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THE ROLE OF NURSING IN THE PREVENTION AND CONTROL OF CHILDHOOD OBESITY

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Ariane Gonçalves Santana[1], Fernanda Araujo da Silva[2], Natani Rafaele Tronquini Sambati[3], Isabela Vanessa Tavares Cordeiro Silva[4], Carlos Eduardo Michel Schibler[5] and Márcia Glaciela da Cruz Scardoelli[6]

ABSTRACT

Research on nursing interventions in the prevention and control of childhood obesity addressed three main determinants: sedentary lifestyles, poor diet, and psychosocial and environmental factors. Through an integrative literature review, negative points associated with each determinant were identified, such as increased risk of obesity, nutritional deficiencies, social stigma and lack of emotional support. However, several nursing interventions have been highlighted as effective in addressing these problems, including nutrition education, promotion of physical activity, psychosocial support, and advocacy for

[1] Undergraduate Nursing
Unicesumar University (2025).
Email: arisantaninha@gmail.com
ORCID: https://orcid.org/0009-0001-6149-1953
LATTES: http://lattes.cnpq.br/7841639036591534
[2]Undergraduate Nursing student (2025).
Unicesumar University,
E-mail: nanda988araujo@outlook.com
ORCID: https://orcid.org/0009-0001-9731-1088
LATTES: http://lattes.cnpq.br/8382339986187366
[3]Undergraduate Nursing
Unicesumar University (2025).
E-mail: natanialisson@gmail.com
ORCID: https://orcid.org/0009-0005-1650-4400
LATTES: http://lattes.cnpq.br/6556961956117104
[4] Master of Science in Nursing
State University of Maringá, UEM, (2024).
Email: isabela14tavares@gmail.com
ORCID: https://orcid.org/0000-0002-7631-6680
LATTES: http://lattes.cnpq.br/6182767203825926
[5]Doctorate student in Health Promotion at Unicesumar
Master in Management, Technology and Innovation in Urgency and Emergency from the State University of Maringá UEM, (2023).
Nurse and Professor of Higher Education at Unicesumar
Email: carlos.michel@unicesumar.edu.br
ORCID: https://orcid.org/0000-0003-2750-907
LATTES: http://lattes.cnpq.br/071170883663979
[6] Master of Science in Nursing
State University of Maringá, UEM.
E-mail: murimarigabi@gmail.com
ORCID: https://orcid.org/0000-0002-7265-2791
LATTES: http://lattes.cnpq.br/4352537885199362

healthy environments. Authors such as Jardim (2017), Borfe et al. (2017), Serra et al. (2018), among others, contributed significantly to the development of these strategies. The research underscores the role of nurses in promoting child health, highlighting the importance of a multidimensional and collaborative approach to preventing and managing childhood obesity. In summary, the results obtained provide valuable insights to improve nursing practices, promoting healthy lifestyle habits, and combating the childhood obesity epidemic.

Keywords: Prevention. Control. Sedentary lifestyle. Public health.

INTRODUCTION

Childhood obesity is recognized worldwide as a public health problem of growing concern. In recent decades, the prevalence of obesity among children and adolescents has increased dramatically. According to the World Health Organization (WHO), since 1975, childhood obesity has more than tripled in many parts of the world. It is estimated that, in 2016, more than 340 million children and adolescents, between 5 and 19 years old, were overweight or obese. In Brazil, data from the 2019 National School-based Health Survey (PeNSE) indicate that about 29% of children between 5 and 9 years of age are overweight (Menegon et al., 20201; Martins de Souza et al., 2023; Lopes et al., 2020).

Therefore, the factor of childhood obesity is associated with a series of health complications, both immediate and long-term. Obese children are more likely to develop chronic diseases, such as type 2 diabetes, hypertension, dyslipidemias, and cardiovascular disease. In addition, childhood obesity can lead to psychosocial problems, such as low self-esteem, depression, and social stigmatization, negatively impacting children's quality of life (Oliveira et al., 2021; Costa et al., 2021).

Nurses play a key role in promoting health and preventing disease, being essential agents in the fight against childhood obesity. They work in a variety of settings, including schools, communities, clinics, and hospitals, where they can directly influence the health behaviors of children and their families. Nursing interventions are multidimensional, ranging from health education, nutritional guidance, promotion of physical activity, to emotional and psychological support (Silva Alves et al., 2019; Oliveira Lopes et al., 2016).

Nursing practice in the prevention and control of childhood obesity includes the continuous assessment of children's nutritional status, the development of personalized care plans, and the implementation of educational programs for both children and parents. In addition, nurses collaborate with other health professionals, such as nutritionists and psychologists, to offer integrated and effective care. They 3 also play a vital role in advocating for public policies that promote healthy environments for children (Amorim Silva et al., 2024; Cordeiro et al., 2023; Azevedo et al., 2023).

The objective of this integrative review is to identify and synthesize the evidence on nursing interventions in the prevention and control of childhood obesity. The research seeks to answer the following question: what are the nursing strategies and interventions that have demonstrated efficacy in the prevention and control of childhood obesity? In addition, it is intended to explore the main results of these interventions, the barriers and facilitators for their implementation, and the implications for nursing practice.

By identifying effective practices, this integrative review aims to contribute to the improvement of nursing interventions, promote child health, and prevent complications associated with obesity.

METHODOLOGY

Integrative review is an approach that allows the inclusion of studies with different methodologies (quantitative and qualitative) to provide a comprehensive understanding of a phenomenon. This method is appropriate for synthesizing evidence and identifying gaps in the existing literature. The central question of the research is: What are the interventions carried out by nurses that have been effective in the prevention and control of childhood obesity?

To ensure the relevance and quality of the studies included in the review, specific criteria were established, such as:

Table 1 – Methodological Criteria

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Studies published between 2010 and 2023. • Peer-reviewed studies. • Articles in Portuguese. • Studies that address nursing interventions in the prevention and control of childhood obesity. • Studies conducted with children and adolescents (0-18 years).	• Studies that do not involve nursing interventions. • Non-peer-reviewed articles, such as editorials, letters to the editor, and conference abstracts. • Studies focused exclusively on pharmacological or surgical interventions. • Studies with adult populations.

Source: Author

The search for studies will be carried out in renowned and comprehensive databases, such as PubMed; Scopus; SciELO Brazil and LILACS (Latin American and Caribbean Literature in Health Sciences), and the selection process is through the screening of titles and abstracts and, subsequently, the complete reading of the selected texts.

After the selection stages, the extracted data were analyzed and synthesized qualitatively, observing the categorization of the main themes and interventions identified in the studies, such as the identification of the types of nursing interventions, effectiveness of the interventions, barriers and facilitators for the implementation of the interventions, and implications for nursing practice. Thus, based on the analysis of the studies, three determining points for childhood obesity were identified:

Chart 2 – Determining Points for Identifying Childhood Obesity

1- Sedentary lifestyle	The relationship between sedentary behavior and the prevalence of childhood obesity is widely documented.
2- Poor diet	Inadequate diet and consumption of ultra-processed foods are critical factors in promoting childhood obesity.
3- Psychosocial and environmental factors	The influence of family, socioeconomic, and community environment on childhood obesity highlights the importance of a holistic approach.

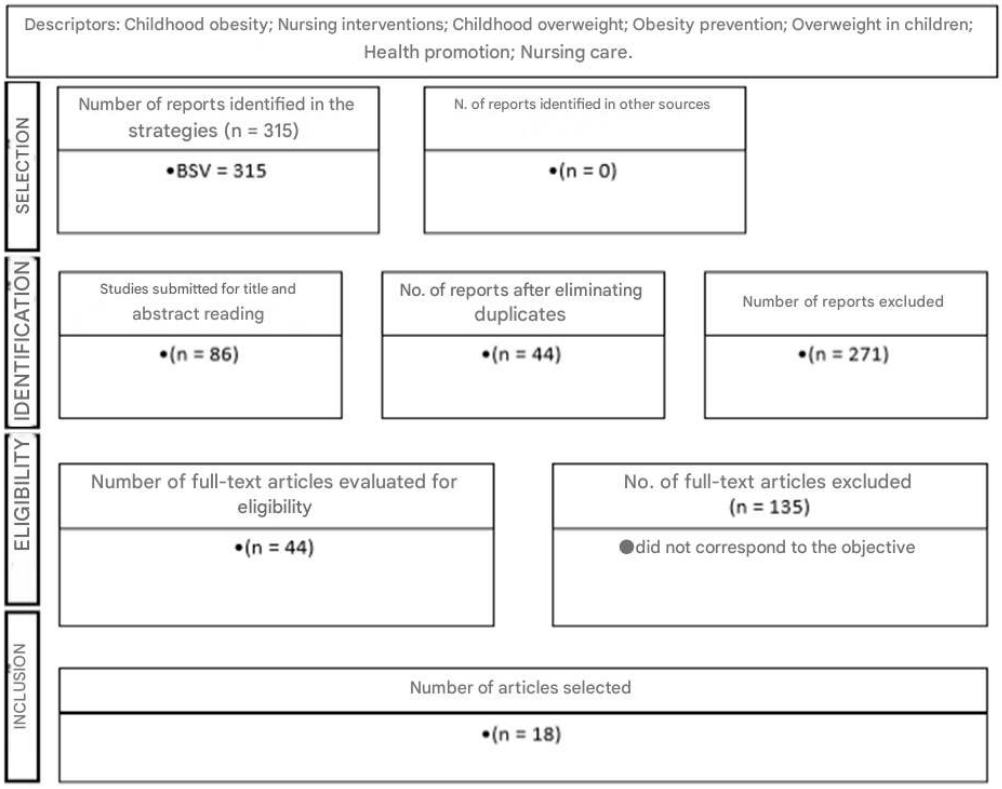
Source: Author

Thus, the delimitation of the research points was achieved through strict inclusion and exclusion criteria, careful selection of data sources, a structured process of study selection and a comprehensive analysis of the extracted data. This method ensured that the research was focused on the most relevant and impactful aspects of nursing interventions in the prevention and control of childhood obesity, which provides a solid foundation for the implementation of effective nursing strategies, promoting child health and preventing complications associated with obesity.

RESULTS

To delimit the points of investigation related to nursing interventions in the prevention and control of childhood obesity, rigorous and systematic methods were adopted. These methods ensured the inclusion of relevant and high-quality studies, providing a comprehensive understanding of the phenomenon.

Figure 1 - Descriptors



Source: Author

Three research points were chosen — sedentary lifestyles, poor diet, and psychosocial and environmental factors — because they are determinant problems widely recognized in the scientific literature and because they exert a significant and interconnected influence on childhood obesity, which will be detailed below.

SEDENTARY LIFESTYLES

Increased sedentary behavior among children and adolescents is one of the most well-documented and observable causes of childhood obesity. Studies show that time spent on sedentary activities, such as watching TV, playing video games, or using mobile devices, is directly related to increased body mass index (BMI) and the prevalence of obesity.

Lack of physical activity reduces daily energy expenditure, contributing to caloric imbalance and the accumulation of body fat. The choice of this point reflects the urgent need to promote more active lifestyles and reduce sedentary behaviour to combat childhood obesity. Below are the main negative points about lifestyle and the form of nursing intervention in these points, according to the authors researched.

Quadro 3 – Pontos Negativos e Intervenções da Enfermagem sobre estilos de vida sedentários

PONTOS NEGATIVOS	INTERVENÇÕES DE ENFERMAGEM
Aumento do Risco de Obesidade (Jardim, 2017)	Educação sobre a importância da atividade física regular
	Desenvolvimento de programas de exercícios físicos adaptados para crianças
	Monitoramento regular do índice de massa corporal (IMC)
Problemas Cardiovasculares (Corrêa *et al.*, 2020)	Promoção de atividades físicas como caminhadas, jogos ao ar livre e esportes
	Coordenação com educadores físicos para criar rotinas de atividade física nas escolas
	Orientação nutricional para promover uma dieta saudável, reduzindo alimentos ricos em gordura e açúcar
Baixa Condição Física e Muscular (Campos *et al.*, 2023)	Incentivo à prática de atividades que melhorem a força e a resistência muscular, como brincadeiras ativas e esportes
	Organização de oficinas e palestras sobre os benefícios do exercício físico
	Implementação de programas de recreação ativa em ambientes escolares e comunitários
Risco de Diabetes Tipo 2 (Mendes *et al.*, 2019)	Educação sobre a relação entre sedentarismo e diabetes
	Promoção de uma alimentação equilibrada e controle do consumo de açúcar e carboidratos refinados
	Monitoramento regular dos níveis de glicose em crianças com risco elevado
Impacto na Saúde Mental (Depressão, Ansiedade) (Medeiros *et al.*, 2012)	Promoção de atividades físicas que também favoreçam o bem-estar mental, como yoga e dança
	Criação de grupos de apoio e atividades comunitárias que incentivem a socialização através do exercício físico
	Colaboração com psicólogos para identificar e tratar questões emocionais relacionadas ao sedentarismo
Baixa Autoestima e Problemas de Imagem Corporal (Lima *et al.*, 2020)	Programas de promoção da imagem corporal positiva e autoestima
	Educação e suporte emocional para crianças e famílias sobre a importância do exercício físico para a saúde geral
	Organização de atividades em grupo que promovam a cooperação e o apoio mútuo entre as crianças
Redução do Desempenho Escolar (Ferreira *et al.*, 2021)	Implementação de pausas ativas durante o horário escolar para melhorar a concentração e o desempenho acadêmico
	Educação sobre a importância do equilíbrio entre tempo de tela e atividade física
	Promoção de jogos educativos que incorporem movimento e aprendizado simultaneamente

Fontes: Autores diversos.

The increase in sedentary behavior among children and adolescents is one of the main causes of childhood obesity, as highlighted by several studies. Authors such as Jardim (2017), Corrêa et al. (2020), Campos et al. (2023), Mendes et al. (2019), Medeiros et al. (2012), Lima et al. (2020), and Ferreira et al. (2021) demonstrate that time spent on sedentary activities is directly correlated with increased body mass index (BMI) and the prevalence of obesity, in addition to contributing to cardiovascular problems, low physical and muscular condition, risk of type 2 diabetes, mental health impacts, low self-esteem, body image problems, and reduced school performance.

In this scenario, nursing plays a fundamental role in mitigating these problems through educational, physical, and psychosocial interventions. Intervention strategies include promoting regular physical activity, developing exercise programs tailored for children, monitoring BMI, promoting outdoor activities and sports, encouraging activities that improve muscle strength, education about the relationship between sedentary lifestyle and diabetes, promoting a balanced diet, monitoring glucose levels, promotion of physical activities that favor mental well-being, programs to promote positive body image, implementation of active breaks during school hours, education on the balance between screen time and physical activity, among others.

These interventions highlight the importance of a multidimensional and collaborative approach to addressing the challenge of childhood obesity and promoting an active and healthy lifestyle among children.

POOR DIET

The quality of children's diets has a direct impact on children's health and development. Excessive consumption of foods rich in calories, sugars, fats, and sodium, and inadequate intake of essential nutrients, such as vitamins and fiber, are determining factors in the promotion of obesity.

The availability and aggressive marketing of ultra-processed foods targeting children exacerbates this problem. Choosing this point highlights the importance of nutritional interventions and policies that regulate the advertising of unhealthy foods, promote a balanced diet, and educate parents and children about healthy food choices.

Below are the negative points and possible nursing interventions identified:

Quadro 4 – Pontos Negativos e Intervenções da Enfermagem sobre má alimentação

PONTOS NEGATIVOS	INTERVENÇÕES DE ENFERMAGEM
Excesso de Peso e Obesidade (Borfe *et al.*, 2017)	Educação nutricional para crianças e pais sobre dietas equilibradas e saudáveis
	Planejamento de cardápios escolares com alimentos nutritivos e balanceados
	Monitoramento do índice de massa corporal (IMC) e aconselhamento dietético regular
Deficiências Nutricionais (Guedes *et al.*, 2019)	Avaliação dietética para identificar e corrigir deficiências de nutrientes
	Promoção do consumo de alimentos ricos em vitaminas e minerais essenciais
	Colaboração com nutricionistas para desenvolver planos alimentares personalizados
Doenças Crônicas (Diabetes, Hipertensão) (Santos *et al.*, 2023)	Educação sobre a relação entre dieta inadequada e o desenvolvimento de doenças crônicas
	Orientação para reduzir o consumo de açúcar, sal e gorduras saturadas
	Programas de rastreamento e monitoramento de sinais precoces de doenças crônicas em crianças
Problemas Digestivos (Filho *et al.*, 2020)	Orientação sobre a importância da fibra dietética para a saúde digestiva
	Incentivo ao consumo de frutas, legumes, grãos integrais e outros alimentos ricos em fibras
	Aconselhamento sobre a redução do consumo de alimentos processados e bebidas açucaradas
Impacto no Desempenho Escolar (Brandão *et al.*, 2023)	Promoção de hábitos alimentares que melhorem a concentração e o desempenho cognitivo
	Implementação de programas de alimentação saudável nas escolas, incluindo lanches nutritivos
	Educação sobre a importância do café da manhã para o rendimento escolar
Problemas de Saúde Mental (Depressão, Ansiedade) (Azevedo *et al.*, 2023)	Educação sobre a ligação entre dieta e saúde mental, promovendo uma alimentação equilibrada para o bem-estar emocional
	Promoção de alimentos que favoreçam a saúde mental, como aqueles ricos em ômega-3 e vitaminas do complexo B
	Apoio psicológico e aconselhamento para crianças e famílias sobre a alimentação e o impacto emocional
Baixa Autoestima e Imagem Corporal Negativa (Moreira Penedo *et al.*, 2023)	Educação e apoio para promover uma imagem corporal positiva através de escolhas alimentares saudáveis
	Criação de ambientes alimentares positivos e de apoio nas escolas e comunidades
	Atividades educativas que integrem nutrição e autoestima

Fontes: Autores diversos.

Poor diet is a determining factor in the promotion of childhood obesity and is directly associated with a series of health complications. Authors such as Borfe et al. (2017), Guedes et al. (2019), Santos et al. (2023), Filho et al. (2020), Brandão et al. (2023), Azevedo et al. (2023), and Moreira Penedo et al. (2023) highlight the importance of nutrition education, planning school menus, dietary assessment, promoting the consumption of nutrient-rich foods, guidance to reduce sugar consumption, salt and saturated fats, chronic

disease screening programs, encouragement of fiber consumption, promotion of eating habits that improve school performance and concentration, education on the relationship between diet and mental health, promotion of foods that favor mental health, psychological support and counseling to promote a positive body image, among other interventions.

Thus, nursing plays a vital role in the prevention and treatment of problems related to poor diet, through educational, collaborative and supportive strategies. By promoting a balanced and healthy diet from childhood, nurses can contribute significantly to the promotion of integral health and healthy development for children.

PSYCHOSOCIAL AND ENVIRONMENTAL FACTORS

Psychosocial and environmental factors are complex determinants that encompass family, socioeconomic, and community influences. The family environment, including parents' eating practices and physical activity levels, shapes children's habits.

Food insecurity can lead to poor food choices, while lack of access to safe spaces to play and exercise limits physical activity. In addition, psychological stress and social stigmatization can contribute to disordered eating behaviors. The choice of this point reflects the need for a holistic approach that addresses not only individual behaviors but also the social and environmental contexts that affect child health.

Below are the main negative points about lifestyle and the form of nursing intervention in these points, according to the authors researched.

Quadro 5 – Pontos Negativos e Intervenções da Enfermagem sobre fatores psicossociais e ambientais

PONTOS NEGATIVOS	INTERVENÇÕES DE ENFERMAGEM
Estigma e Bullying devido ao Peso (Serra *et al.*, 2018)	Educação sobre respeito à diversidade corporal e prevenção do bullying
	Apoio psicológico e orientação para lidar com situações de estigma e discriminação
	Criação de espaços seguros e inclusivos nas escolas e comunidades
Isolamento Social e Dificuldades de Integração (Barbosa *et al.*, 2020)	Promoção de atividades de grupo que incentivem a interação e a socialização
	Desenvolvimento de programas de mentoria ou apoio entre pares para crianças em situação de isolamento
	Encorajamento da participação em atividades extracurriculares e comunitárias
Pressão Familiar e Expectativas Irrealistas (Machado *et al.*, 2019)	Aconselhamento familiar sobre a importância de criar um ambiente de apoio e aceitação
	Educação sobre expectativas realistas em relação ao peso e à imagem corporal
	Promoção da comunicação aberta e do apoio mútuo dentro das famílias
Ambientes Obesogênicos (Ambientes que Favorecem a Obesidade) (Guerra *et al.*, 2016)	Advocacia por políticas públicas que promovam ambientes saudáveis em escolas e comunidades
	Educação sobre escolhas alimentares saudáveis e atividades físicas em ambientes domésticos e escolares
	Parceria com órgãos governamentais e organizações locais para melhorar a acessibilidade a alimentos nutritivos e espaços para atividades físicas
Estresse e Problemas Emocionais (Paes *et al.*, 2015)	Identificação precoce de sinais de estresse e problemas emocionais em crianças e adolescentes
	Encaminhamento para serviços de saúde mental e apoio psicológico especializado
	Desenvolvimento de estratégias de enfrentamento saudáveis e resiliência emocional
Falta de Apoio Social e Comunitário (Silva *et al.*, 2023)	Criação de redes de apoio social e comunitário para famílias e crianças em situação de vulnerabilidade
	Organização de grupos de apoio e atividades comunitárias para compartilhar experiências e recursos
	Advocacia por políticas que fortaleçam o apoio social e comunitário em áreas afetadas pela obesidade infantil

Fontes: Autores diversos.

Psychosocial and environmental factors stand out in the development and management of childhood obesity, reflecting a complex interaction between family, socioeconomic and community influences. Authors such as Serra et al. (2018), Barbosa et al. (2020), Machado et al. (2019), Guerra et al. (2016), Paes et al. (2015) and Silva et al. (2023) highlight the importance of education on respect for body diversity, bullying prevention, promotion of social interaction, family counseling, advocacy for public policies that promote healthy environments, early identification of signs of stress and emotional problems, creation of social and community support networks, among other interventions.

Thus, nursing interventions aim to address these factors holistically, promoting social inclusion, emotional support, and the creation of healthy environments. Through educational strategies, psychosocial support, and advocacy for public policies, nurses can contribute significantly to the promotion of environments favorable to children's health and well-being, thus reducing the negative impacts of psychosocial and environmental factors on childhood obesity.

DISCUSSION

The intersection between the themes of sedentary lifestyles, poor diet, and psychosocial and environmental factors in the determination of childhood obesity presents a multifaceted and interconnected view of the challenges faced in the prevention and control of this condition. Authors such as Jardim (2017), Borfe et al. (2017), Serra et al. (2018), among others, contribute to this discussion by offering insights into different aspects of childhood obesity and highlighting the importance of comprehensive and holistic nursing interventions.

For example, while Jardim (2017) highlights the need for education about the importance of regular physical activity and the development of adapted physical exercise programs for children as strategies to combat sedentary lifestyles, Borfe et al. (2017) emphasize the importance of nutritional education and the planning of school menus with nutritious and balanced foods to deal with poor diet. At the same time, Serra et al. (2018) highlight the need for education on respect for body diversity and bullying prevention to address the stigma and discrimination associated with weight.

These complementary approaches suggest that an effective intervention in the prevention and control of childhood obesity requires a combination of strategies that address not only individual behaviors, but also the social, family, and environmental contexts that influence these behaviors. Therefore, the role of nursing in this scenario must be multidimensional and comprehensive.

Nurses can play a key role in the implementation of these interventions, acting as educators, counselors, advocates, and facilitators of positive lifestyle changes for children and their families. They can work collaboratively with other health professionals, educators, parents, and communities to create health-friendly environments, promote healthy eating habits, encourage physical activity, and 12 provide emotional and psychosocial support to children at or already affected by obesity.

Therefore, by considering the points of intersection between the themes addressed in the research, nurses can develop more effective and comprehensive interventions,

contributing significantly to the prevention and control of childhood obesity and, consequently, to the promotion of children's health and well-being.

CONCLUSION

The research comprehensively addresses the complexity of childhood obesity, exploring key determinants, nursing interventions, and implications for clinical practice. Through the analysis of sedentary lifestyles, poor diet, and psychosocial and environmental factors, it was possible to highlight the interconnection between these aspects in the determination of childhood obesity.

The reviewed studies provided valuable insights into intervention strategies, highlighting the importance of education, promoting healthy habits, creating health-friendly environments, and emotional support for children and their families. Authors such as Jardim (2017), Borfe et al. (2017), Serra et al. (2018), among others, have contributed significantly to the understanding of these issues and to the development of effective approaches in the prevention and control of childhood obesity.

In the context of nursing, this research highlights the importance of the role of nurses in the promotion of child health. Through multidimensional and collaborative interventions, nurses can play a vital role in education, emotional support, nutritional guidance, promotion of physical activity, and advocacy for public policies that promote healthy environments for children.

Thus, the research contributes to a broader understanding of childhood obesity and highlights the importance of an integrated and holistic approach in preventing and managing this condition. By identifying effective practices and priority areas of intervention, the survey offers valuable insights to enhance nursing strategies, promoting children's health and well-being, and helping to combat the childhood obesity epidemic.

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