louder than words. Demonstrating a commitment to a balanced diet through personal food choices and portion control, alongside engaging in various activities, sends a clear and impactful message to children about the importance of these practices.

Moreover, this strategy operates on the principle that children are highly influenced by the actions of adults in their lives. When adults consistently exhibit healthy behaviours, children are more likely to internalize and replicate these habits. It becomes a dynamic process of observation and emulation, where children derive inspiration from the positive actions they witness in their immediate environment.

By participating actively in a range of activities, adults not only convey the significance of a well-rounded lifestyle but also make these behaviours accessible and enjoyable for children. This hands-on involvement fosters a sense of enthusiasm and curiosity, encouraging children to view healthy choices as an integral and enjoyable part of their daily lives.

In essence, leading by example becomes a powerful tool in the arsenal of strategies for promoting healthy choices among children. It goes beyond imparting knowledge; it cultivates a lived experience that shapes children's attitudes and behaviours, laying the groundwork for a future where health-conscious decisions are not just learned but ingrained as a natural and positive way of life.



Educate about nutrition

Providing education about nutrition is a valuable strategy that empowers children to make informed choices regarding their diet [8,24]. By imparting knowledge about the nutritional value of different foods, adults equip children with the tools to understand the impact of their dietary decisions on their overall health. This educational approach extends beyond merely dictating what to eat; it fosters a sense of responsibility and autonomy in children regarding their own well-being.

Educating children about nutrition involves explaining the diverse array of nutrients found in various foods and elucidating how these components contribute to their growth, energy levels, and overall health [25]. This knowledge becomes a foundation upon which children can build a nuanced understanding of the relationship between their dietary choices and their physical well-being [1].

Understanding the impact of dietary decisions on health cultivates a sense of responsibility in children. They become conscious of the fact that their food choices play a direct role in shaping their overall health and vitality. This awareness promotes a mindful approach to eating, encouraging children to make choices that contribute positively to their development and overall quality of life.

Furthermore, this strategy goes beyond the immediate context of mealtime decisions. It establishes a framework for lifelong habits, as children who are educated about nutrition are more likely to carry this knowledge into adolescence and adulthood. In essence, the goal is not only to provide information about healthy eating but also to instill a sense of agency and responsibility that will guide children in making sound nutritional choices throughout their lives.

In conclusion, educating children about nutrition is a proactive and impactful strategy that not only imparts knowledge but also fosters a sense of responsibility. By understanding the nutritional value of foods and the implications of their choices, children are better equipped to make informed decisions that contribute to their long-term health and well-being.

Limit unhealthy choices

Establishing clear limits on the consumption of unhealthy snacks is a prudent strategy for promoting moderation and self-control in children. While occasional indulgences are deemed acceptable, implementing well-defined boundaries on the intake of sugary snacks serves as a crucial tool in shaping children's habits and fostering a balanced approach to their dietary choices.

The concept of setting limits acknowledges that occasional treats are a natural part of a child's diet, providing a sense of enjoyment without becoming a detriment to overall health. However, by delineating specific guidelines on the frequency

and quantity of unhealthy snacks, adults instil a sense of moderation in children. This practice encourages them to savour treats responsibly while maintaining an awareness of the importance of balanced nutrition.

Moreover, the establishment of limits contributes to the development of self-control in children. By adhering to predefined boundaries, children learn to regulate their impulses and make mindful decisions about their food intake. This skill extends beyond the realm of dietary choices, becoming a valuable asset in various aspects of their lives as they grow and mature.

The practice of limiting unhealthy choices also provides a structured framework within which children can learn about the concept of balance. It enables them to understand that enjoying treats in moderation is compatible with maintaining overall health. This understanding becomes a foundational element in shaping a lifelong approach to a well-balanced and sustainable lifestyle.

In essence, setting clear limits on the intake of sugary snacks is a proactive strategy that promotes moderation and self-control in children. It not only guides their immediate dietary choices but also equips them with valuable skills that contribute to their overall well-being and decision-making abilities in the long run.

Create a fun and active environment

Cultivating a fun and active environment is a dynamic strategy that involves infusing enjoyment into physical activities and seamlessly integrating exercise into daily life. This approach entails intentional efforts, such as planning family outings, participating in games together, and making exercise an inherent and enjoyable aspect of everyday routines.

Family outings, strategically planned to incorporate physical activity, serve as a cornerstone for creating a lively and active atmosphere. Whether it's a nature hike, a visit to a local park, or a bike ride, these outings not only promote family bonding but also make physical activity a shared and pleasurable experience. The joy derived from these outings contributes to a positive association with exercise, fostering a mindset where being active is not a chore but an enjoyable part of family life.

Engaging in games as a family further enhances the active environment. From team sports to interactive video games that encourage movement, these activities make exercise entertaining and social. By turning physical activity into a shared and engaging experience, families create an environment where staying active is not only beneficial but also fun.

Making exercise a natural part of daily life involves incorporating movement into routine tasks. This could include



taking the stairs instead of the elevator, walking or cycling for short errands, or incorporating quick stretching sessions into the day. By integrating physical activity seamlessly into daily routines, it becomes a habitual and integral component of family life.

In essence, creating a fun and active environment is about making physical activity an enjoyable and accessible part of family dynamics. This approach not only promotes health and well-being but also instils in children the understanding that staying active is a joyful and natural aspect of a balanced lifestyle. As families embrace and prioritize these activities, they contribute to the development of a positive mindset towards exercise that can last a lifetime.

Materials and methods

Literature search

A comprehensive literature review was conducted to contextualize the study within existing research on childhood development, dietary habits, and the impact of balanced lifestyles.

The search encompassed peer-reviewed journals, books, and reputable online databases, including PubMed and Google Scholar. Keywords such as "childhood development," "balanced lifestyles," and "dietary habits" were employed to identify relevant studies.

- The study was conducted as an observational study in a local crèche.
- Inclusion criteria: Children within a specific age range
- **Demographic information:** The age and gender of the participants were noted.
- Participant selection: Twenty children were included.
- **Interventions:** Engaging activities and counselling sessions were implemented.
- **Duration:** From March 2023 to May 2023 were conducted.
- **Purpose:** Interventions aimed to shift children's attitudes towards healthier habits.
- **Data collection:** Noted all behaviours related to sweets and snacks initially and after the intervention. Additionally, attitudes were revisited a month post-intervention to assess any sustained changes.
- Data analysis: The collected data were analyzed using MS Excel, to calculate means and averages.
- **Informed consent:** Informed consent was obtained from parents or guardians
- Details are taken to ensure the confidentiality of participants.

Results

The outcomes from the study involving 20 children were promising. Notably, two children, approximately 12 years old, exhibited a commendable level of awareness regarding healthy habits. Excluding these two participants, the focus shifted exclusively to investigating the behaviour of the remaining children in relation to sweets and snacks. Figure 1 illustrates an overview of the gender distribution among the participants. Through the implementation of various activities and counselling sessions, a positive shift was observed in their attitudes toward embracing healthier habits. The study revealed that Additionally, Figure 2 provides the overall awareness levels of healthy habits among the participants. Furthermore, Figure 3 illustrates the distribution of participants based on their ages.

In assessing the impact of interventions, Figure 4 presents an analysis of the children's attitudes toward unhealthy snacks.

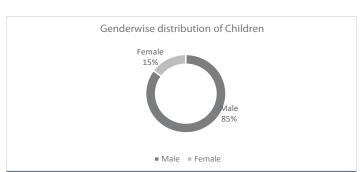


Figure 1: An overview of gender distribution among the participants



Figure 2: Awareness levels of healthy habits among the participants

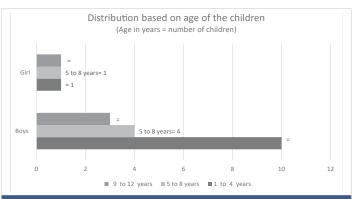


Figure 3: Distribution of participants based on their age.



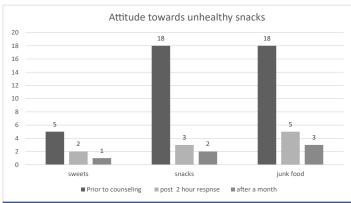


Figure 4: Analysis of the children's attitudes towards unhealthy snacks.

The study's results highlight the potential impact of targeted interventions, such as engaging activities and counselling, in fostering positive behavioural changes among children. This encouraging trend suggests that a strategic approach, tailored to redirect attention from unhealthy snacks, can effectively contribute to the cultivation of healthier habits within this age group. These findings emphasize the significance of proactive measures in promoting well-balanced lifestyles among children and highlight the potential for broader application in similar contexts.

Discussion

The study of childhood dietary habits and their impact on development presented, the need for a balanced approach to fostering positive behaviours and overall well-being in children [26]. The modern dietary landscape, characterized by an abundance of sugary and snack options, poses challenges that require a concerted effort from parents, caregivers, and educators [16].

The study conducted at a local crèche, observing the behaviour of 20 children, serves as a valuable lens through which the real-world implications of dietary patterns on behaviour and health are scrutinized. The findings highlight the intricate interplay between dietary choices and activities in shaping a child's development [6].

The allure of sweets and snacks emerges as a significant hurdle in maintaining a nourishing and well-balanced diet for children. The potential health issues stemming from the overconsumption of sugary treats, such as obesity, dental problems, and nutrient deficiencies, underscore the importance of addressing this temptation [4,14].

Parents and caregivers play a pivotal role in guiding children toward healthier choices. Creating an environment that encourages alternatives to sugary snacks and providing education on the potential health repercussions are essential steps. The influence wielded by adults in shaping a child's dietary habits is unparalleled, making their role in fostering a foundation of well-being crucial [5,12].

The significance of a balanced diet cannot be overstated

in shaping the physical and mental development of children [20,27]. A well-rounded dietary regimen, including fruits, vegetables, whole grains, and lean proteins, serves as a cornerstone for holistic growth. Educating children about the nutritional value of different foods empowers them to make informed decisions, establishing a foundation for lifelong habits.

Leading by example emerges as a powerful strategy, showcasing a balanced approach not only to eating but also to various activities. Adults, as role models, contribute substantially to creating an environment where health-conscious decisions are normalized, fostering positive change in the broader community or family unit [14,28,29]. Engaging children in a variety of activities proves pivotal in redirecting their focus away from unhealthy snacks. Whether through sports, artistic endeavours, outdoor play, or educational games, these activities contribute to physical fitness, creativity, and cognitive development, promoting a holistic approach to child development [5,7].

Strategies for encouraging healthy choices, such as setting an example, educating about nutrition, limiting unhealthy choices, and creating a fun and active environment, are highlighted [30]. These strategies aim to instil a sense of responsibility, moderation, and enjoyment in children's approach to food and lifestyle [14,31].

The study's promising results demonstrate the potential impact of targeted interventions, such as engaging activities and counselling, in fostering positive behavioural changes among children. This highlights the importance of proactive measures in promoting well-balanced lifestyles and suggests potential applications in similar contexts.

Limitations of the study

Sample size and demographics: The study focused on a relatively small sample size of 20 children, potentially limiting the generalizability of the findings to a broader population.

Demographic diversity might not have been fully captured, impacting the study's ability to address variations in childhood development across different groups.

Duration of intervention: The intervention period, spanning from March 2023 to May 2023, might be considered relatively short. Longer-term interventions could provide more insight into the sustainability of observed changes.

External factors: External factors, such as individual family dynamics and socioeconomic conditions, were not extensively explored. These factors could influence the effectiveness of interventions and may not have been adequately controlled.

Self-reporting bias: Some data, particularly related to dietary habits, might have been subject to self-reporting bias, as children may provide socially desirable responses rather than accurate reflections of behaviour.



Single-center study: The study was conducted in a single crèche, potentially limiting the generalizability of the findings to other settings with different environments and practices.

Conclusion

Balancing a child's intake of sweets and snacks with participation in various activities is crucial for comprehensive development. Instilling healthy habits from an early age not only promotes physical well-being but also moulds positive behaviour, cultivating a lasting appreciation for a well-balanced lifestyle. By thoughtfully combining nutritious food choices with engaging activities, we can effectively guide our children toward a trajectory of health and happiness.

Recommendations for future research

Longitudinal studies: Conduct longitudinal studies with larger sample sizes to track the effects of balanced lifestyles on childhood development over an extended period, providing more comprehensive insights.

Diverse settings: Extend the research to multiple crèches or childcare settings to enhance the external validity of the findings and account for variations in environments and practices.

In-depth socioeconomic analysis: Include in-depth analyses of socioeconomic factors to understand how these variables may interact with interventions and influence childhood development.

Parental involvement: Explore the role of parental involvement in reinforcing and sustaining positive behavioural changes in children, considering the impact of family dynamics on lifestyle choices.

Comparative studies: Conduct comparative studies between different age groups or developmental stages to identify optimal intervention strategies for specific age brackets.

Qualitative insights: Incorporate qualitative methods, such as interviews or focus group discussions, to gain a deeper understanding of participants' experiences and perceptions throughout the intervention.

Further behavioural assessments: Implement more extensive behavioural assessments to capture a nuanced picture of changes in dietary habits and physical activities, allowing for a more comprehensive analysis.

References

- Gherasim A, Arhire LI, Niţă O, Popa AD, Graur M, Mihalache L. The relationship between lifestyle components and dietary patterns. Proc Nutr Soc. 2020 Aug;79(3):311-323. doi: 10.1017/S0029665120006898. Epub 2020 Apr 1. PMID: 32234085; PMCID: PMC7663317.
- 2. Zhao C, Guan H, Shi H, Zhang J, Huang X, Wang X. Relationships between dietary diversity and early childhood developmental outcomes in

- rural China. Matern Child Nutr. 2021 Jan;17(1):e13073. doi: 10.1111/mcn.13073. Epub 2020 Sep 9. PMID: 32902154; PMCID: PMC7729803.
- Scaglioni S, De Cosmi V, Ciappolino V, Parazzini F, Brambilla P, Agostoni C. Factors Influencing Children's Eating Behaviours. Nutrients. 2018 May 31;10(6):706. doi: 10.3390/nu10060706. PMID: 29857549; PMCID: PMC6024598.
- Sylvetsky AC, Kaidbey JH, Ferguson K, Visek AJ, Sacheck J. Impacts of the COVID-19 Pandemic on Children's Sugary Drink Consumption: A Qualitative Study. Front Nutr. 2022 Mar 16;9:860259. doi: 10.3389/ fnut.2022.860259. PMID: 35369093; PMCID: PMC8966582.
- Xu H, Wen LM, Rissel C. Associations of parental influences with physical activity and screen time among young children: a systematic review. J Obes. 2015;2015:546925. doi: 10.1155/2015/546925. Epub 2015 Mar 19. PMID: 25874123; PMCID: PMC4383435.
- Woo KS, Chook P, Yu CW, Sung RY, Qiao M, Leung SS, Lam CW, Metreweli C, Celermajer DS. Effects of diet and exercise on obesity-related vascular dysfunction in children. Circulation. 2004 Apr 27;109(16):1981-6. doi: 10.1161/01.CIR.0000126599.47470.BE. Epub 2004 Apr 5. PMID: 15066949.
- De Lepeleere S, De Bourdeaudhuij I, Cardon G, Verloigne M. Do specific parenting practices and related parental self-efficacy associate with physical activity and screen time among primary schoolchildren? A cross-sectional study in Belgium. BMJ Open. 2015 Sep 7;5(9):e007209. doi: 10.1136/bmjopen-2014-007209. PMID: 26346871; PMCID: PMC 4563237.
- Mollborn S, Lawrence E, Root ED. Residential Mobility Across Early Childhood and Children's Kindergarten Readiness. Demography. 2018 Apr;55(2):485-510. doi: 10.1007/s13524-018-0652-0. PMID: 29492798; PMCID: PMC5898794.
- Bestle SMS, Christensen BJ, Trolle E, Biltoft-Jensen AP, Matthiessen J, Gibbons SJ, Ersbøll BK, Lassen AD. Reducing Young Schoolchildren's Intake of Sugar-Rich Food and Drinks: Study Protocol and Intervention Design for "Are You Too Sweet?" A Multicomponent 3.5-Month Cluster Randomised Family-Based Intervention Study. Int J Environ Res Public Health. 2020 Dec 21;17(24):9580. doi: 10.3390/ijerph17249580. PMID: 33561071; PMCID: PMC7767356.
- Centers for Disease Control and Prevention (CDC). Obesity prevalence among low-income, preschool-aged children - United States, 1998-2008.
 MMWR Morb Mortal Wkly Rep. 2009 Jul 24; 58(28):769-73.
- Anderson SE, Whitaker RC. Prevalence of obesity among US preschool children in different racial and ethnic groups. Arch Pediatr Adolesc Med. 2009 Apr;163(4):344-8. doi: 10.1001/archpediatrics.2009.18. PMID: 19349563.
- 12. Davis JN, Ventura EE, Cook LT, Gyllenhammer LE, Gatto NM. LA Sprouts: a gardening, nutrition, and cooking intervention for Latino youth improves diet and reduces obesity. J Am Diet Assoc. 2011 Aug;111(8):1224-30. doi: 10.1016/j.jada.2011.05.009. PMID: 21802571.
- Tsoi MF, Li HL, Feng Q, Cheung CL, Cheung TT, Cheung BMY. Prevalence of Childhood Obesity in the United States in 1999-2018: A 20-Year Analysis. Obes Facts. 2022;15(4):560-569. doi: 10.1159/000524261. Epub 2022 Mar 31. PMID: 35358970; PMCID: PMC9421675.
- 14. Natale RA, Messiah SE, Asfour L, Uhlhorn SB, Delamater A, Arheart KL. Role modeling as an early childhood obesity prevention strategy: effect of parents and teachers on preschool children's healthy lifestyle habits. J Dev Behav Pediatr. 2014 Jul-Aug;35(6):378-87. doi: 10.1097/DBP.0000000000000074. PMID: 25007060.
- 15. Council on School Health; Committee on Nutrition. Snacks, sweetened beverages, added sugars, and schools. Pediatrics. 2015 Mar;135(3):575-83. doi: 10.1542/peds.2014-3902. PMID: 25713277.
- Paul VK, Sachdev HS, Mavalankar D, Ramachandran P, Sankar MJ, Bhandari N, Sreenivas V, Sundararaman T, Govil D, Osrin D, Kirkwood B. Reproductive health, and child health and nutrition in India: meeting the challenge. Lancet. 2011 Jan 22;377(9762):332-49. doi: 10.1016/



- S0140-6736(10)61492-4. Epub 2011 Jan 10. PMID: 21227494; PMCID: PMC3341742.
- Anzman-Frasca S, Boulos R, Hofer T, Folta SC, Koomas A, Nelson ME, Sacheck JM, Economos CD. Validation of the Out-of-School-Time Snacks, Beverages, and Physical Activity Questionnaire. Child Obes. 2015 Aug;11(4):439-48. doi: 10.1089/chi.2014.0142. Epub 2015 Jul 15. PMID: 26176191; PMCID: PMC8104022.
- Kyttälä P, Erkkola M, Kronberg-Kippilä C, Tapanainen H, Veijola R, Simell O, Knip M, Virtanen SM. Food consumption and nutrient intake in Finnish 1-6-year-old children. Public Health Nutr. 2010 Jun;13(6A):947-56. doi: 10.1017/S136898001000114X. PMID: 20513265.
- Rattan SIS, Kaur G. Nutrition, Food and Diet in Health and Longevity: We Eat What We Are. Nutrients. 2022 Dec 18;14(24):5376. doi: 10.3390/ nu14245376. PMID: 36558535; PMCID: PMC9785741.
- Kieslinger K, Wartha O, Pollatos O, Steinacker JM, Kobel S. Parental Self-Efficacy-A Predictor of Children's Health Behaviors? Its Impact on Children's Physical Activity and Screen Media Use and Potential Interaction Effect Within a Health Promotion Program. Front Psychol. 2021 Aug 12;12:712796. doi: 10.3389/fpsyg.2021.712796. PMID: 34456826; PMCID: PMC8397494.
- 21. Vacheron MN, Veyrat-Masson H, Wehbe E. Quelle prise en charge du jeune présentant un premier épisode psychotique, quand la scolarité est mise à mal? [What support of young presenting a first psychotic episode, when schooling is being challenged?]. Encephale. 2017 Dec;43(6):570-576. French. doi: 10.1016/j.encep.2017.10.001. Epub 2017 Nov 8. PMID: 29128195.
- Fox MK, Pac S, Devaney B, Jankowski L. Feeding infants and toddlers study: What foods are infants and toddlers eating? J Am Diet Assoc. 2004 Jan;104(1 Suppl 1):s22-30. doi: 10.1016/j.jada.2003.10.026. PMID: 14702014.
- Bento G, Dias G. The importance of outdoor play for young children's healthy development. Porto Biomed J. 2017 Sep-Oct;2(5):157-160. doi:

- 10.1016/j.pbj.2017.03.003. Epub 2017 Apr 6. PMID: 32258612; PMCID: PMC6806863.
- 24. Saavedra JM. The Changing Landscape of Children's Diet and Nutrition: New Threats, New Opportunities. Ann Nutr Metab. 2022;78 Suppl 2:40-50. doi: 10.1159/000524328. Epub 2022 May 24. PMID: 35609530.
- Picciano MF, Smiciklas-Wright H, Birch LL, Mitchell DC, Murray-Kolb L, McConahy KL. Nutritional guidance is needed during dietary transition in early childhood. Pediatrics. 2000 Jul;106(1 Pt 1):109-14. doi: 10.1542/ peds.106.1.109. PMID: 10878158.
- 26. Siega-Riz AM, Deming DM, Reidy KC, Fox MK, Condon E, Briefel RR. Food consumption patterns of infants and toddlers: where are we now? J Am Diet Assoc. 2010 Dec;110(12 Suppl):S38-51. doi: 10.1016/j. jada.2010.09.001. PMID: 21092767.
- 27. Halfon N, Larson K, Slusser W. Associations between obesity and comorbid mental health, developmental, and physical health conditions in a nationally representative sample of US children aged 10 to 17. Acad Pediatr. 2013 Jan-Feb;13(1):6-13. doi: 10.1016/j.acap.2012.10.007. Epub 2012 Nov 30. PMID: 23200634.
- Mollborn S, James-Hawkins L, Lawrence E, Fomby P. Health lifestyles in early childhood. J Health Soc Behav. 2014 Dec;55(4):386-402. doi: 10.1177/0022146514555981. PMID: 25413801; PMCID: PMC6662652.
- Mollborn S, Lawrence E. Family, Peer, and School Influences on Children's Developing Health Lifestyles. J Health Soc Behav. 2018 Mar;59(1):133-150. doi: 10.1177/0022146517750637. Epub 2018 Jan 3. PMID: 29298103; PMCID: PMC5898799.
- Kelishadi R, Azizi-Soleiman F. Controlling childhood obesity: A systematic review on strategies and challenges. J Res Med Sci. 2014 Oct;19(10):993-1008. PMID: 25538786; PMCID: PMC4274579.
- Jakobovich R, Berry EM, Levita A, Levin-Zamir D. Developing Healthy Lifestyle Behaviors in Early Age-An Intervention Study in Kindergartens. Nutrients. 2023 Jun 2;15(11):2615. doi: 10.3390/nu15112615. PMID: 37299578; PMCID: PMC10255677.