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EXCESS OF WEIGHT IN BRAZILIAN CHILDREN AND THEIR VULNERABILITY FACTORS: AN INTEGRATING REVIEW*

Excesso de peso em crianças brasileiras e seus fatores de vulnerabilidade: uma revisão integrativa

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ABSTRACT

Overweight in child embraces complex issues, and placing it exclusively as a health problem makes it difficult to identify other associated aspects, such as the state of vulnerability. This article used the adapted integrative review method to identify the vulnerability of Brazilian children to overweight from the perspective of bioethics. For the analysis of the vulnerability dimensions, it used the matrix adapted by Ayres et al., 2006, which comprises vulnerability factors in the individual, social and programmatic dimensions. In the individual dimension, biological factors, beliefs and family relationships were described. In the social dimension, gender and ethnicity relationships with access to health, education, justice, leisure and sport were described. In the programmatic dimension, public policies, comprehensiveness and equity of care, protection and promotion of human rights were described. To consider the vulnerability factors of children in relation to overweight highlight the urgency of implementing transdisciplinary public policies with a view to an ethical proposal of attitude, solidarity, mutual responsibility and respect for human dignity.

Keywords

Bioethics; Defense of the Child; Human Rights; Childhood Obesity.

RESUMO

O excesso de peso na criança compreende questões complexas, e situá-lo exclusivamente como um problema de saúde dificulta identificar outros aspectos associados, tais como o estado de vulnerabilidade. Este artigo utilizou o método de revisão integrativa adaptada com o objetivo de identificar a vulnerabilidade da criança brasileira frente ao excesso de peso na ótica da bioética. Para a análise das dimensões de vulnerabilidade, utilizou a matriz adaptada por Ayres et al. (2006), que compreende fatores de vulnerabilidade nas dimensões individual, social e programática. Na dimensão individual, foram descritos fatores biológicos, crenças e relações familiares. Na dimensão social, foram descritas relações de gênero e de etnia com acesso a saúde, educação, justiça, lazer e esporte. Na dimensão programática, foram descritas políticas públicas, integralidade e equidade da atenção, proteção e promoção de direitos humanos. Considerar os fatores de vulnerabilidade da criança frente ao excesso de peso coloca em destaque a urgência da implantação de políticas públicas transdisciplinares com vistas a uma proposta ética de atitude, solidariedade, responsabilidade mútua e respeito à dignidade humana.

Palavras-Chave

Bioética; Defesa da Criança; Direitos Humanos; Obesidade Infantil.

Introduction

Overweight in child embraces complex issues, so placing it exclusively as a health problem makes it difficult to identify other associated aspects, such as the state of vulnerability in which they find themselves. Given the insufficient conditions for the autonomy and consent of the child, ensuring his human dignity requires reflection from the perspective of his protection.

Although the concept of vulnerability is broad, this article will use the health-related vulnerability proposal - the conditions that can leave each individual or group in a situation of fragility and expose them to illness¹ -, associated with the concept stated by the Universal Declaration on Bioethics and Human Rights (DUBDH), which describes that the vulnerable must be fully protected and respected².

Cunha and Garrafa³ highlight that vulnerability is a fundamental principle when established in a continuous process of dialogue between different regional perspectives on bioethics and correlated to individuals and groups with a higher degree of risk exposure or susceptibility to injure themselves than others.

The discussion about the problem of overweight in childhood is no longer an exclusive domain of health sciences, but is also a question of human rights: on the one hand, by the principle of comprehensive protection, whose foundation is to ensure differentiated attention to children in order to mitigate any situation that prevents them from fully exercising their social rights; and, on the other hand, for the guarantee of these social rights (such as access to health), ensuring the conditions for their integral development and respect for dignity and cultural integration⁴.

The obesity condition, according to Sarmiento⁵, can be analyzed as the deprivation of these rights, taking into account the compromised child development potential and the health risks that result from it.

¹AYRES, José Ricardo de Carvalho Mesquita; CALAZANS, Gabriela Junqueira; SALETTI FILHO, Haraldo César; FRANCA JUNIOR, Ivan. Risco, vulnerabilidade e práticas de prevenção e promoção da saúde. In: CAMPOS, Gastão Wagner de Sousa; MINAYO, Maria Cecília de Souza; AKERMAN, Marco; DRUMOND JÚNIOR, Marcos; CARVALHO, Yara Maria de (Orgs.). *Tratado de saúde coletiva*. Rio de Janeiro: Hucitec; Fiocruz, 2006. (Saúde em debate, 170).

²ORGANIZAÇÃO DAS NAÇÕES UNIDAS PARA A EDUCAÇÃO, A CIÊNCIA E A CULTURA - UNESCO. *Declaração Universal sobre Bioética e Direitos Humanos*. 2005. Available at: <http://unesdoc.unesco.org/images/0014/001461/146180por.pdf>. Accessed on: 02 Nov. 2017.

³CUNHA, Thiago; GARRAFA, Volnei. *Vulnerability: a key principle for global bioethics?* Cambridge Quarterly of Healthcare Ethics, v. 25, n. 2, p. 197-208, 2016. <https://doi.org/10.1017/S096318011500050X>.

⁴ROSANELI, Caroline Filla; SILVA, Dillian Adelaine Cesar. Publicidade e comercialização de alimentos para lactentes e crianças de primeira infância: regulação como responsabilidade do Estado brasileiro. *Revista Iberoamericana de Bioética*, n. 7, p. 1-11, 2018. Available at: <https://revistas.upcomillas.es/index.php/bioetica-revista-iberoamericana/article/view/8373/8348>. Accessed on: 03 Jul. 2018.

⁵SARMIENTO, Pedro. Bioética e infancia: compromiso ético con el futuro. *Persona y Bioética*, v. 14, n. 1, p. 10-29, ene./jun. 2010. Available at: <http://www.redalyc.org/articulo.oa?id=83215670002>. Accessed on: 02 Nov. 2017.

The alarming dimension of childhood obesity in the world has led it to be considered as a situation with epidemic proportions, evidenced in a report by the World Health Organization (WHO) and the Pan American Health Organization (PAHO)⁶, which estimated that 41 million of children under 5 years of age were overweight and obese in 2016.

There are several reports from international organizations that corroborate this perspective⁷, whose contents portray the rapid evolution of the number of obese children and the increase in these records, mainly in countries with low socio-economic development. It is estimated that the number of obese children worldwide doubled between 1990 and 2014, from 7.5 million to 15.5 million. In 2013, the total number of children under 5 years of age with overweight was 3.9 million, which represented 7.2% of the population in this age group, with 2.5 million of them in South America, 1.1 million in Central America and 200 thousand in the Caribbean⁸.

According to Dratch et al.

Overweight in childhood increases the vulnerability and fragility of this phase of the life-cycle, as the health conditions of an obese child may require permanent care and continuous treatment throughout his life⁹.

There are countless aspects that are vulnerable to the issue of overweight in childhood. In the health dimension, in which much is investigated, one of the risks resulting from being overweight is the development of metabolic, cardiovascular, orthopedic, neurological, liver, lung and kidney diseases, in addition to changes in cardiorespiratory fitness indexes and non-chronic communicable diseases, such as diabetes and systemic arterial hypertension^{10,11,12}.

⁶WORLD Health Statistics 2016: monitoring health for the SDGs, sustainable development goals. *World Health Organization*, Global Health Observatory (GHO) data, 2016. Available at: http://www.who.int/gho/publications/world_health_statistics/2016/en/. Accessed on: 18 Sep. 2018.

⁷*Id. Ibid.*

⁸ORGANIZAÇÃO DAS NAÇÕES UNIDAS PARA A ALIMENTAÇÃO E A AGRICULTURA – FAO; ORGANIZAÇÃO PAN-AMERICANA DA SAÚDE – OPAS. *América Latina e o Caribe: panorama da segurança alimentar e nutricional*. Santiago, FAO e OPAS, 2017. Available at: <http://www.fao.org/3/a-i6977o.pdf>. Accessed on: 18 Sep. 2018.

⁹DRATCH, Carolina Bulgacov; ROSANELI, Caroline Filla; SILVA, Dillian Adelaine Cesar; CUNHA, Thiago Rocha da; BISCIONI, Diego Nicolás. Considerações éticas acerca da proteção da infância frente à prevalência de excesso de peso. *Revista Brasileira de Bioética*, v. 14, n. e-3, p. 2. Available at: <https://periodicos.unb.br/index.php/rbb/article/view/11428/10064>. Accessed on: 18 Sep. 2018. <https://doi.org/10.26512/rbb.v14i0.11428>.

¹⁰SOCIEDADE BRASILEIRA DE PEDIATRIA - SBP. *Obesidade na infância e adolescência*. Manual de Orientação – Departamento Científico de Nutrologia. 2. ed. São Paulo: SBP, 2012. 142p. Available at: http://www.sbp.com.br/fileadmin/user_upload/publicacoes/14297c1-man_nutrologia_completo.pdf. Accessed on: 25 Nov. 2017.

¹¹BORFE, Leticia et al. Associação entre a obesidade infantil e a capacidade cardiorrespiratória: revisão sistemática. *Revista Brasileira em Promoção da Saúde*, Fortaleza, v. 30, n. 1, p. 118-124, jan./mar. 2017. Available at: <https://periodicos.unifor.br/RBPS/article/download/5598/pdf>. Accessed on: 26 Nov. 2017. <https://doi.org/10.5020/18061230.2017.p118>.

¹²GOMES, Inês. A obesidade e a hipertensão arterial em idade pediátrica – a propósito de uma população em crescimento [Comentário editorial]. *Rev Port Cardiol.*, Sociedade Portuguesa de Cardiologia, v. 36, n. 10, p. 707-708, out. 2017. <https://www.revportcardiol.org/pt-pdf-S0870255117304651>. <https://doi.org/10.1016/j.repc.2017.06.004>.

The aim of this article was to analyze the vulnerability factors of Brazilian children to overweight, proposing a discussion on the subject from a bioethical perspective.

Method

It is an integrative review of the literature under the focus of Souza et al. adapted¹³. The review was divided into six phases: (i) elaboration of the guiding question; (ii) searching or sampling in the literature; (iii) data collection; (iv) critical analysis of the included studies; (v) discussion of results; and (vi) presentation of the conclusions of the integrative review. To guide this study, the following question was asked: What are the vulnerabilities of Brazilian childhood to overweight?

The descriptors used were: “public policy”; “health promotion”; “health policy”; “child”; “obesity”; “overweight”; “intervention policy”; national food policy”; “policy”; and “food”. The combinations between the descriptors were as follows: “public policy” and “health promotion” and “health policy” and “child” and “obesity” or “overweight”; “intervention policy” and “national food policy” and “obesity” or “overweight”; “policy” and “food” and “obesity”. From these combinations, a total of 98 studies were found. Then, the titles and abstracts were read to determine whether the research found dealt with the subject in question.

The survey of bibliographic material, carried out from October to November 2017, was in the databases of Scientific Electronic Library Online Brasil (SciELO) and the Virtual Health Library (VHL, Ministry of Health, Brazil). The survey mapping, including descriptors and inclusion and exclusion criteria, is described in Figure 1.

To discuss the theme of vulnerability, this article adopted the Universal Declaration on Bioethics and Human Rights¹⁴, and, for the dimensions of the vulnerability analyzes, it used the vulnerability matrix adapted by Ayres et al.¹⁵, which includes: individual, social and programmatic vulnerability factors.

¹³SOUZA, Marcela Tavares de; SILVA, Michelly Dias da; CARVALHO, Rachel de. Revisão integrativa: o que é e como fazer. *Einstein*, São Paulo, v. 8, n. 1, p. 102-106, mar. 2010. Available at: <https://doi.org/10.1590/s1679-45082010rw1134>. Accessed on: 02 Nov. 2017. <https://doi.org/10.1590/s1679-45082010rw1134>.

¹⁴ORGANIZAÇÃO DAS NAÇÕES UNIDAS PARA A EDUCAÇÃO, A CIÊNCIA E A CULTURA – UNESCO. *Declaração Universal sobre Bioética e Direitos Humanos*. 2005, cit.

¹⁵AYRES, José Ricardo de Carvalho Mesquita; CALAZANS, Gabriela Junqueira; SALETTI FILHO, Haraldo César; FRANCA JUNIOR, Ivan. Risco, vulnerabilidade e práticas de prevenção e promoção da saúde, cit.

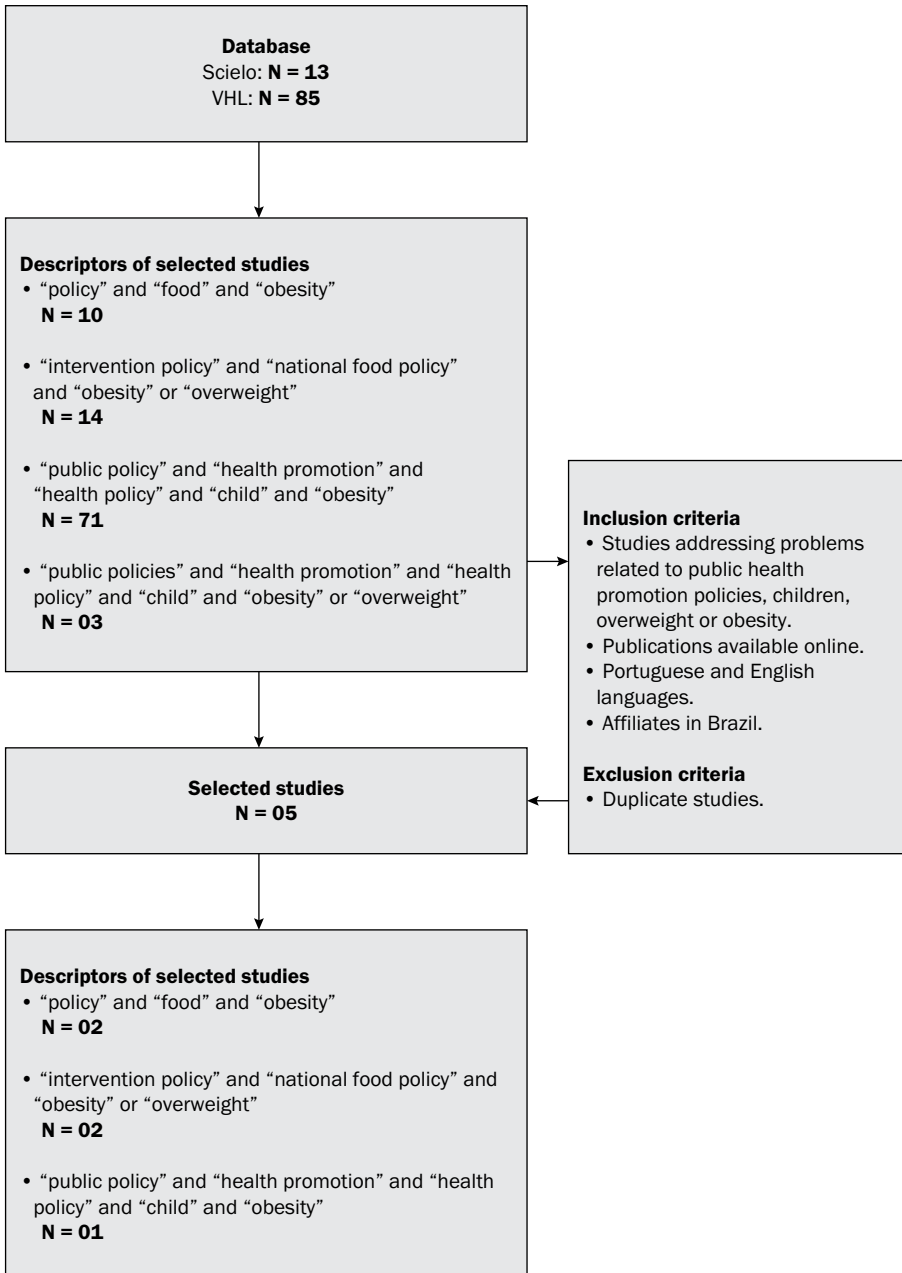


Figure 1. Selection process of studies in databases

Results and discussion

The articles used were presented sequentially, according to the year of publication in decreasing order (Table 1).

Table 1. Characterization of articles regarding titles, authors, year of publication and journals or institutions

N.	Title	Authorship	Year of publication	Journal
1	Publicidade de alimentos para crianças e adolescentes: desvelar da perspectiva ética no discurso da autorregulação.	SILVA, D. A. C.; CUNHA, A. C. R.; CUNHA, T. R.; ROSANELLI, C. F.	2017	<i>Revista Ciência & Saúde Coletiva</i> ; 22(7): 2187-2196, 2017.
2	Políticas Públicas de Intervenção na Obesidade Infantil no Brasil: uma breve análise da Política Nacional de Alimentação e Nutrição e Política Nacional de Promoção da Saúde.	PIMENTA, T. A.; ROCHA, R; MARCONDES, n. A. V.	2015	<i>Unopar Científica Ciências Biológicas e da Saúde</i> ; 17(2):139-46, 2015.
3	A efetividade de intervenções de educação nutricional nas escolas para prevenção e redução do ganho excessivo de peso em crianças e adolescentes: uma revisão sistemática.	SILVEIRA, J. A. C; TADDEI, J. A. A. C; GUERRA, p. H; NOBRE, M. R. C.	2011	<i>Jornal de Pediatria</i> ; vol. 87, nº 5, 2011.
4	Políticas Públicas de nutrição para o controle da obesidade infantil.	REIS, C. E. G; VASCONCELOS, I. A. L; BARROS, J. F. N.	2011	<i>Revista Paulista de Pediatria</i> ; 29(4): 625-33, 2011.
5	A desnutrição e obesidade infantil no Brasil: o enfrentamento com base na agenda única da nutrição.	COUTINHO, J. G; GENTIL, p. C; TORAL, N.	2008	<i>Caderno de Saúde Pública</i> , Rio de Janeiro; 24 Sup 2:s332-s340, 2008.

The analysis of the studies allowed the identification of different vulnerability factors of the Brazilian child in relation to overweight, sometimes found in a

common way among the studies and, at other times, collaborating with the research. The factors identified in the study are presented in Table 2, subdivided into categories for analysis and discussion.

Table 2. Main vulnerability factors found in the studies.

Categorization	Vulnerability factors	Reference articles (Table 1)
Individual vulnerability	Long-term biological factors, disease risk and health complications.	2; 3; 4; 5.
	Family culture and inadequate food consumption.	2; 4; 5.
	Physical inactivity.	2; 4.
	Lack of skills development that expand autonomy in food choices and the preparation of healthy meals.	4; 5.
Social vulnerability	Relationship between obesity and poverty.	2; 3; 4.
	Involvement of parents, guardians, society and government in food and nutrition education actions.	3; 4.
Programmatic vulnerability	Lack of regulation of food advertising by the state, implementation and enforcement of laws and regulations to control childhood obesity in Brazil.	1; 2; 4; 5.
	Health policy aimed at addressing immediate and specific situations with a sectoral character.	2; 5.
	Expressive cost with the obese individual (hospital, outpatient, laboratory).	2; 5.
	Weaknesses in food and nutrition education actions.	3; 4; 5.

I. Individual vulnerability

According to Ayres et al.¹⁶, individual vulnerability is characterized by factors that contribute to the worsening of the child's health, including biological and behavioral factors, values, beliefs, attitudes, family relationships and psycho-emotional situation. In this dimension, the individual vulnerability of the child may be influenced by the absence or insufficiency of continuous sustaining relationships,

¹⁶AYRES, José Ricardo de Carvalho Mesquita; CALAZANS, Gabriela Junqueira; SALETTI FILHO, Haraldo César; FRANCA JUNIOR, Ivan. Risco, vulnerabilidade e práticas de prevenção e promoção da saúde, *cit.*

that is, relationships that grant the child the development of a sense of trust and protection of himself and of his environment¹⁷.

Regarding biological factors, it was observed that one of the most worrying risks of vulnerability to overweight in childhood is the fact that it persists in adulthood, accompanied by long-term health damage. The main consequences associated with childhood overweight are the increase of cardiovascular diseases, hypertension, type 2 diabetes mellitus, hepatic steatosis and disorders resulting from social stigmatization^{18,19,20,21,22,23}.

The Brazilian Guidelines of Obesity (2016) indicate that, in the development of child, there are situations that are frequently associated with obesity, such as: parental obesity, sedentariness, birth weight, breastfeeding and other factors related to growth. Breastfeeding is seen as a protective factor of this situation²⁴.

According to Rosaneli et al.²⁵, the increase in chronic non-communicable diseases (NCDs) and their complications represent an important challenge to public health policies, but also an ethical issue for all spheres of society, as it has a strong social, economic and in quality of life on this and future generations.

¹⁷ SILVA, Daniel Ignacio da; CHIESA, Anna Maria; RAMALLO VERÍSSIMO, Maria de La Ó; MAZZA, Verônica de Azevedo. Vulnerabilidade da criança diante de situações adversas ao seu desenvolvimento: proposta de matriz analítica. *Revista da Escola de Enfermagem da USP*, São Paulo, v. 47, n. 6, p. 1397-1402, dez. 2013. Available at: <http://www.scielo.br/pdf/reeusp/v47n6/0080-6234-reeusp-47-6-01397.pdf>. Accessed on: 18 Sep. 2018. <https://doi.org/10.1590/S0080-62342013000600021>.

¹⁸ PUHL, Rebecca M.; LATNER, Janet. D. Stigma, Obesity, and the Health of the Nation's Children. *Psychol Bull.*, v. 133, n. 4, p. 557-580, July 2007. <https://doi.org/10.1037/0033-2909.133.4.557>.

¹⁹ SILVEIRA, Jonas A. C.; TADDEI, José A. A. C.; GUERRA, Paulo H.; NOBRE, Moacyr R. C. A efetividade de intervenções de educação nutricional nas escolas para prevenção e redução do ganho excessivo de peso em crianças e adolescentes: uma revisão sistemática. *J. Pediatr.*, Rio de Janeiro, v. 87, n. 5, p. 382-392, set./out. 2011. Available at: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0021-75572011000500004. Accessed on: 02 Nov. 2017. <https://doi.org/10.1590/S0021-75572011000500004>.

²⁰ RIVERA, Juan Angel et al. Childhood and adolescent overweight and obesity in Latin America: a systematic review. *Lancet Diabetes Endocrinol.*, v. 2, n. 4, p. 321-332, Apr. 2014. [https://doi.org/10.1016/S2213-8587\(13\)70173-6](https://doi.org/10.1016/S2213-8587(13)70173-6).

²¹ ROSANELI, Caroline Filla; SPINELLI Silvia Moro Conque; CUNHA Thiago. Bioética e infância: a alimentação como referência na atenção à saúde. *Revista Iberoamericana Bioética*, n. 2, p. 1-10, 2016. Available at: <https://revistas.upcomillas.es/index.php/bioeticarevistaiberoamericana/article/view/7340>. Accessed on: 03 Nov. 2017.

²² MALLAN, Kimberley Mallan; DANIELS, Lynne A.; NICHOLSON, Jan M. Obesogenic eating behaviors mediate the relationships between psychological problems and BMI in children. *Obesity* (Silver Spring), v. 25, n. 5, p. 928-934, 2017. <https://doi.org/10.1002/oby.21823>.

²³ PAZIN, Daiane Cristina et al. Circunferência da cintura está associada à pressão arterial em crianças com Índice de Massa Corpórea normal: avaliação transversal de 3417 crianças escolares. *Arq. Bras. Cardiol.*, São Paulo, v. 109, n. 6, p. 509-515, dez. 2017. Available at: http://www.scielo.br/pdf/abc/v109n6/pt_0066-782X-abc-20170162.pdf. Accessed on: 10 Sep. 2018. <https://doi.org/10.5935/abc.20170162>.

²⁴ ASSOCIAÇÃO BRASILEIRA PARA O ESTUDO DA OBESIDADE E DA SÍNDROME METABÓLICA - ABESO. *Diretrizes brasileiras de obesidade*. 4. ed. São Paulo, 2016. Available at: <http://www.abeso.org.br/uploads/downloads/92/57fcc403e5da.pdf>. Accessed on: 03 Nov. 2017.

²⁵ ROSANELI, Caroline Filla; SPINELLI Silvia Moro Conque; CUNHA Thiago. *op. cit.*, p. 1-10.

Other biological factors identified in the studies were excessive weight gain in the first years of life, intrauterine growth retardation and intrauterine malnutrition. Coutinho et al.²⁶, consider that excessive weight gain in the first years of life and intrauterine malnutrition have been associated with increased risk for obesity, hypertension, metabolic syndrome, insulin resistance and morbidity and mortality in adulthood. For these authors, the obesity cycle starts in intrauterine malnutrition; they consider that the prenatal care of pregnant women should be prioritized in primary health care, as well as exclusive breastfeeding until the sixth month and complementary until the 2 years of age of the baby. Every child has the right to breastfeed, and every mother has the right to breastfeed. The child's right to breastfeeding is provided for the Article 9 of the Statute of the Child and Adolescent (Law No. 8.069/1990)²⁷. However, there is a contradiction in the guarantee this child protection when item XIII of Article 611-B of Law no. 13,467/2017, which "Alters the Consolidation of Labor Laws", describes that "the pregnant employee is entitled to maternity leave of one hundred and twenty days"²⁸. Thus, it is understood that the discrepancy of the time available for the working mother to breastfeed is an important vulnerability factor, which hurts the child's rights and can contribute to overweight in early life cycles.

Breastfeeding is one of the fundamental dimensions of women's health care and child protection, and it is the duty of the State to guarantee the conditions so that, if the woman chooses and can breastfeed, the act takes place with safety and dignity. It is also the duty of society to respect the rights of women and children²⁹.

For Rosaneli et al.³⁰, some complex factors - such as the undue influence of advertising, the early return of the mother to work, guidance and monitoring by health services below what is necessary - directly contribute to low breastfeeding

²⁶COUTINHO, Janine Giuberti; GENTIL, Patrícia Chaves; TORAL, Natacha. A desnutrição e obesidade no Brasil: o enfrentamento com base na agenda única da nutrição. *Cad. Saúde Pública*, Rio de Janeiro, v.24, suppl.2, p.s332-s340, 2008. Available at: <http://www.scielo.br/pdf/csp/v24s2/18.pdf>. Accessed on: 27 Nov. 2017. <https://doi.org/10.1590/S0102-311X2008001400018>.

²⁷BRASIL. *Lei n. 8.069, de 13 de julho de 1990*. Dispõe sobre o Estatuto da Criança e do Adolescente e dá outras providências. Available at: https://www.planalto.gov.br/ccivil_03/leis/L8069.htm. Accessed on: 03 Nov. 2017.

²⁸BRASIL. *Lei n. 13.467, de 13 de julho de 2017*. Altera a Consolidação das Leis do Trabalho (CLT), aprovada pelo Decreto-Lei no 5.452, de 1º de maio de 1943, e as Leis 6.019, de 3 de janeiro de 1974, 8.036, de 11 de maio de 1990, e 8.212, de 24 de julho de 1991, a fim de adequar a legislação às novas relações de trabalho. Available at: http://www.planalto.gov.br/ccivil_03/_ato2015-2018/2017/lei/L13467.htm. Accessed on: 02 Dec. 2017.

²⁹LIMA, Isabel Maria Sampaio de Oliveira; LEÃO, Thiago Marques; ALCANTARA, Miriã Alves Ramos. Proteção legal à amamentação, na perspectiva da responsabilidade da família e do estado no Brasil. *Revista Direito sanitário, São Paulo*, 14, n. 3, p. 66-90, nov. 2013/fev. 2014. Available at: <http://www.revistas.usp.br/rdisan/article/view/75649/79186>. Accessed on: 27 Nov. 2017. <https://doi.org/10.11606/issn.2316-9044.v14i3p66-90>.

³⁰ROSANELI, Caroline Filla; SILVA, Dillian Adelaine Cesar. *op. cit.*, p. 1-11.

rates and inadequate complementary feeding. In turn, these factors can contribute to the development of obesity and other chronic diseases related to poor diet.

Regarding the vulnerability factors related to behavior, attitudes and family relationships, the following were identified in the studies: inadequate food consumption in the first years of life, physical inactivity, lack of appreciation of food culture, lack of development of skills that expand autonomy in healthy food choices and eating done away from home^{31,32,33,34}.

As well as the absence of exclusive breastfeeding until the sixth month, the early and inadequate introduction of solid and unhealthy foods, such as chocolate milk, sugar, cookies and other treats, may be associated with childhood obesity³⁵. In this sense, it is evident the need for such vulnerability factors to be included in the discussion agenda of specific public policies for prevention and protection, as well as in the care of overweight children.

In the past, Brazil was marked by public policies to combat hunger and malnutrition that possibly did not predict the occurrence of a transition from the nutritional profile of the population from malnutrition to obesity. Brazilian policies to combat hunger have unfortunately failed to reach the roots of the problem, which are misery and basic sanitary difficulties of housing, health, life and well-being³⁶. Currently, policies related to malnutrition of the population are being discussed, the main causes of which include the population's difficulty to access a quality food, that is, with less ultra-processed food, and physical inactivity of children and adults, which often occurs due to the lack of time and space, as well as the lack of public security in public spaces intended for this purpose.

In this context, the social and health areas are committed to paying attention to this reality, unveiling and understanding the contradictions inherent to

³¹COUTINHO, Janine Giuberti; GENTIL, Patrícia Chaves; TORAL, Natacha. *op. cit.*, p. s332-s340.

³²REIS, Caio Eduardo G.; VASCONCELOS, Ivana Aragão L. BARROS, Juliana Farias de n. Políticas públicas de nutrição para o controle da obesidade infantil. *Rev. paul. pediatr.* [online]. v.29, n.4, p.625-633, 2011. Available at: http://www.scielo.br/scielo.php?pid=S0103-05822011000400024&script=sci_abstract&lng=pt. Accessed on: 02 Nov. 2017.

³³PIMENTA, Teófilo Antonio Máximo; ROCHAB, Renato; MARCONDES, Nilsen Aparecida Vieira. Políticas públicas de intervenção na obesidade infantil no Brasil: uma breve análise da Política Nacional de Alimentação e Nutrição e Política Nacional de Promoção da Saúde. *UNOPAR Ciênc Biol Saúde*, v. 17, n. 2, p. 139-146, 2015. Available at: <http://pgsskroton.com.br/seer/index.php/JHealthSci/article/view/305/286>. Accessed on: 27 Nov. 2017.

³⁴ROSANELI, Caroline Filla; SILVA, Dillian Adelaine Cesar. *op. cit.*, p. 1-11.

³⁵MINISTÉRIO DA SAÚDE – MS. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. *Dez passos para uma alimentação saudável: guia alimentar para crianças menores de dois anos: um guia para o profissional da saúde na atenção básica*. 2. ed. 2. reimpr. Brasília-DF: Ministério da Saúde, 2015. Available at: http://bvsms.saude.gov.br/bvs/publicacoes/guia_dez_passos_alimentacao_saudavel_2ed.pdf. Accessed on: 18 Sep. 2018.

³⁶SANTOS, Andreia Mendes; SCHERER, Patrícia Teresinha. Política alimentar brasileira: fome e obesidade, uma história de carências. *Textos & Contextos*, Porto Alegre, v. 11, n. 1, p. 92-105, jan./jul. 2012. Available at: <http://revistaseletronicas.pucrs.br/ojs/index.php/fass/article/view/10777/8063>. Accessed on: 14 May. 2019.

malnutrition and obesity so that public policies are discussed and implemented with the main objective of allowing individuals the possibility to reflecting on their food choices and their ways of life.

According to Santos et al.³⁷, part of the Brazilian population “eats in an wrong and unbalanced way, even if unintentionally, motivated essentially by ignorance and other conditions, generating a picture of obesity and also malnutrition”, which justifies the expansion of the fight against hunger in Brazil and also against poor diet and obesity. These are paradoxes that accompany the epidemiological indicators of Brazilian children and that violate the rights and security of a dignified and healthy life. For Santos³⁸, obesity is “one of the expressions of the social issue, as it denounces symptoms of the Brazilian population”. But contemporary contradictions in access to and consumption of food make both obesity and malnutrition an important form of violation against human existence, as they also kill for irregular access to inappropriate foods to life.

To tackle the coexistence of malnutrition, poor diet and overweight is a huge challenge, requiring integrated and multisectoral actions, because the inequities in which these diseases are rooted require strategies and policies that are concerned with the social determinants of health in the prevention and reduction of inequalities. In addition, these inequalities significantly violate ethnic minority populations, and possible confrontations need to privilege fundamental human rights, such as access to food security, health, education and employment³⁹.

Still in the individual dimension, it is understood that the vulnerability factors discussed in this chapter also depend on the child’s relationship with their caregivers or guardians, since the individual child protection depends on care initiated during prenatal care, health care and in the prevention of harm to the child, in the food pattern offered and in the exposure to harmful agents or situations⁴⁰. The intergenerational influence of eating habits and inadequate health care can be recognized as an element of individual vulnerability when investment in maternal health care is considered a protective factor for the health of future generations⁴¹.

Thus, ensuring the potential of a healthy life to childhood becomes ethically imperative as diseases related to the way of life are potentially preventable⁴².

³⁷SANTOS, Andreia Mendes; SCHERER, Patrícia Teresinh, *op. cit.*

³⁸SANTOS, Andréia Mendes dos. O excesso de peso da família com obesidade infantil. *Textos & Contextos*, Porto Alegre, n. 2, p. 1-10, dez. 2003. Available at: <http://revistaseletronicas.pucrs.br/fo/ojs/index.php/fass/article/download/964/744>. Accessed on: 14 May. 2019.

³⁹PEREZ-ESCAMILLA, Rafael et al. Nutrition disparities and the global burden of malnutrition. *BMJ*, n. 36, p. K2252, 2018. Available at: <https://www.bmj.com/content/361/bmj.k2252.long>. Accessed on: 15 May. 2019.

⁴⁰SILVA, Daniel Ignacio da; CHIESA, Anna Maria; RAMALLO VERÍSSIMO, Maria de La Ó; MAZZA, Verônica de Azevedo. *op. cit.*, p. 1397-1402.

⁴¹BHALOTRA, Sonia; RAWLINGS, Samantha B. Intergenerational persistence in health in developing countries: the penalty of gender inequality? *Journal of Public Economics*. Amsterdam, v. 95, n. 3-4, p. 286-299, 2011. <https://doi.org/10.1016/j.jpubeco.2010.10.016>.

⁴²ROSANELI, Caroline Filla; SPINELLI Sílvia Moro Conque; CUNHA Thiago. *op. cit.*, p. 1-10.

II. Social Vulnerability

For Ayres et al.⁴³, social vulnerability refers to social norms, gender relations, ethnic relations, relations between generations, religious conduct and beliefs, social support, access to health, access to education, access to justice, access to culture, leisure and sport, access to media, political participation and citizenship.

In the social dimension, among other factors, the relationship between obesity and poverty was identified as a vulnerability factor for overweight in children, which must be analyzed by all actors involved in child care and protection, that is, the State, society and caregivers. Brazil, like other developing countries, is going through a process of nutritional transition of the population, which is reflected in the increasing prevalence of overweight and obesity. Developing countries have four times more children with overweight or obesity when compared to developed nations^{44,45,46}. Corroborating this comparison between countries, Reis et al.⁴⁷ identified that overweight tends to be more frequent in urban areas than in rural areas, particularly in the North, Northeast and Midwest regions of Brazil.

The Report of the Commission on Ending Childhood Obesity⁴⁸ released that, due to globalization and urbanization, many children are growing up in environments that encourage weight gain and obesity. Among the factors that favor excessive weight gain, cites the commercialization of unhealthy foods and drinks. The report also indicates that overweight is increasing in high, middle and low income countries and in all socioeconomic groups, and that the biggest increase occurs in low and middle-income countries.

Considering that eating practices established in childhood tend to maintain themselves in adulthood, the implementation of regulatory strategies is fundamental to promote environments that stimulate and enable healthier food choices. In this sense, Henriques et al.⁴⁹ analyzed the policies for the prevention and control of childhood obesity in Brazil and identified that the disputes of interests for the implementation of actions to protect the epidemic status of Brazilian children have

⁴³ AYRES, José Ricardo de Carvalho Mesquita; CALAZANS, Gabriela Junqueira; SALETTI FILHO, Haraldo César; FRANCA JUNIOR, Ivan. Risco, vulnerabilidade e práticas de prevenção e promoção da saúde, *cit.*

⁴⁴ COUTINHO, Janine Giuberti; GENTIL, Patrícia Chaves; TORAL, Natacha. *op. cit.*, p. s332-s340.

⁴⁵ SILVEIRA, Jonas A. C.; TADDEI, José A. A. C.; GUERRA, Paulo H.; NOBRE, Moacyr R. C. *op. cit.*, p. 382-392.

⁴⁶ REIS, Caio Eduardo G.; VASCONCELOS, Ivana Aragão L.; OLIVEIRA, Odeth Maria., *op. cit.*

⁴⁷ *Id. Ibid.*

⁴⁸ RELATÓRIO da Comissão pelo Fim da Obesidade Infantil busca reverter aumento de sobrepeso e obesidade. *OPAS Brasil*, 05 fev. 2016. Available at: https://www.paho.org/bra/index.php?option=com_content&view=article&id=4997:relatorio-da-comissao-pelo-fim-da-obesidade-infantil-busca-reverter-aumento-de-sobrepeso-e-obesidade&Itemid=820. Accessed on: 18 Sep. 2018.

⁴⁹ HENRIQUES, Patrícia; O'DWYER, Gisele; DIAS, Patrícia Camacho; BARBOSA, Roseane Moreira Sampaio; BURLANDY, Luciene. Políticas de Saúde e de Segurança Alimentar e Nutricional: desafios para o controle da obesidade infantil. *Ciênc. saúde coletiva*, Rio de Janeiro, v. 23, n. 12, p. 4143-4152, dez. 2018. Available at: <http://www.scielo.br/pdf/csc/v23n12/1413-8123-csc-23-12-4143.pdf>. Accessed on: 14 May. 2019. <https://doi.org/10.1590/1413-812320182312.34972016>.

opposite outcomes, being more in synergy with food production, commercialization and consumption than with health and food and nutritional security promoted in defense of childhood.

Ferreira et al.⁵⁰ defend the need for a theoretical deepening of the problem of overweight in the less favored classes for the development of specific public policies for the prevention and control of obesity. The prevention of overweight requires the collective confrontation of behavioral, biological, environmental, social and demographic drivers, from the individual level to the population level, paying close attention to equity⁵¹. This deepening can be carried out within ethical issues related to problems that include the vulnerability risk factors and the conflicts in public health. As a theoretical anchor, the subjects can be widely discussed by bioethics in order to broaden the dialogue and mediate the defense of rights and the protection of the individuals. Governance and citizenship need to be debated and empowered in the less favored individuals.

In this regard, Article 3 of the Universal Declaration on Bioethics and Human Rights, which deals with “Human dignity and human rights”, describes that “1) Human dignity, human rights and fundamental freedoms must be fully respected; 2) The interests and well-being of the individual must take precedence over the exclusive interest of science or society”⁵². Therefore, it is essential that the child be seen as possessing human dignity so that his rights are guaranteed and protected and, when inserted in social relations, can be considered in his individuality, but also in the collective.

In Dutra’s analysis, infant food consumption is composed of several meanings involving different social actors, expressing “the conflict inaugurated between growing child autonomy and the hegemonic discourse regulating the practices and worldviews of our institutions, as well as of civil society”⁵³.

It is necessary to make decisions that protect and promote a healthy childhood, which has ethical support, because the food problem is managed by the mode of organization of modern society, which favors profit over respect for human life^{54, 55}.

⁵⁰ FERREIRA, Vanessa Alves; MAGALHAES, Rosana. Obesidade entre os pobres no Brasil: a vulnerabilidade feminina. *Ciênc. saúde coletiva*, Rio de Janeiro, v. 16, n. 4, p. 2279-2287, abr. 2011. Available at: <http://www.scielo.br/pdf/csc/v16n4/v16n4a27.pdf>. Accessed on: 20 Nov. 2017. <https://doi.org/10.1590/S1413-81232011000400027>.

⁵¹ PEREZ-ESCAMILLA, Rafael et al. *op. cit.*

⁵² ORGANIZAÇÃO DAS NAÇÕES UNIDAS PARA A EDUCAÇÃO, A CIÊNCIA E A CULTURA – UNESCO. *Declaração Universal sobre Bioética e Direitos Humanos*. 2005, *cit.*

⁵³ DUTRA, Rogéria Campos de Almeida. Consumo alimentar infantil: quando a criança é convertida em sujeito. *Soc. estado.*, Brasília, v. 30, n. 2, p. 451-469, ago. 2015. Available at: <http://www.scielo.br/pdf/se/v30n2/0102-6992-se-30-02-00451.pdf>. Accessed on: 14 May. 2019. <https://doi.org/10.1590/S0102-699220150002000009>. p. 411.

⁵⁴ ROSANELI, Caroline Filla; SILVA, Dillian Adelaine Cesar. *op. cit.*, p. 1-11.

⁵⁵ ROSANELI, Caroline Filla; SPINELLI Sílvia Moro Conque; CUNHA Thiago. *op. cit.*, p. 1-10.

A study developed by Silveira et al.⁵⁶ found that the effectiveness of nutritional education in schools to prevent and reduce weight gain in children and adolescents is directly associated with the time of intervention of the activities, being also conditioned to the involvement of parents, the introduction of nutritional education in the regular curriculum and the supply of fruits and vegetables by the school's food services^{57, 58,59}.

The public policies adopted in defense of access to food should prioritize that it is safe in quality and quantity and be endowed with unique characteristics that welcome childhood. The challenge of public policies will be to find ways to make children and their healthy development a first-rate imperative in their planning and management. Not by chance, the Sustainable Development Goals⁶⁰ determine food security and nutrition improvement as a goal for the global agenda for the coming years.

Thus, it is evident that the socioeconomic situation and the involvement of parents, guardians, society and the State in food and nutrition education actions represent the support for the effectiveness of actions to promote the child's health and the prevention of nutritional problems, caused by overweight in childhood, and still guarantees the child's access to citizenship and human rights.

III. Programmatic vulnerability

To Ayres et al.⁶¹, programmatic vulnerability refers to government commitment, specific public policies, policy planning and evaluation, social participation in the planning and evaluation, human and material resources for policies, governability, social control, policy sustainability, quality of services, comprehensive care, equity of care, multidisciplinary teams, interdisciplinary approaches, the integration between prevention, promotion and assistance, the techno-scientific preparation of teams, respect, protection and promotion of human rights.

⁵⁶SILVEIRA, Jonas A. C.; TADDEI, José A. A. C.; GUERRA, Paulo H.; NOBRE, Moacyr R. C. *op. cit.*, p. 382-392.

⁵⁷CERVATO-MANCUSO, Ana Maria; WESTPHAL, Marcia Faria; ARAKI, Erica Lie; BOGUS, Claudia Maria. O papel da alimentação escolar na formação dos hábitos alimentares. *Rev. paul. pediatr.*, São Paulo, v. 31, n. 3, p. 324-330, set. 2013. <https://doi.org/10.1590/S0103-05822013000300008>.

⁵⁸NOBRE, Érica Bezerra; BRENTANI, Alexandra Valéria Maria; FERRARO, Alexandre Archanjo. Associação do estilo de vida materno com a nutrição de pré-escolares. *Rev Assoc Med Bras.* v. 62, n. 6, p. 494-505, set. 2016.

⁵⁹VIEIRA, Diva Aliete dos Santos; CASTRO, Michelle Alessandra; FISBERG, Mauro; FISBERG, Regina Mara. Qualidade nutricional dos padrões alimentares de crianças: existem diferenças dentro e fora da escola? *J Pediatr.*, porto Alegre, v. 93, n. 1, p. 47-57, fev. 2017. Available at: http://www.scielo.br/pdf/jped/v93n1/pt_0021-7557-jped-93-01-0047.pdf. <https://doi.org/10.1016/j.jped.2016.03.008>.

⁶⁰ORGANIZAÇÃO DAS NAÇÕES UNIDAS - ONU. *Transformando nosso mundo: a Agenda 2030 para o Desenvolvimento Sustentável*. 2015. Available at: <https://nacoesunidas.org/wp-content/uploads/2015/10/agenda2030-pt-br.pdf>. Accessed on: 14 May. 2019.

⁶¹AYRES, José Ricardo de Carvalho Mesquita; CALAZANS, Gabriela Junqueira; SALETTI FILHO, Haraldo César; FRANCA JUNIOR, Ivan. Risco, vulnerabilidade e práticas de prevenção e promoção da saúde, *cit.*

The identification of programmatic vulnerability factors may favor the organization of health services, prevention actions and disease control, as well as the access and bond of the population with the service^{62,63}.

Public policies on the prevention and care of obesity are discussed worldwide. In Brazil, several programs and public policies that have as their specific or integral objective the guarantee of the human right to adequate food (DHAA) and actions to promote the children's health conjecture this care. From this perspective, we can mention the National Food and Nutrition Policy (PNAN); the National Health Promotion Policy (PNPS); the School Health Program (PSE); the National School Feeding Program (PNAE); the Regulation of Foods Marketed in School Canteens; and the Food Advertising and Advertising Regulations.

In the historical panorama of public policies in Brazil, it is evident that actions have been carried out through care practices, with educational barriers and that do not incorporate the recognition of the right to health^{64, 65,66}.

In a research conducted by Reis et al.⁶⁷ with the aim of critically analyzing Brazilian public nutrition policies in the control of childhood obesity, some important actions were identified, such as: the increase of interventions, within the scope of health policies, which deal with nutritional education; the expansion of specific infrastructure for recreational and physical activity practices; the enactment of appropriate legislation on labelling and media; and the shared participation of the health area in public policies of education, social assistance and sports.

In a critical analysis of the PNAE, it was found that structural and procedural flaws in the implementation of the program, such as deficiency in the cafeteria, kitchen and development of educational activities, affect the human right to adequate food (DHAA) and the right to children's health⁶⁸.

⁶²AYRES, José Ricardo de Carvalho Mesquita; CALAZANS, Gabriela Junqueira; SALETTI FILHO, Haraldo César; FRANCA JUNIOR, Ivan. Risco, vulnerabilidade e práticas de prevenção e promoção da saúde, *cit*.

⁶³AYRES, Jose Ricardo de Carvalho Mesquita. Desenvolvimento histórico-epistemológico da epidemiologia e do conceito de risco. *Cad. Saúde Pública*, Rio de Janeiro, v. 27, n. 7, p. 1301-1311, jul. 2011. Available at: <http://www.scielo.br/pdf/csp/v27n7/06.pdf>. <https://doi.org/10.1590/S0102-311X2011000700006>.

⁶⁴TRAVERSO-YEPEZ, Martha A. Dilemas na promoção da saúde no Brasil: reflexões em torno da política nacional. *Interface*, Botucatu, v. 11, n. 22, p. 223-238, ago. 2007. Available at: <http://www.scielo.br/pdf/icse/v11n22/04.pdf>. <http://dx.doi.org/10.1590/S1414-32832007000200004>. Accessed on: 22 Nov. 2017.

⁶⁵SOBRINHO, Liton Lanes Pilau. *Direito à saúde: uma perspectiva constitucionalista*. Passo Fundo: Universidade de Passo Fundo, 2003.

⁶⁶HENRIQUES, Patrícia; O'DWYER, Gisele; DIAS, Patricia Camacho; BARBOSA, Roseane Moreira Sampaio; BURLANDY, Luciene. *op. cit.*, p. 4143-4152.

⁶⁷REIS, Caio Eduardo G.; VASCONCELOS, Ivana Aragão L. BARROS, Juliana Farias de N., *op. cit*.

⁶⁸PEDRAZA, Dixis Figueroa; MELO, Nadinne Lívia Silva de; ARAUJO, Erika Morganna Neves; SILVA, Francieli Albuquerque. Programa Nacional de Alimentação escolar em escolas públicas municipais. *Revista Brasileira em Promoção da Saúde*, Fortaleza, v. 30, n. 2, p. 161-169, 2017. Available at: <https://periodicos.unifor.br/RBPS/article/download/6007/pdf>. <https://doi.org/10.5020/18061230.2017.p161>.

Corroborating the theme, a research conducted by Bezerra et al.⁶⁹ aimed to evaluate the implementation of nutritional education initiatives and physical activity practices in public and private schools. The researchers concluded that there are barriers to the implementation of health promotion activities, both in public schools and in private schools in Recife (PE).

Another important factor of child vulnerability of overweight that deserves attention from all spheres of society is the exposure of this public to advertising messages through radio, television, cinema, newspapers, magazines, pamphlets, displays, internet, among others, related to foods with high content of fats, sugars and salt. There is a consensus, in the scientific community, that the stimulating of consumption of foods considered unhealthy contributes to the increase in the prevalence of overweight among children, in addition to contradicting the bioethical principles of protection the vulnerable when it hurts autonomy in food choices^{70, 71,72}.

According to Hartung and Karageorgiadis⁷³, child audience becomes hyper vulnerable from the appeal of ultra-processed foods in the media, because the child is an easy target of persuasion and cannot cope with the pressure exerted by commercial communication. Most of the decisions that will influence food consumption are not the result of rational reflection and deliberation, but rather of automatics and habitual behaviors, guided by food trade and reinforced by cultural norms. Therefore, informational approaches are limited to assist in the health of individuals⁷⁴. Considering that the child should be protected with the highest priority, it is up to the State to regulate the food advertising for children and adolescents and to face the interests contrary to this action⁷⁵. A regulatory framework in the field of food and nutrition is a complex and conflicting territory, offering imbalance between power and protection to citizens⁷⁶.

⁶⁹BEZERRA, Myrtis de Assunção; CARVALHO, Eduardo Freese; OLIVEIRA, Juliana Souza; LEAL, Vanessa Sá. Saúde e nutrição em escolas públicas e privadas de Recife. *Rev. Bras. Saude Mater. Infant.* Recife, v. 17, n. 1, p. 191-200, jan./mar. 2017. Available at: http://www.scielo.br/pdf/rbsmi/v17n1/pt_1519-3829-rbsmi-17-01-0191.pdf. Accessed on: 18 Sep. 2018. <https://doi.org/10.1590/1806-930420170001000011>.

⁷⁰REIS, Caio Eduardo G.; VASCONCELOS, Ivana Aragão L.; OLIVEIRA, Odeth Maria., *op. cit.*

⁷¹SILVA, Dillian Adelaine Cesar; CUNHA, Antonio Carlos Rodrigues; CUNHA, Thiago Rocha; ROSANELI, Caroline Filla. Publicidade de alimentos para crianças e adolescentes: desvelar da perspectiva ética no discurso da autorregulamentação. *Ciênc. saúde coletiva*, Rio de Janeiro, v. 22, n. 7, p. 2187-2196, 2017. Available at: <http://www.scielo.br/pdf/csc/v22n7/1413-8123-csc-22-07-2187.pdf>. Accessed on: 27 Nov. 2017. <http://dx.doi.org/10.1590/1413-81232017227.03222017>.

⁷²ROSANELI, Caroline Filla; SILVA, Dillian Adelaine Cesar. *op. cit.*, p. 1-11.

⁷³HARTUNG, Pedro Afonso; KARAGEORGIADIS, Ekaterine Valente. A regulação da publicidade de alimentos e bebidas não alcoólicas para crianças no Brasil. *Revista de Direito Sanitário*, São Paulo, v. 17, n. 3, p. 160-184, mar. 2017. Available at: <https://www.revistas.usp.br/rdisan/article/view/127783>. Accessed on: 04 Sep. 2018. <https://doi.org/10.11606/issn.2316-9044.v17i3p160-184>.

⁷⁴PEREZ-ESCAMILLA, Rafael et al. *op. cit.*

⁷⁵SILVA, Dillian Adelaine Cesar; CUNHA, Antonio Carlos Rodrigues; CUNHA, Thiago Rocha; ROSANELI, Caroline Filla. *op. cit.*, p. 2187-2196.

⁷⁶MAGALHÃES, Rosana. Regulação de alimentos no Brasil. *Revista Direito Sanitário*, São Paulo, v. 17, n. 3, p. 113-133, nov. 2016./fev. 2017. Available at: <http://www.revistas.usp.br/rdisan/article/view/127780/124776>. <https://doi.org/10.11606/issn.2316-9044.v17i3p113-133>.

On this subject, Article 14 of the Universal Declaration on Bioethics and Human Rights, which deals with “social responsibility and health”, describes that “the promotion of health and social development for the benefit of respective peoples is a fundamental objective of governments that involves all sectors of society”⁷⁷. Therefore, the ethical issues related to the social problems of overweight in childhood should be taken up by the whole society, with the commitment to carry out public policies and actions to protect healthy living. And an option for health promotion and protection is the investment in health education whose objective is to teach the child to have progressive autonomy in their food choices or in the care of their own body.

For Figueroa and Coelho⁷⁸, it is necessary to consider the child vulnerability of the communities for the development of public food security policies. “Minimize the effects of verticalized and discontinuous policies and actions, generating timely and appropriate information to understand the different local contexts and experience of social actors”, is indispensable in the analyses of Einloft et al.⁷⁹

Public engagement and the political incidence for a more comprehensive and plural understanding of the problem of childhood obesity are a necessary and urgent confrontation. Intensifying prevention actions, reinforcing existing public policies, should be a priority, but the political scenario has demonstrated many barriers to the effectiveness of these actions. Public policies are essential to guarantee the human right to adequate and healthy food. Thus, the planning, elaboration and management of these policies must be constructed with a view of protection and care for the global health of children, as well as including dialogue in all spheres of society.

Final Considerations

The vulnerability factors identified in this research, under the perspective of bioethics, showed that overweight in childhood comprises not only biological issues, but also important ethical and social issues, which should be thoroughly analyzed, such as the relationship between obesity and poverty, the lack of regulation of advertising of ultra-processed foods aimed at children and the fragility of specific public policies to encourage healthy and adequate diet. The identification of these factors

⁷⁷ ORGANIZAÇÃO DAS NAÇÕES UNIDAS PARA A EDUCAÇÃO, A CIÊNCIA E A CULTURA – UNESCO. *Declaração Universal sobre Bioética e Direitos Humanos*. 2005, cit.

⁷⁸ FIGUEROA, Cristian David Osorio; COELHO, Thereza Christina Bahia. Guatemalan Mayan childhood: nutritional vulnerability and public policies to cope with it. *Desidades*, Rio de Janeiro, n. 15, abr./jun. 2017. Available at: <http://pepsic.bvsalud.org/pdf/desi/v15/n15a02.pdf>. Accessed on: 18 Sep. 2018.

⁷⁹ EINLOFT, Ariadne Barbosa do Nascimento; COTTA, Rosângela Minardi Mitre; ARAUJO, Raquel Maria Amaral. Promoção da alimentação saudável na infância: fragilidades no contexto da Atenção Básica. *Ciênc. saúde coletiva*, Rio de Janeiro, v. 23, n. 1, p. 61-72, 2018. Available at: <http://www.scielo.br/pdf/csc/v23n1/1413-8123-csc-23-01-0061.pdf>. Accessed on: 14 May. 2019. <https://doi.org/10.1590/1413-81232018231.23522017>.

is a fact that should be considered in the planning of actions in health education and active interventions of the individual responsible in this context.

In addition to the responsibility to guarantee the human right to adequate food, the State and the actors involved in child care must observe and carry out actions that allow children to exercise his right to well-being, to study, to play and to leisure, among other actions that contribute to health promotion and the prevention of overweight in childhood.

Appreciating bioethics in this theme not only allowed the identification of the dimension of vulnerability factors, but also the reflection on moral responsibility and pragmatic effectiveness indispensable for the elaboration of active intervention actions of the responsible individuals.

Considering the factors for child vulnerability in relation to being overweight emphasizes the urgency of implementing transdisciplinary public policies with a view to an ethical proposal of attitude, solidarity, mutual responsibility and respect for human dignity.

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BEZERRA, Myrtis de Assunção; CARVALHO, Eduardo Freese; OLIVEIRA, Juliana Souza; LEAL, Vanessa Sá. Saúde e nutrição em escolas públicas e privadas de Recife. *Rev. Bras. Saude Mater. Infant.* Recife, v. 17, n. 1, p. 191-200, jan./mar. 2017. Available at: http://www.scielo.br/pdf/rbsmi/v17n1/pt_1519-3829-rbsmi-17-01-0191.pdf. Accessed on: 18 Sep. 2018. <https://doi.org/10.1590/1806-930420170001000011>.

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