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Research Article

Caregivers' Perceptions of the Health of Their Overweight Children: A Qualitative Study in Costa Rica

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Abstract

Introduction. Childhood obesity represents an increasingly complex challenge for global public health. In Costa Rica, approximately 30% of the school-age population is overweight, demanding a comprehensive and multidimensional approach. *Objective.* To explore the perceptions of caregivers of overweight schoolchildren from eleven elementary schools in San Pedro de Montes de Oca, Costa Rica regarding their children's health outcomes and the barriers they face in accessing the healthcare system. *Methodology.* A qualitative, exploratory, and phenomenological approach was adopted. Semi-structured telephone interviews were conducted with caregivers selected through convenience sampling, that is, those who were available and willing to participate at the time of the study. A thematic analysis was applied. *Results.* Emotional, cognitive, and structural dimensions emerged as factors influencing caregivers' responses. Caregivers expressed surprise and concern regarding the clinical results, revealing a gap between visual perception of overweight and understanding of metabolic risks. Nonetheless, they valued the information received as a driver for change and reported taking immediate actions such as modifying diet and increasing physical activity. However, their efforts were constrained by inaccessible clinical language, inflexible work schedules, lack of clarity regarding procedures, and limited availability of specialists. Additionally, caregiving burdens and single parenthood further restricted their ability to follow up on medical recommendations. A transversal category reflected mixed views of the public healthcare system: caregivers acknowledged its importance but expressed frustration with delays and inefficiencies, which negatively affected their trust and adherence. *Conclusions.* Caregivers show a strong commitment to their children's health but face significant systemic barriers. Clearer communication, intersectoral strategies, and structural improvements focused on families are essential to ensure effective follow-up and continuity of care.

Keywords

Caregivers, Childhood Obesity, Perceptions, Qualitative Research

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1. Introduction

Childhood obesity stands up as one of the most urgent challenges within the global public health landscape. According to data from the World Health Organization (WHO) [1], more than 38 million children under the age of five were classified as overweight or obese in 2020, and this statistic is expected to rise unless effective prevention and control strategies are implemented. In Latin America, the growing prevalence of childhood obesity has become a critical concern, with rates increasing at an alarming pace [2-4].

Obesity during early life stages is associated with a wide spectrum of short-, medium-, and long-term health issues, including type 2 diabetes, hypertension, psychological disorders, and disordered eating behaviors [5, 6]. Addressing this issue requires both prompt action and early encouragement of healthy habits [7].

Parents and families play a pivotal role in addressing childhood obesity, as they are primarily responsible for decisions related to their children's nutrition and physical activity. Their awareness of health-related problems and their perceived ability to act upon them are key determinants of the success of public health interventions. Several studies have indicated that caregivers' perceptions of their children's health can significantly shape their health-related decisions [8, 9].

This study aimed to explore the perceptions of caregivers of overweight students-from both elementary and high schools-regarding anthropometric, biochemical, and blood pressure results, as well as to identify the barriers that affect their access to and attendance at medical follow-up appointments. Understanding these perceptions is essential for informing the development of more effective public health policies and interventions targeting childhood obesity [10]. The findings of this research have the potential to guide the design of context-specific strategies that enhance awareness and support appropriate clinical responses in pediatric health care.

The objective of this study was to identify the perceptions of parents of overweight students attending schools in San Pedro de Montes de Oca, Costa Rica, regarding health outcomes (anthropometric, biochemical, and blood pressure results), and to describe the barriers that affect access to and attendance at medical follow-up appointments.

2. Methodology

This study employed a qualitative approach with an exploratory design, adopting a phenomenological perspective, which is particularly suitable for investigating perceptions and experiences within specific contexts [11]. This approach enables a deep understanding of the realities faced by students' caregivers [12].

The research is part of the broader study titled "Early detection and understanding of the genesis of type 2 diabetes mellitus and its comorbidities in overweight children and adolescents". The study protocol was approved by the Scientific Ethics Committees of both the University of Costa Rica (VI-4333-2019) and the Costa Rican Institute for Research and Education on Nutrition and Health (IC-2023-01).

The study was conducted across 15 educational centers (11 elementary schools and four high schools), including public, subsidized, and private institutions operating during the daytime in San Pedro de Montes de Oca. One of the objectives was to gain an in-depth understanding of the barriers and facilitators related to health self-care among students and their caregivers, across different settings such as school, home, and community.

After data collection, researchers provided individualized feedback to participants using sealed, personally identified envelopes. The reports on anthropometric measurements, blood pressure, and biomarkers included a clear, accessible explanation of each indicator's meaning. A traffic light color coding system (red, yellow, and green) was used to facilitate interpretation of the assessed health parameters. Additionally, a formal referral document was included for parents to present at healthcare facilities, enabling follow-up and appropriate clinical attention.

Prior to begin the study, coordination was carried out with the Health Area Directorate of San Pedro de Montes de Oca and the respective Basic Comprehensive Health Care Teams (Equipos Básicos de Atención Integral en Salud, EBAIS), which provided initial assessments to participating students. Those requiring more specialized care were referred to secondary-level services (Clinics), specifically to pediatric consultations and other specialties as needed. In more complex cases, referrals were made to tertiary-level facilities such as the National Children's Hospital or other relevant referral centers, depending on the child's age and medical needs.

A convenience sampling method was employed, meaning that participants were selected based on their availability and willingness to participate at the time of the study, conducted in October 2024. The target population consisted of eleven caregivers (mothers, fathers, and legal guardians) of overweight schoolchildren enrolled in eleven elementary schools in San Pedro de Montes de Oca. Telephone interviews were conducted using a semi-structured guide, which allowed the collection of detailed information regarding caregivers' perceptions. This methodological approach is designed to facilitate the exploration of lived experiences, which is a central aspect of health-related qualitative research [13].

Verbal informed consent was obtained from all participants prior to each interview. Confidentiality and anonymity were guaranteed throughout the study. All interviews were audio-recorded and subsequently transcribed for in-depth analysis, ensuring the protection of personal data [14]. Each interview lasted an average of 45 minutes.

Data was analyzed using thematic analysis, a method that enables the identification, analysis, and reporting of patterns within the collected data [15]. This technique is widely recognized in qualitative research and is effective in providing a coherent structure for presenting and discussing findings [16].

3. Results

Based on caregivers´ responses during telephone interviews, a complex network of emotional, cognitive, and structural factors emerged that shape how caregivers respond to their children's health results (Table 1).

The categories of “Surprise and concern” (3.1.1) reveal that the visual perception of excess weight does not always align with a comprehensive understanding of metabolic risks. This discrepancy points to a significant gap in health literacy. At the same time, the recognition of the value of the information received (3.1.2) and the decision to take immediate actions (3.1.3) demonstrate an active commitment on the part of many caregivers, who-despite facing limitations- attempt to modify behaviors to improve their children’s health.

However, this willingness to act is conditioned by several obstacles. Confusion around terminology (3.1.4) reflects a form of technical-clinical communication that does not always consider the general public’s level of understanding. Structural barriers further complicate matters, such as incompatible work schedules that hinder access to health services (3.2.1), misinformation about administrative procedures (3.2.2), and limited access to specialized care such as nutrition services (3.2.3).

Additionally, family responsibilities (3.2.4) particularly in contexts of single parenthood, chronic illness, or multiple dependents- further increase the burden of care in households lacking stable support networks.

A critical transversal category also emerged: caregivers’ perceptions of the usefulness and limitations of the healthcare system (3.3). This category provides a structural perspective rooted in lived experiences. While caregivers recognize the value of the public healthcare system, they also express frustration with inefficiency, a lack of trained personnel, and slow processes. These perceptions become a demotivating factor in adhering to medical recommendations and reflect a deeper, structural distrust in the system’s ability to provide timely and adequate care.

Together, the findings highlight the need for health communication strategies that are clear, accessible, and culturally sensitive, as well as for stronger inter-institutional coordination to ensure continuity of care for vulnerable populations. A critical review of the healthcare system's functioning, from a user-centered perspective, is also imperative.

4. Tables

Table 1. *Categorization of Caregiver Discourses According to Perceptions and Barriers to Medical Follow-Up.*

Category of analysis	Category description	Verbatim quotes
3.1 Perceptions		
3.1.1 Surprise and concern	This category reflects caregivers’ initial emotional reactions-such as astonishment, worry, or disbelief-upon receiving clinical results that revealed metabolic disorders like high cholesterol levels. These reactions expose a gap between what was visually perceived (overweight) and the deeper, often invisible, health implications.	“Honestly, I didn’t expect this at all. I knew my child had gained some weight, but I thought it was just a phase or normal for their age. When I read that there were changes in cholesterol and other internal indicators, it really shocked me. I had no idea it could be that serious already”. - MOTHER_E0561 “It hit me hard. She’s still so little, and already these kinds of problems? It really set off alarm bells. I keep thinking: how didn ́t we see this coming? We thought it was just some baby fat”. - MOTHER_E0576
3.1.2 Importance of information	Highlights the value caregivers place on receiving clear and structured clinical feedback. They describe this information as not only helpful for decision-making, but as an opportunity for learning and personal growth, allowing them to feel more empowered and responsible for their child’s well-being.	“This kind of information is incredibly valuable. It’s not just numbers-they explained to me what each part meant, and it made me reflect on the choices we’ve made at home. It’s different from what we experienced growing up-no one ever explained things like this to our parents”. - MOTHER_E0561 “What they gave us was more than just a report - it was a learning experience. It taught me, as a parent, how important it is to stay informed and pay attention before problems escalate. That kind of education truly makes a difference”. - MOTHER_E0564
3.1.3 Immediate	Includes caregivers’ accounts of taking prompt	“Before this, we had been talking about how my son needed to

Category of analysis	Category description	Verbatim quotes
actions	steps to improve their children's lifestyle following receipt of the health report. Their testimonies reflect a direct link between the knowledge acquired and specific behavioral changes at home, including dietary adjustments and incorporation of physical activity.	move more, but nothing concrete had happened. After seeing the results in black and white, I realized we had to act. We cut out sugary drinks, started cooking differently, and I signed him up for after-school soccer. It's a big shift for us". - FATHER_E0561 "We started making changes immediately. She now eats at regular times, drinks water instead of soda, and we go for walks together in the evenings. The report really opened our eyes and gave us the push we needed", - MOTHER_E0564
3.1.4 Confusion about terminology	Captures the difficulties caregivers experienced in trying to understand medical language within the health reports. Terms like 'HDL cholesterol' or 'BMI' were unfamiliar and caused uncertainty. The lack of plain language sometimes resulted in anxiety or hesitance to act.	"There were terms I didn't understand at all. I kept asking myself: which cholesterol is the bad once again? Is high HDL good or bad? I was afraid of doing something wrong because I couldn't interpret the results. It made me feel a little lost". - MOTHER_E0576 "We had to sit down as a family and look things up online. I told my daughter, let's figure out what all this means together. I wish they would explain it more simply in the report, so people like me can really understand what's going on". - MOTHER_E0561
Emerging category		
3.2 Perceptions of the usefulness and limitations of the healthcare system	This category gathers caregivers' reflections on the public healthcare system. While they express appreciation for free access and basic services, they also reveal feelings of frustration due to lack of responsiveness, long waiting times, and the absence of specialized professionals, which led some to consider private alternatives.	"Let's be honest-the CCSS is helpful for basic things, like if you need a quick check-up. But when it comes to follow-ups or getting specialist care, it's slow and unresponsive. I feel like the system gives you half an answer, and then you're left alone to figure it out. That's why many people turn to private clinics, even if it's hard to afford". - MOTHER_E0567
3.3 Barriers to medical follow-up		
3.3.1 Work schedule	Refers to how the demands of caregivers' work schedules prevent them from attending medical appointments. Rigid job hours, lack of work permissions, and fear of job loss discourage proactive health-seeking behaviors.	"I leave home early and get back late. My job doesn't give me time off easily, and honestly, if I ask for permission, they look at me badly. Even though I want to go to the clinic with my daughter, it's just not possible with my schedule. It's frustrating". - MOTHER_E0576
3.3.2 Confusion about procedures	Describes confusion about how to schedule follow-up appointments or what documentation is required. Misunderstandings caused unnecessary delays, leading some caregivers to postpone or skip necessary medical follow-up.	"I didn't go because I thought I needed to bring her with me, and with school and everything, it was too complicated. I misunderstood what the paper said. I wish they had explained more clearly how the process works". - MOTHER_E0564
3.3.3 Accessibility of medical services	Points to the limited availability of appointments with specialists in the public health system. Even when medical necessity is identified, the system's response capacity is insufficient, not creating incentives for caregivers to follow through.	"They told me there were no nutrition appointments available, not even in the upcoming months. I don't understand why, if the report says she needs help now. How are we supposed to follow up when the system isn't there?" - FATHER_E0607
3.3.4 Family responsibilities	Highlights the competing caregiving demands that many families face. Having multiple children, caring for elderly or sick relatives, and lack of support networks restrict caregivers' time and energy for attending medical appointments.	"I have three kids, and I also look after my mother. Between homework, meals, and everything else, I just can't find the time to go to the clinic. It's not that I don't care-it's that I'm overwhelmed and alone in this". - MOTHER_E0564

5. Discussion

The findings of this qualitative study reveal the complex interplay of perceptions, barriers, and emotional responses experienced by caregivers of overweight children in Costa Rica.

The emergent category concerning the “emotional impact” of health results on caregivers proved to be particularly significant. Many participants reported experiencing anxiety and fear upon learning about the potential health risks facing their children. These reactions show a broader concern regarding child health, consistent with findings in the literature that indicate how uncertainty about children’s health generates anxiety among caregivers [17], which may lead them to engage in an intense search for solutions.

This emotional impact not only affects the mental well-being of caregivers but may also shape how they perceive the usefulness of available interventions and the effectiveness of public health policies [18]. Some participants reported that they make changes in their children's eating habits, suggesting that health reports serve not merely as informational tools but also as motivational triggers that can influence caregivers' health-related behaviors [19].

Such reactions align with previous studies indicating that increased awareness of a child's health status can encourage positive behavioral changes within the family environment [20, 21]. By becoming active agents of change, caregivers demonstrated both willingness and a concrete commitment to improving their children’s health.

The analysis of caregivers’ perceptions reveals not only a clear willingness to prioritize their children’s health, but also the presence of multiple barriers that limit their ability to act effectively. The initial feelings of surprise and concern demonstrate an underlying health awareness, which is often overshadowed by structural and contextual limitations such as a lack of resources, parental stress, the high cost of healthy food options, cultural influences on dietary habits, the scarcity of opportunities for outdoor activities, and confusion when attempting to navigate the healthcare system.

This tension underscores the need not only for comprehensive education on child health, but also for training that enables caregivers to interact confidently with healthcare services.

The findings also emphasize the critical importance of information comprehension. The ability of caregivers to accurately interpret health results directly affects their capacity to take meaningful action. Although some participants reported making positive changes in their children’s diets and levels of physical activity because of the health feedback, others struggled to fully understand the implications of the medical terminology used in the reports [22]. This is a major challenge for public health programs aimed at behavior change: a lack of comprehension may reduce the effectiveness of educational efforts.

Unclear or overly technical communication can present significant barriers to the adoption of healthy behaviors and may contribute to the variability in behavioral responses observed across the study population. The complexity of medical language, as emphasized in previous research [22, 23], further reinforces the need to simplify health communication to improve understanding and promote empowerment among caregivers.

Overall, the barriers most frequently highlighted in caregivers’ narratives are of a pragmatic nature, particularly in accessing medical care. A common topic was the lack of time due to inflexible or demanding work schedules, which supports previous research documenting the pressure that work-related commitments place on caregivers' ability to seek healthcare for their children [24, 25].

Time management and the stress associated with professional obligations are factors that may negatively influence child health and hinder appropriate medical follow-up. This situation suggests the need for health policies that are better aligned with the realities of caregivers' daily lives-specifically, by implementing flexible and accessible appointment schedules that consider family dynamics, the negative impact of employment on nutritional behaviors and environments, and other factors potentially affected by caregivers' work conditions, such as time availability and stress [26].

In addition, confusion regarding the procedures required to access healthcare emerged as a key obstacle. Many caregivers reported that they did not fully understand the referral process, which may result in the underutilization of available healthcare services [22].

Providing clear and simplified information, as well as training healthcare personnel in effective communication with caregivers, could significantly improve this situation by promoting better engagement and more efficient use of health resources.

On the other hand, perceptions of the healthcare system also emerged as a prominent area of concern, with many caregivers expressing frustration regarding the lack of resources-particularly in terms of access to nutritionists. Resource limitations may negatively affect caregivers’ ability to implement necessary dietary and lifestyle changes in their children [10, 27] and can contribute to a growing lack of confidence in the system’s capacity to adequately address children’s health needs. This, in turn, may foster a cycle of avoidance in seeking medical care [24].

The absence of nutrition specialists and the perception that services are inaccessible represent significant barriers to meaningful efforts aimed at improving child health outcomes.

Additional family responsibilities faced by caregivers further highlight the complexity of family dynamics and how these may impact caregivers' capacity to secure the medical care their children need, as well as to dedicate one-on-one time to a specific child. Concerns about caring for other children often interfere with the ability to seek or follow through with medical appointments, a pattern that has been widely documented in the literature [24, 28].

The burden of caring for multiple children, along with worries about the well-being of other family members, is a recurrent theme, underscoring the intricate nature of family life and its influence on children's health. This finding reinforces the notion that public health interventions should not only focus on the child with excess weight but rather adopt a family-centered approach [28].

The initial surprise and concern expressed by caregivers in response to their children's health results align with the literature on parental anxiety related to child health [17]. This emotional reaction can serve as a catalyst for change, prompting many caregivers to take immediate steps to improve their children's diet and physical activity. A recent study by Miller et al. [29] emphasizes that parental anxiety can be a significant motivator for initiating healthier behaviors within the household, suggesting the potential for tailored interventions that harness this emotional response.

In line with the emergent category "Perceptions of the utility and limitations of the healthcare system," caregivers interviewed in this study expressed notable ambivalence toward the Costa Rican public health system. On the one hand, they recognized its essential role in providing healthcare services; on the other hand, they voiced frustration over structural barriers, including a shortage of specialized professionals, long waiting lists, and complex administrative procedures. This dual perception reflects a tension between the institutional support that caregivers seek and their lived experience of limited or inefficient access to health services.

This finding is consistent with international studies that have highlighted how systemic limitations can affect the management of childhood overweight. For instance, Wu et al. [30] found that caregivers in Shanghai, China, faced similar challenges, such as difficulties accessing appropriate professional guidance and barriers for implementing lifestyle changes for their children.

Moreover, a lack of trust in the healthcare system can negatively influence caregivers' willingness to seek and adhere to treatment for childhood overweight. Serban et al. [31] observed in Romania that distrust toward the health system, along with the lack of specialized centers, hindered effective communication between healthcare professionals and families, thereby complicating the implementation of effective interventions.

In the Costa Rican context, these perceptions may be shaped by specific sociocultural and structural factors, including the geographical distribution of health services, public health policies, and prevailing family dynamics. It is essential that health authorities acknowledge and address these concerns to enhance the effectiveness of interventions aimed at managing childhood obesity.

Furthermore, the study also identifies significant barriers that limit caregivers' ability to effectively address their children's health needs. Confusion surrounding medical terminology, procedural steps, and limited access to specialists highlight the urgent need to improve both communication and navigation within the healthcare system. Addressing parental health literacy emerges as a critical factor [22, 23, 32].

A systematic review by Torresdey et al [33] demonstrated that clear and culturally sensitive communication strategies significantly enhance patient comprehension and adherence to treatment plans. This finding underscores the importance of healthcare providers adopting such approaches in routine practice. Likewise, the lack of clarity regarding healthcare procedures highlights the pressing need to strengthen communication in clinical settings, ensuring that caregivers fully understand the steps required to access appropriate care [34].

Practical barriers, such as inflexible work schedules and family obligations, further emphasize the need for policies and interventions that are aligned with the everyday realities of caregivers [24, 25, 35]. Family-based interventions, as discussed by Anderson et al. [36], must be designed with a realistic understanding of the constraint's families face-including socioeconomic status, cultural beliefs, and daily routines-to ensure their effectiveness. The study by Yazeedi et al. [28] stands out the impact of family dynamics on childhood obesity. Emotional responses and logistical challenges reinforce the need for comprehensive interventions that address both the psychological and practical dimensions of managing childhood obesity [28].

These findings underscore the importance of providing education on child health and equipping caregivers with the skills needed to navigate the healthcare system. A study by Johnson et al. [37] found that interventions focusing on behavior change techniques and parental skill-building are more likely to achieve sustained positive outcomes in the management of childhood obesity.

Finally, this study offers a solid base to inform future interventions by emphasizing the need for clear and accessible communication, the integration of nutrition services into primary care, and the consideration of family dynamics in the broader context of child health. By addressing both perceptions and barriers, healthcare systems can work toward more effective management of childhood obesity and contribute to the overall well-being of families.

6. Conclusions

This qualitative study concludes that caregivers' perceptions of their overweight children's health are complex and have multiple edges. On the one hand, there is a clear willingness to initiate change: parents and guardians, upon learning about their children's health status, express concern, and a genuine intention to implement measures to improve it. On the other hand, they face substantial barriers that limit or delay their ability to act, including inflexible work commitments, confusion about how to navigate the healthcare system, a lack of available specialized resources, and multiple family responsibilities. This dichotomy between "intention" and "action" in the face of real obstacles results in a care gap that must be addressed.

It is essential for health institutions to recognize and find solutions to these challenges. Information alone is insufficient; sustained support must be provided to caregivers so they can translate their concern into effective action. Practically, public health strategies must aim to empower caregivers while minimizing operational barriers. This includes improving communication and comprehension of health reports and ensuring timely and user-friendly access to services (for example, through extended clinic hours, telemedicine, or assistance with administrative procedures).

In summary, caregivers in Costa Rica are aware of the importance of child health and wish the best for their children with overweight. However, they need a more enabling environment. Strengthening coordination among the health sector, schools, and communities will be essential to create such an environment-one that promotes healthy habits, provides accessible resources (such as early-stage nutritional guidance), and considers the daily realities of families. Closing the gap between awareness and concrete action requires comprehensive strategies focused on improved care and prevention of childhood obesity.

The qualitative findings highlight an urgent need for a structural transformation of institutional responses to childhood overweight-particularly from a public health perspective that incorporates not only biomedical indicators but also the social, familial, and cultural dimensions that influence access to care and adherence to treatment. This transformation calls for synergistic action across educational, institutional, community, and communicative levels.

First, it is imperative to reinforce the training of healthcare personnel in communication skills, health literacy, and cultural sensitivity. Clinical interactions should move beyond a purely technical approach and foster relational practices that acknowledge caregivers lived experiences, family contexts, and subjective interpretations. The discourse analyzed in this study shows that many parents do not feel fully understood by healthcare professionals, leading to distancing, confusion, and sometimes rejection of clinical guidance. Continuous education processes are urgently needed to improve active listening, promote the use of accessible language, and eliminate stigmatizing attitudes toward childhood obesity and its social determinants.

In addition, real and timely access to specialized services within primary care should be prioritized. The limited presence of nutritionists within the Basic Comprehensive Health Care Teams (Equipos Básicos de Atención Integral en Salud [EBAIS]), along with bureaucratic referral processes and overburdened clinic schedules, constitutes one of the most significant structural barriers perceived by families. The systematic and permanent incorporation of pediatric nutrition professionals would not only enable more efficient response to identified cases but also support continuous educational interventions that strengthen prevention during early childhood. Adjusting clinic schedules to accommodate caregivers' work obligations and expanding the use of telehealth tools for nutritional follow-up are cost-effective strategies with high impact potential.

From a community perspective, it is recommended to develop and consolidate participatory programs for the prevention and management of childhood overweight that actively involve families, schools, and local support networks. These programs should create intergenerational learning spaces in which caregivers can interpret and discuss the health reports provided by medical teams and collaboratively identify context-specific strategies to improve nutrition, physical activity, and children's emotional well-being. These efforts must be grounded in dialogic methodologies and meaningful learning approaches that promote critical appropriation of knowledge and collective commitment to transforming obesogenic environments.

Finally, it is essential to establish horizontal, sustained, and empathetic communication between healthcare professionals and caregivers. Evidence suggests that caregivers' perceptions of the healthcare system's usefulness are directly linked to the quality of the relationships formed during care encounters. Fostering clinical relationships based on trust, transparency, and reciprocity not only improves treatment adherence but also empowers families as active agents in health promotion. Strengthening institutional capacity for proactive follow-up-through phone calls, messages, or community outreach-may reduce discontinuity in care due to preventable causes.

Addressing these dimensions comprehensively will not only enhance the perception of the healthcare system in vulnerable contexts but also advance a more equitable, culturally sensitive care model centered on children's overall well-being. The Costa Rican experience documented in this study offers valuable insights for other Latin American countries facing similar challenges in addressing childhood overweight.

Abbreviations

WHO	World Health Organization
PAHO	Pan American Health Organization
SD	Standard Deviation

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Author Contributions

Hilda Patricia Núñez-Rivas: Funding acquisition, Re-

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Marlene Roselló-Araya: Data curation, Software, Visualization, Writing – original draft

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Data Availability Statement

The data supporting the findings of this research are included in this manuscript.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] World Health Organization. Obesity and overweight. Available from: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight (19/5/2025).

[2] Corvalán C, Garmendia ML, Jones-Smith J, Lutter CK, Miranda JJ, Pedraza LS, Popkin BM, Ramirez-Zea M, Salvo D, Stein AD. Nutrition status of children in Latin America. Obes Rev. 2017 Jul; 18 Suppl 2 (Suppl 2): 7-18. https://doi.org/10.1111/obr.1257

[3] Vega-Salas MJ, Murray C, Nunes R, Hidalgo-Arestegui A, Curi-Quinto K, Penny ME, Cueto S, Lovegrove JA, Sánchez A, Vimaleswaran KS. School environments and obesity: a systematic review of interventions and policies among school-age students in Latin America and the Caribbean. International Journal of Obesity. 2023; 47(1): 5-16. https://doi.org/10.1038/s41366-022-01226-9

[4] Rivera, J. A., de Cossío, T. G., Pedraza, L. S., Aburto, T. C., Sánchez, T. G., & Martorell, R. Childhood and adolescent overweight and obesity in Latin America: a systematic review. The Lancet Diabetes & Endocrinology. 2024; 2(4): 321-332. https://doi.org/10.1016/S2213-8587(13)70173-6

[5] Pool LR, Aguayo L, Brzezinski M, Perak AM, Davis MM, Greenland P, Hou L, Marino BS, Van Horn L, Wakschlag L, Labarthe D, Lloyd-Jones D, Allen NB. Childhood Risk Factors and Adulthood Cardiovascular Disease: A Systematic Review. J Pediatr. 2021; 232: 118-126. e23. https://doi.org/10.1016/j.jpeds.2021.01.053

[6] Simmonds M, Llewellyn A, Owen CG, Woolacott N. Predicting adult obesity from childhood obesity: a systematic review and meta-analysis. Obes Rev. 2016; 17(2): 95-107. https://doi.org/10.1111/obr.12334

[7] Saunders LA, Jackson B, Gibson LY, Doust J, Dimmock JA, Davis EA, Price L, Budden T. 'It's been a lifelong thing for me': parents' experiences of facilitating a healthy lifestyle for their children with severe obesity. BMC Public Health. 2023; 23(1): 1176. https://doi.org/10.1186/s12889-023-15780-y

[8] Hoelscher DM, Brann LS, O'Brien S, Handu D, Rozga M. Prevention of Pediatric Overweight and Obesity: Position of the Academy of Nutrition and Dietetics Based on an Umbrella Review of Systematic Reviews. J Acad Nutr Diet. 2022; 122(2): 410-423.e6. https://doi.org/10.1016/j.jand.2021.11.003

[9] Huxtable A, Millar L, Love P, Bell C, Whelan J. Parental Translation into Practice of Healthy Eating and Active Play Messages and the Impact on Childhood Obesity: A Mixed Methods Study. Nutrients. 2018; 10(5): 545. https://doi.org/10.3390/nu10050545

[10] Gubbels JS. Environmental Influences on Dietary Intake of Children and Adolescents. Nutrients. 2020; 12(4): 922. https://doi.org/10.3390/nu12040922

[11] Narciso Castillo Sanguino. Fenomenología como método de investigación cualitativa: preguntas desde la práctica investigativa. Revista Latinoamericana de Metodología de la Investigación Social. N°20. Año 10. Octubre 2020 - Marzo 2021. Argentina. Pp. 7-18.

[12] Creswell, J. W. and Poth, C. N. (2018) Qualitative Inquiry and Research Design Choosing among Five Approaches. 4th Edition, SAGE Publications, Inc., Thousand Oaks.

[13] Greenhalgh T, Papoutsi C. Studying complexity in health services research: desperately seeking an overdue paradigm shift. BMC Med. 2018; 16(1): 95. https://doi.org/10.1186/s12916-018-1089-4

[14] Reid AM, Brown JM, Smith JM, Cope AC, Jamieson S. Ethical dilemmas and reflexivity in qualitative research. Perspect Med Educ. 2018; 7(2): 69-75. https://doi.org/10.1007/s40037-018-0412-2

[15] Braun V, Clarke V. Is thematic analysis used well in health psychology? A critical review of published research, with recommendations for quality practice and reporting. Health Psychol Rev. 2023; 17(4): 695-718. https://doi.org/10.1080/17437199.2022.216159

[16] Guest G, Namey E, Chen M. A simple method to assess and report thematic saturation in qualitative research. PLoS One. 2020; 15(5): e0232076. https://doi.org/10.1371/journal.pone.023207

[17] Salini C, Messina G, Messina D, Nante N. Every cockroach is beautiful to his mother's eyes"? A multicentric study on the perception of child's health status according to the parent. J Prev Med Hyg. 2023; 64(3): E311-E315. https://doi.org/10.15167/2421-4248/jpmh2023.64.3.285

[18] Karakitsiou G, Plakias S, Christidi F, Tsiakiri A. Unraveling Childhood Obesity: A Grounded Theory Approach to Psychological, Social, Parental, and Biological Factors. Children (Basel). 2024; 11(9): 1048. https://doi.org/10.3390/children11091048

[19] Robinson E, Sutin AR. Parents' Perceptions of Their Children as Overweight and Children's Weight Concerns and Weight Gain. Psychol Sci. 2017; 28(3): 320-329. https://doi.org/10.1177/0956797616682027

[20] Malek ME, Andermo S, Nyberg G, Elinder LS, Patterson E, Norman A. Parents' experiences of participating in the Healthy School Start Plus programme - a qualitative study. BMC Public Health. 2023; 23(1): 646. https://doi.org/10.1186/s12889-023-15552-8

[21] Golan M, Fainaru M, Weizman A. Role of behaviour modification in the treatment of childhood obesity with the parents as the exclusive agents of change. Int J Obes Relat Metab Disord. 1998; 22(12): 1217-24. https://doi.org/10.1038/sj.ijo.0800749

[22] Committee Opinion No. 676 Summary: Health Literacy to Promote Quality of Care. Obstet Gynecol. 2016; 128(4): 939. https://doi.org/10.1097/AOG.0000000000001705

[23] Vaillancourt R, Cameron JD. Health literacy for children and families. Br J Clin Pharmacol. 2022; 88(10): 4328-4336. https://doi.org/10.1111/bcp.14948

[24] Maia, C., Braz, D., Fernandes, H. M., Sarmento, H., & Machado-Rodrigues, A. M. (2025). The Impact of Parental Behaviors on Children's Lifestyle, Dietary Habits, Screen Time, Sleep Patterns, Mental Health, and BMI: A Scoping Review. Children, 12(2), 203. https://doi.org/10.3390/children12020203

[25] Escobedo LE, Cervantes L, Havranek E. Barriers in Healthcare for Latinx Patients with Limited English Proficiency: A Narrative Review. Journal of General Internal Medicine. 2023; 38(5): 1-8. https://doi.org/10.1007/s11606-022-07995-3.

[26] Santiago E, Quick V, Olfert M, Byrd-Bredbenner C. Relationships of Maternal Employment and Work Impact with Weight-Related Behaviors and Home Environments of Mothers and Their School-Age Children. Int J Environ Res Public Health. 2023; 20(14): 6390. https://doi.org/10.3390/ijerph20146390

[27] Epstein LH, Wilfley DE, Kilanowski C, Quattrin T, Cook SR, Eneli IU, Geller N, Lew D, Wallendorf M, Dore P, Paluch RA, Schechtman KB. Family-Based Behavioral Treatment for Childhood Obesity Implemented in Pediatric Primary Care: A Randomized Clinical Trial. JAMA. 2023; 329(22): 1947-1956. https://doi.org/10.1001/jama.2023.8061

[28] Yazeedi BA, Al-Adawi S, Waly M, Qassabi FA, Al-Azkawi H, Khalaf A. Understanding the Interaction Between Family Dynamics and Childhood Obesity in the Middle Eastern Population: A Qualitative Study. Public Health Nurs. 2025; 42(2): 848-856. https://doi.org/10.1111/phn.13508

[29] Miller AL, Taveras EM, Rifas-Shiman SL, Gillman MW, Horan M, Price S, et al. Association of maternal psychosocial characteristics with obesity-related behaviors in children. Obesity (Silver Spring). 2012; 20(7): 1474-80. https://doi.org/10.1038/oby.2012.37

[30] Wu J, Sun Y, Wang L, Yang J, Wu Q. Parents' perceptions and barriers regarding childhood obesity management in Shanghai, China: a qualitative study. BMC Public Health. 2021; 21: 934. https://doi.org/10.1186/s12889-021-10744-6

[31] Serban C, Udristoiu T, Popa-Velea O. Barriers in communication between pediatricians and caregivers of children with obesity: a qualitative exploration. BMC Nursing. 2021; 20: 152. https://doi.org/10.1186/s12912-021-00684-2

[32] Holmen H, Flødo TN, Tørris C, Torbjørnsen A, Almendingen K, Riiser K. The role of health literacy in intervention studies targeting children living with overweight or obesity and their parents-a systematic mixed methods review. Front Pediatr. 2025; 12: 1507379. https://doi.org/10.3389/fped.2024.1507379

[33] Torresdey P, Chen J, Rodriguez HP. Patient Time Spent With Professional Medical Interpreters and the Care Experiences of Patients With Limited English Proficiency. J Prim Care Community Health. 2024; 15: 21501319241264168. https://doi.org/10.1177/21501319241264168.

[34] Berkman ND, Sheridan SL, Donahue KE, Halpern DJ, Viera A, Crotty K, Holland A, Brasure M, Lohr KN, Harden E, Tant E, Wallace I, Viswanathan M. Health literacy interventions and outcomes: an updated systematic review. Evid Rep Technol Assess (Full Rep). 2011; (199): 1-941.

[35] Van den Eynde, E., van der Voorn, B., Koetsier, L., Raat, H., Seidell, J. C., Halberstadt, J., & van den Akker, E. L. T. Healthcare professionals' perspectives on the barriers and facilitators of integrated childhood obesity care. BMC Health Services Research. 2024; 24: 1133. https://doi.org/10.1186/s12913-024-11532-9

[36] Anderson SE, Economos CD, Must A. Active play and screen time in U.S. children aged 4 to 11 years in relation to sociodemographic characteristics: a cross-sectional analysis. Int J Behav Nutr Phys Act. 2008; 5: 56. https://doi.org/10.1186/1479-5868-5-56

[37] Johnson, B. J., Chadwick, P. M., Pryde, S. et al. Behavioural components and delivery features of early childhood obesity prevention interventions: intervention coding of studies in the TOPCHILD Collaboration systematic review. Int J Behav Nutr Phys 2025; Act 22, 14. https://doi.org/10.1186/s12966-025-01708-9

Biography

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Research Field

Hilda Patricia Núñez-Rivas: Nutrition, epidemiology, breast feeding, anthropometry, education, salt reduction, CVD disease, prevention.

Ileana Holst-Schumacher: Nutrition, epidemiology, clinical chemistry, diabetes mellitus, dyslipidemias, vitamin D.

Marlene Roselló-Araya: Nutrition, epidemiology, anthropometry, diabetes mellitus, salt reduction, CVD disease, prevention.