Residência RP Pediátrica
Publicação Oficial da Sociedade Brasileira de Pediatria
ISSN-Online: 2236-6814

Submitted on: 02/16/2025
Approved on: 03/24/2025

ORIGINAL ARTICLE

Knowledge and practices of primary care physicians and pediatricians in managing childhood obesity in Porto Velho, Rondônia: challenges and strategies in primary care in northern Brazil

Cristiano Almeida Pereira[1]

Keywords:
Pediatric Obesity,
Physicians Primary Care,
Primary Health Care,
Health Knowledge,
Attitudes,
Practice,
Pediatrics.

Abstract

Objective: To assess the knowledge of pediatricians and primary care physicians regarding childhood obesity, considering prevention, diagnosis, risk factors, and barriers to clinical management, in order to support professional training strategies and improve healthcare assistance. **Methods:** A cross-sectional quantitative study was conducted in Porto Velho, Rondônia, Brazil, involving 188 physicians (54 from primary care and 134 pediatricians). The research protocol was approved by the Research Ethics Committee of Centro Universitário São Lucas Ji-Paraná (approval number: 6.161.849, CAAE: 70403123.3.0000.5297). Data were collected through a structured electronic questionnaire and analyzed using SPSS 21.0 software, applying statistical tests such as Pearsons chi-square test. The significance level was set at a = 0.05. **Results:** The majority of pediatricians (93.5%) performed routine child weighing, whereas only 18.5% of primary care physicians did so ($p < 0.001$). BMI calculation was recorded by 54.3% of pediatricians but only by 18.5% of primary care physicians ($p < 0.001$). Parental resistance to diagnosis was reported by 33.3% of primary care physicians, compared to 6.5% of pediatricians ($p < 0.001$). **Conclusions:** Gaps in knowledge and clinical practice were identified, particularly in primary care, highlighting the need for continuous training and standardized clinical protocols. Barriers such as limited consultation time, inadequate training, and parental resistance impact the approach to childhood obesity. Implementing educational strategies, expanding multidisciplinary teams, and integrating technology can enhance obesity management, improving prevention and treatment effectiveness.

[1] Centro Universitário São Lucas/Afya, Disciplina de Pediatria do Curso de Medicina - Porto Velho - Rondônia - Brazil.

Correspondence to:
Cristiano Almeida Pereira.
Centro Universitário São Lucas. R. Alexandre Guimarães, 1927 – Areal, Porto Velho - RO, Brazil - 76804-373. E-mail: med.cristiano@gmail.com

DOI: 10.25060/residpediatr-2026-1438

Creative Commons. Attribution-NonCommercial-ShareAlike 4.0 International.

INTRODUCTION

Childhood obesity is one of the greatest public health challenges of our time, characterized by excessive accumulation of body fat resulting from an energy imbalance between caloric intake and expenditure[1]. This phenomenon arises from environmental, genetic, metabolic, and behavioral factors[2].Since the beginning of the 21st century, a significant increase in the prevalence of overweight and obesity has been observed across all age groups, with a more pronounced rise in developing countries, particularly among low-income children and adolescents[3].

Modern lifestyle has been a determining factor in the rise of childhood obesity, driven by changes in dietary patterns and reduced levels of physical activity[4]. The early introduction of ultra-processed foods rich in saturated fats, sugars, and additives, combined with sedentary behavior resulting from excessive exposure to electronic screens, contributes significantly to this scenario[5].This obesogenic environment hinders the adoption of healthy habits and favors the persistence of obesity into adulthood, increasing the risk of metabolic, cardiovascular, and psychosocial diseases[6].

Global statistics underscore the severity of the problem. According to the World Health Organization (WHO), the prevalence of childhood obesity has increased dramatically in recent decades. In 2016, the number of children aged 5 to 19 years classified as obese exceeded 124 million, and projections for 2025 estimate that more than 700 million adults and 75 million children under five years of age will be obese[1]. In Brazil, data from VIGITEL 2021 indicate an alarming scenario, with Porto Velho, the capital of the state of Rondônia, leading obesity and overweight rates among adults, highlighting the urgent need for preventive measures starting in childhood[1].

Childhood obesity directly impacts health, leading to complications such as type 2 diabetes mellitus, arterial hypertension, dyslipidemia, hepatic steatosis, musculoskeletal disorders, and increased predisposition to cardiovascular diseases[8]. In addition, it is associated with emotional disorders, depression, anxiety, and reduced quality of life.[9] The persistence of obesity into adulthood significantly increases morbidity, mortality, and public health care costs[10].

Primary care physicians and pediatricians play an essential role in the prevention and management of childhood obesity. However, gaps remain in these professionals' knowledge regarding preventive strategies, early detection, and effective therapeutic approaches[10]. Lack of adequate training may compromise the effectiveness of interventions and reduce the likelihood of success in addressing childhood obesity[10].

Given this context, the present study aimed to assess the knowledge of pediatricians and primary care physicians regarding childhood obesity, focusing on prevention, early detection, risk factors, and clinical management strategies. Understanding these gaps may support the development of training programs aimed at improving professional qualification, thereby facilitating the implementation of more effective public health policies[13].

METHODS

Study Design

This was a quantitative cross-sectional study with descriptive and analytical components, conducted in Porto Velho, Rondônia, Brazil. The study aimed to assess the knowledge of pediatricians and primary care physicians regarding childhood obesity, including prevention, risk factors, diagnosis, and clinical management. Cross-sectional studies are widely used to analyze clinical practices and medical knowledge, allowing the identification of patterns and gaps in health care delivery[14]. Data were collected using a structured electronic questionnaire developed on the Google Forms platform.

Study Population and Selection Methods

The target population consisted of pediatricians and primary care physicians working in both public and private health care settings. Studies indicate that academic training and clinical experience directly influence the management of childhood obesity[15]. Inclusion criteria comprised voluntary participation through acceptance of the Informed Consent Form (ICF) and complete completion of the questionnaire. Recruitment was carried out through invitations sent via email and instant messaging applications.

Procedures

The questionnaire was based on a validated instrument developed by Domingos et al[16]. and was divided into five sections:

1. Study presentation;
2. Sociodemographic and professional data;
3. Attitudes and practices in child health care;
4. Theoretical knowledge about childhood obesity;
5. Barriers to obesity management.

Collected data were stored on the Google Forms platform and exported for statistical analysis. Instrument reliability was ensured through prior validation by experts in the field, according to the methodology described in the referenced study.

Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 21.0. Quantitative variables were described using means and standard deviations, while qualitative variables were expressed as frequencies and percentages. Associations between categorical variables were assessed using Pearson's Chi-square test, Mantel–Haenszel

Chi-square test, and Likelihood Ratio test, methods widely employed in epidemiological data analysis[17]. A significance level of $\alpha = 0.05$ was adopted, with a 95% confidence interval, ensuring statistical robustness of the findings[18].

Ethical Aspects

The study followed the ethical guidelines established by Resolution No. 510/2016 and Circular Letter No. 1/2021-CONEP/SECNS/MS of the Brazilian National Health Council. In addition, the principles of the Declaration of Helsinki (2008) and the Nuremberg Code were observed, ensuring the integrity of research participants[19]. The research protocol was approved by the Research Ethics Committee of Centro Universitário São Lucas Ji-Paraná (Opinion No. 6.161.849, CAAE: 70403123.3.0000.5297), ensuring compliance with national and international regulations for research involving human subjects[20].

RESULTS

Participant Profile

The sample included 188 physicians, of whom 54 were primary care physicians and 134 were pediatricians. Most participants were aged 31 to 40 years (45.7%), followed by those aged 41 to 50 years (32.6%). Length of professional training varied between groups, with 37.0% having 11–15 years of experience and 28.3% having more than 20 years of experience. These data are presented in Figure 1.

Among pediatricians, 95.7% had a specialization in pediatrics, whereas 70.0% of primary care physicians did not have any medical specialization. Only 20.0% of primary care physicians had formal training in Family Health. These data are presented in Figure 2.

Attitudes and Practices in Child Health Care

Children were weighed by 93.5% of pediatricians, compared with 18.5% of primary care physicians ($p < 0.001$). Height measurement followed a similar pattern (87.0% vs. 46.3%, $p < 0.001$). Body mass index (BMI) calculation was performed by 54.3% of pediatricians, but by only 18.5% of primary care physicians ($p < 0.001$). Detailed results are presented in Table 1.

Theoretical Knowledge on Diagnosis and Risk Factors

Recognition of childhood overweight was higher among pediatricians (65.2%) than among primary care physicians (27.8%, $p = 0.002$). Obesity was correctly identified by 60.9% of pediatricians and only 16.7% of primary care physicians ($p < 0.001$). These data are presented in Table 2.

Barriers to the Management of Childhood Obesity

Only 39.1% of pediatricians and 11.1% of primary care physicians reported having sufficient time to discuss childhood obesity during consultations, while adequate training was acknowledged by 26.1% and 3.7%, respectively.

Lack of parental guidance was identified as a barrier by 37.0% of pediatricians and 55.6% of primary care physicians, whereas parental resistance to the diagnosis was perceived by 6.5% and 33.3%, respectively. Difficulty addressing

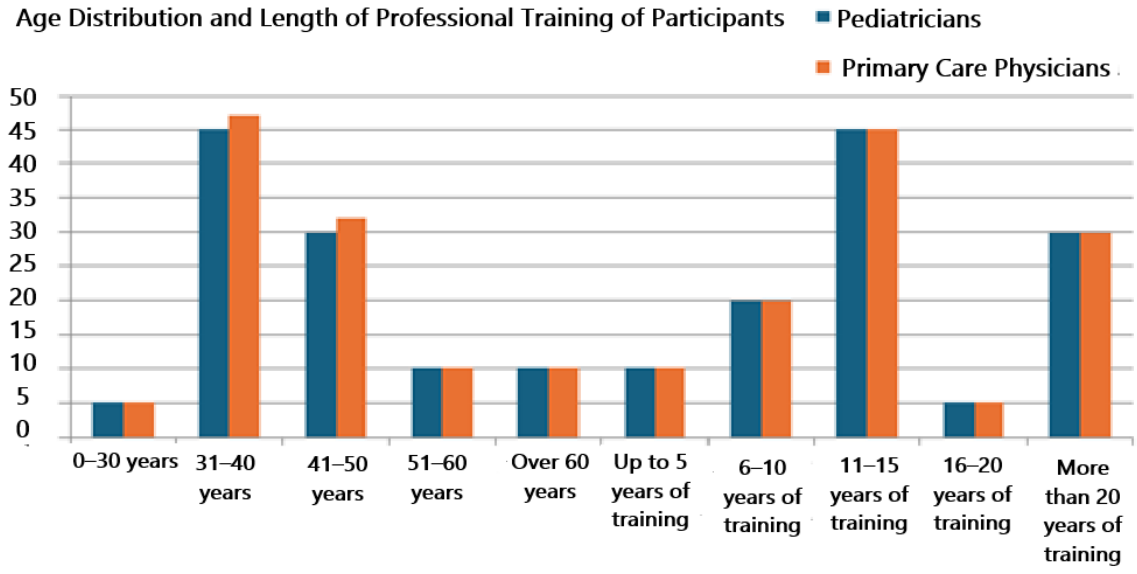

Figure 1. Age distribution and length of professional training of participants.

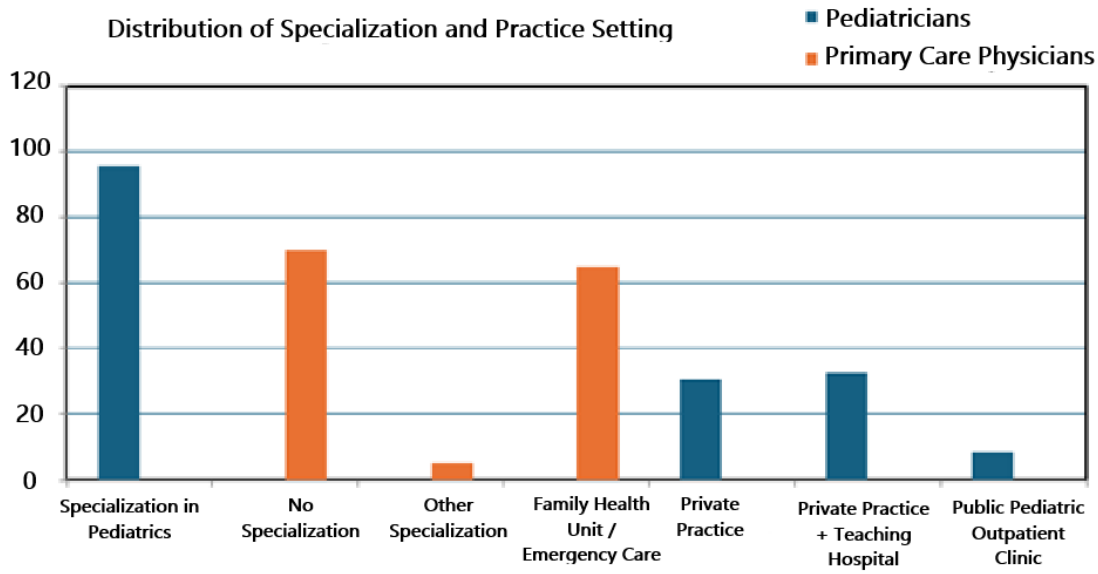

Figure 2. Specialization and practice setting of participants.

Table 1. Attitudes and practices in child health care.

Question	Pediatricians (%)	Primary Care Physicians (%)	*p*-value
Weighing at every visit (%)	93.5	18.5	< 0.001
Height measurement at every visit (%)	87.0	46.3	< 0.001
BMI calculation at every visit (%)	54.3	18.5	< 0.001
BMI plotted on WHO growth charts (%)	50.0	3.7	< 0.001
BMI calculation in children < 5 years (%)	50.0	3.7	< 0.001
BMI calculation in children ≥ 5 years (%)	60.9	7.4	< 0.001
Waist circumference measurement (%)	17.4	5.6	< 0.001
Counseling families on lifestyle habits (%)	76.1	42.1	< 0.001
Frequency of counseling on healthy nutrition (%)	76.1	47.8	< 0.001
Addressing screen time (%)	65.2	9.3	< 0.001
Asking about physical activity time (%)	56.5	7.4	< 0.001
Discussion on complementary feeding (%)	67.4	20.4	< 0.001
Counseling on breastfeeding (%)	91.3	7.4	< 0.001
Asking about family mealtime habits (%)	50.0	1.9	< 0.001
Asking about fast-food consumption (%)	45.7	18.5	< 0.001
Asking about sugar-sweetened beverage consumption (%)	63.0	1.9	< 0.001

Table 2. Theoretical knowledge on diagnosis and risk factors.

Question	Pediatricians (%)	Primary Care Physicians (%)	*p*-value
Definition of overweight in children aged 0–5 years (%)	65.2	27.8	0.002
Definition of obesity in children aged 0–5 years (%)	60.9	33.3	0.004
Definition of overweight in children aged 5–19 years (%)	58.7	40.7	0.01
Definition of obesity in children aged 5–19 years (%)	60.9	16.7	< 0.001
Correct age for introduction of fruit juice (%)	60.9	37.0	0.004
Healthy eating and reduction of ultra-processed foods (%)	76.1	38.9	< 0.001
Diagnostic criteria for childhood obesity (%)	79.5	41.3	< 0.001
Knowledge of risk factors for obesity (%)	82.6	48.1	< 0.001
Recommended physical activity time for ages 1–2 years (%)	15.2	35.2	< 0.001
Recommended physical activity time for ages 3–5 years (%)	6.5	37.0	< 0.001
Recommended physical activity time for ages 6–17 years (%)	52.2	18.5	< 0.001
Recommended screen time for ages 0–2 years (%)	95.7	25.9	< 0.001
Recommended screen time for ages 2–5 years (%)	71.7	22.2	< 0.001
Recommended screen time for ages 6–10 years (%)	71.7	33.3	< 0.001
Recommended screen time for ages 11–18 years (%)	69.6	25.9	< 0.001

the topic during consultations was reported by 62.0% of pediatricians and 79.3% of primary care physicians.

Support from a multidisciplinary team was considered beneficial by 97.8% of pediatricians and 74.1% of primary care physicians. Access to educational materials was higher among pediatricians (74.5%) than among primary care physicians (50.7%).

Perception of adequate referral services within the public health system was low, reported by 4.3% of pediatricians and 9.3% of primary care physicians. The positive impact of early diagnosis was recognized by 100% of pediatricians and 46.3% of primary care physicians.

Parental participation in treatment was viewed as beneficial by 90.7% of professionals, and obesity was considered a chronic disease by 68.5% of physicians from both groups.

DISCUSSION

This study analyzed 188 physicians (134 pediatricians and 54 primary care physicians) to assess knowledge, clinical practices, and barriers in the management of childhood obesity. The analysis revealed significant differences between the groups, highlighting structural challenges in primary health care that affect the early identification and treatment of childhood obesity.

Professional Profile

Most physicians were aged 31–40 years (45.7%), followed by those aged 41–50 years (32.6%). Only 4.3% were between 20 and 30 years old, and 8.7% were over 60 years of age. Length of professional training was similar between groups: 37.0% had 11–15 years of experience, while 28.3% had more than 20 years.

Data from *Medical Demography in Brazil 2023* indicate a rejuvenation of the medical workforce, which may favor more up-to-date practices in the management of childhood obesity.[11] However, the unequal distribution of specialists is a matter of concern: 95.7% of pediatricians had a formal specialization, whereas 70.0% of primary care physicians had none. Only 20.0% of primary care physicians had training in Family Health, suggesting that childhood obesity management may often be carried out by professionals without adequate training for this condition.

The unequal distribution of specialists, with a higher concentration in the private sector, limits population access to early diagnosis and appropriate treatment[11]. This is particularly concerning, as it highlights a deficit in specialized care within the public health system, where most vulnerable populations are assisted. Physicians without pediatric training demonstrate lower adherence to diagnostic guidelines and less frequent use of tools such as WHO growth charts and

BMI calculation[11]. Continuing professional education could help reduce these disparities, ensuring more standardized and effective care.

Only 8.7% of pediatricians worked in public outpatient clinics, whereas 64.8% of primary care physicians worked in family health units and emergency services. The low presence of pediatricians in the Brazilian Unified Health System (SUS) compromises the specialized approach to childhood obesity[11]. In addition, challenges such as low remuneration, inadequate infrastructure, and work overload discourage these professionals from working in the public sector. To mitigate these issues, public policies should be developed to encourage pediatric practice in the public system through improved working conditions and financial incentives.

Clinical Practices in Child Health Care

Regular weighing was performed by 93.5% of pediatricians but by only 18.5% of primary care physicians ($p < 0.001$). Height measurement followed a similar trend (87.0% vs. 46.3%, $p < 0.001$). Only 18.5% of primary care physicians calculated BMI for all children, compared with 54.3% of pediatricians ($p < 0.001$). Plotting BMI on WHO growth charts was performed by 50.0% of pediatricians and only 3.7% of primary care physicians ($p < 0.001$). These findings demonstrate that early identification of childhood overweight and obesity is still underutilized in primary care, compromising timely diagnosis and intervention.

Waist circumference measurement, an important indicator for detecting visceral obesity, was performed by 17.4% of pediatricians and 5.6% of primary care physicians ($p < 0.001$). Central obesity is associated with increased metabolic risk and should be more widely used in clinical practice.[15] This indicator is particularly relevant, as abdominal obesity is directly correlated with insulin resistance, type 2 diabetes, and cardiovascular diseases. The low adoption of this diagnostic parameter highlights the need for greater professional training regarding its importance and applicability.

Nutritional counseling was provided by 76.1% of pediatricians and 47.8% of primary care physicians ($p < 0.001$). Complementary feeding was discussed by 67.4% of pediatricians but only 20.4% of primary care physicians ($p < 0.001$), reflecting a gap in nutritional education within primary care[7]. Adequate nutritional counseling can prevent unhealthy eating habits and reduce the risk of childhood obesity. However, its limited implementation in primary care may be related to professional overload, as physicians often have insufficient time to provide in-depth guidance during consultations.

Barriers to the Management of Childhood Obesity

Only 11.1% of primary care physicians reported having sufficient time to address childhood obesity during consultations, compared with 39.1% of pediatricians ($p = 0.00001$), reflecting the high patient demand in primary health care[11]. This represents a significant barrier to the adoption of preventive and therapeutic strategies, as limited consultation time prevents more in-depth discussions about dietary habits and healthy lifestyles. To address this issue, the development of optimized clinical protocols may help systematize care and ensure that essential guidance is delivered effectively.

Only 3.7% of primary care physicians reported having received adequate training on childhood obesity, compared with 26.1% of pediatricians ($p = 0.00002$). Current guidelines recommend that all primary care professionals be trained to recognize and manage childhood obesity.[17] Without such training, the likelihood of delayed diagnosis and inadequate management increases. Moreover, insufficient technical knowledge may lead professionals to underestimate the severity of childhood obesity and fail to provide appropriate support to families.

The perception that parents do not receive sufficient information was more frequent among primary care physicians (55.6% vs. 37.0%, $p = 0.0165$), indicating the need for educational interventions to improve family adherence[2]. Parental resistance to the diagnosis was reported by 33.3% of primary care physicians, compared with 6.5% of pediatricians ($p < 0.001$), highlighting the importance of motivational interviewing techniques to reduce denial and increase acceptance of treatment[11].

In addition to resistance to diagnosis, stigma associated with obesity is another concerning factor, as it may hinder discussion of the topic by both physicians and caregivers. Fear of embarrassing families may lead professionals to avoid addressing the issue openly, further delaying intervention. Training in clinical communication and motivational interviewing techniques could support more effective and empathetic discussions[21].

The findings of this study indicate that pediatricians show greater adherence to recommended clinical guidelines for child health care, including obesity screening, nutritional assessment, and preventive counseling[22]. In contrast, primary care physicians demonstrated significant gaps in the management of childhood obesity, revealing challenges within primary care that may compromise early identification and appropriate intervention[23].

Lack of continuing professional education and the absence of standardized clinical protocols were relevant factors contributing to low adherence to recommended practices. Therefore, the implementation of continuing medical education programs is essential to update professionals on guidelines for prevention, screening, and treatment of childhood obesity[24]. The adoption of well-defined clinical protocols may also ensure that childhood obesity is addressed systematically, rather than only in advanced stages of the condition[23].

Furthermore, expanding access to multidisciplinary teams—including nutritionists, psychologists, and physical education professionals—may enhance comprehensive support for children with obesity, ensuring that multiple aspects of the condition are addressed holistically[25]. Digital screening tools and clinical decision-support technologies may also be integrated into care, assisting with patient monitoring and standardization of clinical practices among health professionals[26].

Data analysis revealed gaps in knowledge and clinical practice, particularly regarding recommendations for physical activity and screen time[22]. Although pediatricians demonstrated greater familiarity with these guidelines, deficiencies remained in valuing physical activity during early childhood. Inadequate guidance may directly affect the development of healthy habits, contributing to increased sedentary behavior and childhood obesity[22].

In this context, strategies such as continuous training, structured family counseling, and stronger integration between pediatricians and primary care physicians are essential to more effectively incorporate the promotion of healthy habits into clinical consultations[23]. The use of digital technologies, such as applications for tracking screen time and physical activity, may facilitate counseling and patient follow-up, making recommendations more accessible to families[25].

The barriers identified in the management of childhood obesity reinforce the need for structural changes in primary health care. Perceived insufficient consultation time, combined with lack of adequate training, parental resistance to diagnosis, and limited access to specialized services, represents a major obstacle to addressing childhood obesity[24,26]. To overcome these limitations, strengthening professional training is essential, ensuring that clinicians are equipped to address childhood obesity clearly and without stigmatization[26].

The adoption of well-established clinical guidelines will enable early screening and more effective interventions, reducing the risk of future complications[23]. Expanding access to multidisciplinary teams may improve the support provided to children and their families, facilitating the implementation of evidence-based prevention and treatment strategies[22]. Providing accessible educational materials for parents and caregivers may also increase adherence to medical recommendations and reduce resistance to diagnosis and treatment[23].

CONCLUSION

This study sought to highlight the challenges faced by pediatricians and primary care physicians in the management of childhood obesity, emphasizing the need for greater professional training and effective strategies to guide parents and health care providers[25].

Some limitations should be considered. Due to its cross-sectional design, the study does not allow the establishment of causal relationships[25]. In addition, the use of self-reported questionnaires may have introduced response bias[26]. The sample size (188 physicians) may also limit the generalizability of the findings[23]. Future studies with larger samples and longitudinal methodologies are needed to further explore this topic[22].

Childhood obesity should be recognized as a chronic and multifactorial condition that requires continuous and interdisciplinary management[24]. Strengthening public health policies, expanding access to specialized services, and improving professional training are essential to enhance its prevention and treatment[23]. Active family participation and the adoption of educational and technological approaches may contribute to better long-term outcomes[22].

In view of the increasing prevalence of childhood obesity, integrated strategies are essential to ensure a healthier future for new generations[22] through coordinated efforts among health professionals, policymakers, and families, with the aim of curbing its progression and mitigating its impacts[23].

REFERENCES

1. World Health Organization (WHO). Obesity and overweight. Geneva: WHO; 2022. [citado em 20 mar 2024] Disponível em: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight
2. Lobstein T, Jackson-Leach R, Moodie ML, Hall KD, Gortmaker SL, Swinburn BA, et al. Child and adolescent obesity: Part of a bigger picture. Lancet. 2021;385(9986):2510-20. Doi: https://doi.org/10.1016/S0140-6736(14)61746-3 https://doi.org/10.1016/S0140-6736(14)61746-3
3. De Onis M, Blössner M, Borghi E. Global prevalence and trends of overweight and obesity among preschool children. Am J Clin Nutr. 2019;92(5):1257-64. Doi: https://doi.org/10.3945/ajcn.2010.29786 https://doi.org/10.3945/ajcn.2010.29786
4. Monteiro CA, Cannon G, Moubarac JC, Levy RB, Louzada ML, Jaime PC. The UN decade of nutrition, the NOVA food classification and the trouble with ultra-processing. Public Health Nutr. 2019;21(1):5-17. Doi: https://doi.org/10.1017/S1368980017000234 https://doi.org/10.1017/S1368980017000234
5. Saunders TJ, Gray CE, Poitras VJ, Chaput JP, Janssen I, Katzmarzyk PT, et al. Combinations of physical activity, sedentary behavior and sleep: relationships with health indicators in school-aged children and youth. Appl Physiol Nutr Metab. 2019;41(6):S283-93. Doi: https://doi.org/10.1139/apnm-2015-0626 https://doi.org/10.1139/apnm-2015-0626
6. Guthold R, Stevens GA, Riley LM, Bull FC. Global trends in insufficient physical activity among adolescents: a pooled analysis of 298 population-based surveys with 1·6 million participants. Lancet Child Adolesc Health. 2020;4(1):23-35. Doi: https://doi.org/10.1016/S2352-4642(19)30323-2 https://doi.org/10.1016/S2352-4642(19)30323-2
7. Ministério da Saúde (BR). VIGITEL Brasil 2021: vigilância de fatores de risco e proteção para doenças crônicas por inquérito telefônico. Brasília: Ministério da Saúde; 2021.
8. Friedemann C, Heneghan C, Mahtani K, Thompson M, Perera R, Ward A. Cardiovascular disease risk in healthy children and its association with body mass index: systematic review and meta-analysis. BMJ. 2021;343:d6199.

9. Twenge JM, Joiner TE, Rogers ML, Martin GN. Increases in depressive symptoms, suicide-related outcomes, and suicide rates among U.S. adolescents after 2010 and links to increased new media screen time. Clin Psychol Sci. 2018;6(1):3-17. Doi: https://doi.org/10.1177/2167702617723376 https://doi.org/10.1177/2167702617723376

10. Victora CG, Bahl R, Barros AJ, França GV, Horton S, Krasevec J, et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. Lancet. 2016;387(10017):475-90. Doi: https://doi.org/10.1016/S0140-6736(15)01024-7 https://doi.org/10.1016/S0140-6736(15)01024-7

11. Scheffer M, Cassenote A, Guilloux AGA, Miotto BA, Mainardi GM, Matijasevich A. Demografia Médica no Brasil 2023. São Paulo: FMUSP; 2023.

12. Rollnick S, Miller WR, Butler CC. Motivational interviewing in health care: helping patients change behavior. New York: Guilford Press; 2021.

13. Pont SJ, Puhl R, Cook SR, Slusser W. Stigma experienced by children and adolescents with obesity. Pediatrics. 2017;140(6):e20173034. Doi: https://doi.org/10.1542/peds.2017-3034 https://doi.org/10.1542/peds.2017-3034

14. Berra S, Elorza-Ricart JM, Escarrabill J, Rajmil L, Rodríguez M, Serra-Sutton V, et al. Use of information technology for patient follow-up in primary care. Gac Sanit. 2019;20(3):209-18.

15. Daniels SR, Hassink SG. The role of the pediatrician in primary prevention of obesity. Pediatrics. 2019;136(1):e20193927. https://doi.org/10.1542/peds.2015-1558 https://doi.org/10.1542/peds.2015-1558

16. Domingos NAM, Dalle Grave R, Hay P, de Rosa LS, Cordás TA. Psychometric properties of the Portuguese version of the Eating Disorder Examination Questionnaire (EDE-Q). Braz J Psychiatry. 2022;44(3):259-68.

17. Centers for Disease Control and Prevention (CDC). CDC growth charts for the United States: Methods and development. Vital Health Stat. 2021;11(246):1-190.

18. Golan M, Crow S. Parents are key players in the prevention and treatment of weight-related problems. Nutr Rev. 2019;62(1):39-50. https://doi.org/10.1111/j.1753-4887.2004.tb00005.x https://doi.org/10.1111/j.1753-4887.2004.tb00005.x

19. Sociedade Brasileira de Pediatria (SBP). Manual de orientação sobre alimentação infantil. São Paulo: SBP; 2022.

20. Brasil. Ministério da Saúde. Resolução nº 510, de 7 de abril de 2016. Diário Oficial da União, Brasília, 24 maio 2016.

21. Academia Americana de Pediatria e Obesity Society contra estigmatização de crianças com excesso de peso. Associação Brasileira para o Estudo da Obesidade e da Síndrome Metabólica (ABESO). [citado em 10 mar 2024]. Disponível em: https://abeso.org.br/academia-americana-de-pediatria-e-obesity-society-contra-estigmatizacao-de-criancas-com-excesso-de-peso/

22. Brasil. Ministério da Saúde. Saúde da criança: crescimento e desenvolvimento. Brasília: Ministério da Saúde; 2012. [citado em 20 mar 2024] Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/saude_crianca_crescimento_desenvolvimento.pdf

23. Sociedade Brasileira de Pediatria. Obesidade na infância e adolescência: manual de orientação. 3ª ed. Rio de Janeiro: SBP; 2019. [citado em 10 mar 2024] Disponível em: https://www.sbp.com.br/fileadmin/user_upload/Manual_de_Obesidade_-_3a_Ed_web_compressed.pdf

24. Associação Brasileira para o Estudo da Obesidade e da Síndrome Metabólica (ABESO). Obesidade infantil. São Paulo: ABESO; 2013. [citado em 10 mar 2024] Disponível em: https://abeso.org.br/wp-content/uploads/2019/12/71.pdf

25. Silva GAP, Balaban G, Motta MEFA. Obesidade infantil: como podemos ser eficazes? J Pediatr (Rio J). 2005;81(3):163-9. Disponível em: https://www.scielo.br/j/jped/a/GftqBGnnCyhvZ89C9M4Pqsv/. Acesso em: 20 mar 2024

26. Brasil. Ministério da Saúde. Política Nacional de Atenção Integral à Saúde da Criança: orientações para implementação. Brasília: Ministério da Saúde; 2018. [citado em 10 mar 2024] Disponível em: https://portaldeboaspraticas.iff.fiocruz.br/wp-content/uploads/2018/07/Pol%C3%ADtica-Nacional-de-Aten%C3%A7%C3%A3o-Integral-%C3%A0-Sa%C3%BAde-da-Crian%C3%A7a-PNAISC-Vers%C3%A3o-Eletr%C3%B4nica.pdf