

Childhood Obesity in the Spanish Digital Press: A Social Problem with Individual Causes and Consequences

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Abstract

The media plays an important role in prevention, awareness-raising and education of society regarding childhood obesity, a public health problem that is showing signs of a pandemic. This is happening in Spain, currently the fourth European country in terms of boys and girls who are overweight or obese. This investigation analyses how the main Spanish digital newspapers talk about childhood obesity to the population. This research uses framing theory to study all content featuring childhood obesity as its main topic during 2020 and 2021 in six of the country's most relevant digital newspapers. The main conclusions show that, in line with previous studies, the newspapers identify childhood obesity as a social problem that requires solutions from society as a whole, although regarding both the causes and the consequences, there is a predominate individual view focused on habits and attitudes among parents and children.

Keywords

Childhood Obesity, Overweight, Media, Digital Newspapers, Framing, Social Problems, Individual Responsibility, Health.

1. Introduction

According to the WHO (**World Health Organization**, 2000), obesity is identified as a pandemic affecting all countries, regardless of their level of development. Both adults and minors are victims of this pathology, although the latter have triggered all the alarms, as an overweight child is highly likely to be an obese adult in the near future, dragging all the public health problems associated with this condition into their adult life (**World Health Organization**, 2016a).

One of the world nutrition goals approved by the *World Health Assembly*, set for 2025, is to keep a lid on the rising number of overweight children, and 2030 has been set as the year to harness and reduce this problem to under 3%.



However, the latest *Report on the State of Food Security and Nutrition in the World* (FAO *et al.*, 2021) stated that only 17% of countries confirmed attempts to get a handle on this proportion.

Spain is one of the European countries with the most work to do to meet these expectations. In fact, it ranks fourth in the continent in terms of prevalence of childhood obesity (World Health Organization, 2022). Obesity among Spanish children has been monitored since 2011 through what is known as the *Aladino Childhood Obesity Study* (ALADINO, 2020). This is included within the *Childhood Obesity Surveillance Initiative* (COSI), run by the WHO European Office since 2007. Its 2019 report concluded that 4 out of every 10 schoolchildren, 40.6%, were overweight (23.3%) or obese (17.3%). Although this trend had been falling since 2011, from 2015 to the present day this improvement seems to have been stalling.

As detected in other international studies (Shekar; Popkin, 2020; Mathieu-Bolh, 2022), the emphasis of the survey focused on Spain also considers socioeconomic and educational factors and how they affect this pathology. The lowest family income and lowest levels of education among parents, the most prevalence of obesity in minors.

Healthy eating is expensive and it is difficult to afford for people with fewer resources and lower incomes. Consequently, their diet is rich in ultra-processed food, which is cheaper but contains higher levels of salt and sugar, contributing to weight gain and the damage to health (Wang; Lim, 2012).

In addition, several years ago, various studies (Rodríguez Rossi, 2006; Castelló-Martínez; Tur-Viñes, 2021) warned of the effects of television and new technologies on developing childhood obesity. The degree of exposure to these media, on the one hand, tends to influence a sedentary lifestyle that does not lean towards physical activity and, on the other, leaves these children exposed to advertising messages revolving around entertainment, fun, and creativity or hooking them in with familiar characters to encourage consumption of unhealthy food and obesogenic habits. Alongside an environmental context, such as urban surroundings that do not encourage physical activity, sedentary lifestyles become more acute, and people tend to pile on the pounds.

Furthermore, some recent research has looked at the influence of the parental lifestyle perceived by their sons and daughters in their eating habits and eating disorders (Galván; Blázquez, 2022; Losada *et al.*, 2020). In Mexico, where this is a particularly sensitive issue, possible consequences have been determined from eating practices brought about by parents' perception of their child's weight (Zonana-Nacacha; Conde-Gaxiola, 2010; Flores-Peña *et al.*, 2009). More options for children and teenagers to eat out also influence obesity, as there is no family control and a wide offer of food that is "increasingly tasty although providing scarce nutritional value and high energy and fat content" (Bueno Lozano *et al.*, 2008).

Taken into account these studies, this problem clearly has multiple causes, ranging from genetic predisposition and nutritional habits to cultural, socioeconomic and environmental factors (Medina *et al.*, 2014).

This situation has led institutions and governments to promote various measures, many of them preventive, that range from taxing sweetened drinks and control over advertising food before the watershed to designing urban settings that encourage physical activity or schemes to promote fruit and vegetables in school canteens, among others. Furthermore, there is a great need to promote rigorous assessment of the political and environmental changes that can influence childhood obesity (Vorkoper *et al.*, 2021).

Nevertheless, health problems are not the only effect felt by children, and future adults. They also face continuous, social discrimination and stigma at school, in their family and in the media (Puhl; Heuer, 2010; Benítez Brito *et al.*, 2021; Flint *et al.*, 2015; Pearl, 2018; Brewis *et al.*, 2018).

According to the WHO, prejudice about weight is defined as negative attitudes and beliefs regarding others due to their weight. That prejudice can feed stigma, a social tag to identify the people who suffer from prejudice. Being stigmatized implies actions against victims that can lead to exclusion, marginalisation and inequalities (WHO, 2017). Concern about the effects and consequences of weight-related stigma inspired an international statement signed by 36 experts and researchers from different fields, published in *Nature* (Rubino *et al.*, 2020) that requires health professionals, researchers, politicians, patients and media to get involved and promote initiatives which prevent weight-based stigma and discrimination. To support their demands, the statement lists the scientific evidence which demonstrates that weight is not only related to willpower. Biological, genetic and environmental factors contribute decisively to obesity. Hence, they consider that the idea of obesity as a personal choice, which can be modified with a better diet and more physical activity, reinforces social stigma, worsens the obesity pandemic and hinders any attempt to improve strategies to manage it.

The media play an important role here. As Wellman *et al.* (2011) state, messages broadcast by the media have an impact on society's ideas about nutrition. The media set the agenda (Valenzuela; McCombs, 2014) and the priority frameworks (Entman, 1993). By means of their choices and coverage, they not only help to disseminate public health campaigns, but also influence society's behaviours and attitudes regarding practices that directly affect their diet and other health-related fields. In fact, as Sanchez-Sabate *et al.* (2021) say, there is some research focused on media coverage of diseases such as cancer, diabetes and mental health problems. That explains why they highlight the importance of the media when designing health policies (Hernández-Aguado; Chilet-Rosell, 2020; Elliott-Green *et al.*, 2016).

The duty of the media regarding obesity can help in terms of finding the right balance, emphasising social solutions and recommendations and underlining the causes, that, in the case of children, go beyond their own choices and should be increasingly contextualised in the social, cultural and economic factors that determine obesity among children in many cases.

In this respect, in the academic field, many research projects have analysed how the media treat obesity (**Benítez Brito et al.**, 2021; **Armentia; Marín**, 2020; **Baker et al.**, 2020; **Sievert et al.**, 2018; **Stanford et al.**, 2018; **Atanasova; Koteyko**, 2017; **Sun et al.**, 2016; **Atanasova et al.**, 2012; **Ortiz-Barreda et al.**, 2012) and the impact of COVID-19 on the stigmatization of people with obesity (**Monaghan**, 2021; **Camacho Markina et al.**, 2023; **Flint**, 2020; **Stewart; Ogden**, 2022). In addition, childhood obesity has been studied in terms of the impact of advertising on children's eating habits (**Reyes Pedraza et al.**, 2018), and the predominant approaches that the media, particularly the press, have used when this is the stand-out topic in the news item (**van Hooff et al.**, 2018; **Westall Pixton**, 2011; **Nimegeer et al.**, 2019). The present study wants to look more deeply into aspects that might show a possible change of media perspective when they report on childhood obesity.

2. Objectives and Hypothesis

The main objective of this study is to find out if, when the Spanish digital press talks about childhood obesity, it does so from the perspective of addressing a social problem or rather more a pathology with strictly individual implications.

To determine this objective, we set the following proposals:

1. Describe how the media identifies the problem of childhood obesity and the terms that are used in it.
2. Analyse the type of causes and consequences mentioned in the news contents and categorise them depending on whether they refer to an individual or social approach.
3. Study the individual or institutional recommendations and measures implicated in them that the press presents on the subject.
4. Pinpoint who is made explicitly or implicitly responsible for childhood obesity in the content being analysed.
5. Observe the changes in or possible development of how childhood obesity is addressed, comparing the results obtained against previous studies as far as possible.

The hypotheses that we are working from in this research are:

- a. Childhood obesity has strong presence in obesity-related content that generally appears in the digital press.
- b. The diagnosis concerning obesity mainly sees childhood obesity as a disease or a pathology and, to a much lesser extent, as a social problem.
- c. The press is more likely to mention individual causes, lack of exercise and/or poor diet as decisive factors for childhood obesity. The most outstanding consequences are almost always health-related, focussed on the various cardiovascular diseases, diabetes, etc. derived from obesity.
- d. Recommendations or solutions are divided up quite evenly between individual advice and social measures.
- e. The responsibility falls on parents above all, emphasising their responsibility for their children's health and stimulating healthy habits.

3. Methodology

Six national digital newspapers were selected for this study. The chosen newspapers were four legacy media, that is, newspapers created before the Internet era, - *abc.es*, *elpais.com*, *lavanguardia.com* and *elmundo.es* - and another two digital native newspapers, *eclonfidencial.com* and *eldiario.es*. They were chosen because they were among the ten newspapers with the largest readership in Spain in 2020 (**Amoedo-Casais et al.**, 2021).

The time period analysed is 2020 and 2021.

The analysis corpus was determined using keywords in the newspapers' own search tools: obesity, childhood obesity and overweight. A second filter was subsequently used to obtain news stories mentioning childhood obesity and, at the same time, forming part of an item where obesity was the main topic. This referred to the appearance of concepts bound to childhood obesity and excess weight in headlines and the first paragraph of the text. Regarding *Agenda setting* (**McCombs; Evatt**, 1995; **McCombs; Shaw**, 1972), we wanted to find out about the relevance of childhood obesity during that period, if there had been any quantitative changes, both from one year to another and among the newspapers studied.

Once the corpus had been specified, the causes, consequences and measures that might respond to a social or individual focus were studied to indicate when obesity is treated as an illness and when it is seen as a social problem (**Gracia-Arnaiz**, 2010). To do this, a deductive methodology was selected. Therefore, we based our work on the frames that the Theory of Framing recognises as the most usual: Diagnostic/Identification, Causes, Consequence, Attribution of Responsibility and Measures or Recommendations (**Iyengar**, 1989; **Semetko; Valkenburg**, 2000; **Eilders; Lüter**, 2000).

Considering previous works (Miralles *et al.*, 2021; Nimegeer *et al.*, 2019; van Hooft *et al.*, 2018) that also use the theory of framing to address obesity in the press, characteristics were defined (Figure 1) that correspond to a social, individual or hybrid focus, depending on how much these two aspects are included in it.

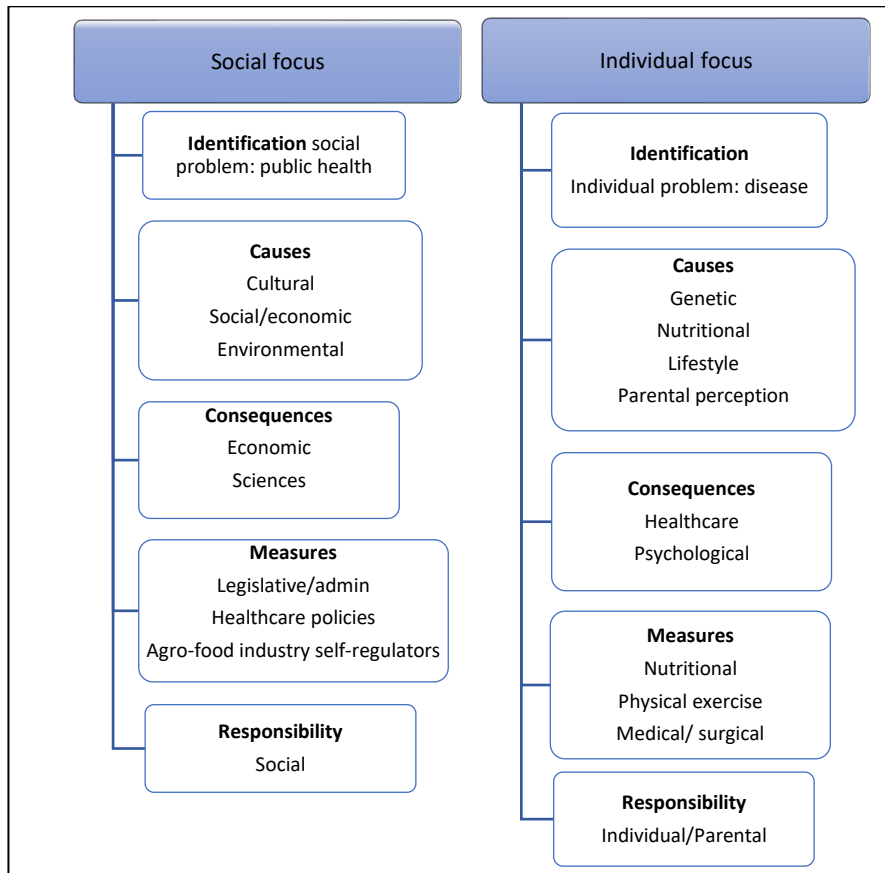


Figure 1: Characteristics of Social and Individual Focus on Childhood Obesity.

The social focus would require identifying childhood obesity as a social problem. Its causes should correspond to cultural, environmental or social/economic aspects. The consequences would allude to economic and/or social questions. In addition, measures or recommendations would be legislative, political or administrative. This section would also include actions from the agro-food sector which attempt to reduce the incidence of childhood obesity. Finally, it would allude directly or indirectly to social responsibility.

The individual focus would identify childhood obesity as a disease that only concerns its victim, and its causes would refer to genetic or lifestyle nutrition factors or would be related to the parents' perception of their children's weight. Consequences would be health-related, diseases or pathologies related to obesity, and also psychological. The latter comprises effects such as low self-esteem or depression, derived from social pressure exerted on young people through the media and idealised body shapes, and discriminatory behaviours that lead to bullying or fat-shaming. In the same respect, the measures or recommendations would point to changes in nutritional habits, physical exercise or medical-surgical interventions. The responsibility would lie with the boys and girls or their parents as guarantors of their well-being.

Any content that mentions aspects of one focus or another indiscriminately will be classified as hybrid.

Data were registered through a analysis sheet where each content item appeared with its date, medium and link. It was categorized according to the following frames: identification, causes, consequences, measures. To make it easier to identify the different frames, a code book was designed featuring all the possible options. These options were identified through a pre-test of 20 randomly-selected content items.

The analysis focused on 333 content items. Reliability among the three coders in the analysis was verified using Holsti's method (Holsti, 1969). The agreement coefficient for this study was 0.85 and the reliability threshold was 0.8.

4. Results

In the two years being studied, 2020 to 2021, 2760 texts were published, divided unequally among the six digital newspapers. 815 of these texts featured obesity as the main subject of the content item. Of these, 333 (n=333) cover obesity and being overweight as main topics (Table 1).

Table 1: No. of Texts that Talk about Childhood Obesity and Text with Childhood Obesity as its Main Topic.

Digital Newspapers	2020 Childhood Obesity as Main Topic	2021 Childhood Obesity as Main Topic	2020/201 Childhood Obesity as Main Topic
<i>abc.es</i>	66	53	119
<i>eldiario.es</i>	41	44	85
<i>lavanguardia.com</i>	25	36	61
<i>elpais.com</i>	24	25	49
<i>elmundo.es</i>	5	8	13
<i>elconfidencial.com</i>	2	4	6
TOTAL	163	170	(N= 333)

Therefore, four out of ten content items featuring obesity have childhood obesity as the main topic, demonstrating that this topic is a priority focus of information in this field. By newspaper, in three out of the six newspapers (*abc.es*, *elpais.com*, and *eldiario.es*), childhood obesity accounts for at least 40% of the information on obesity (graph 1).

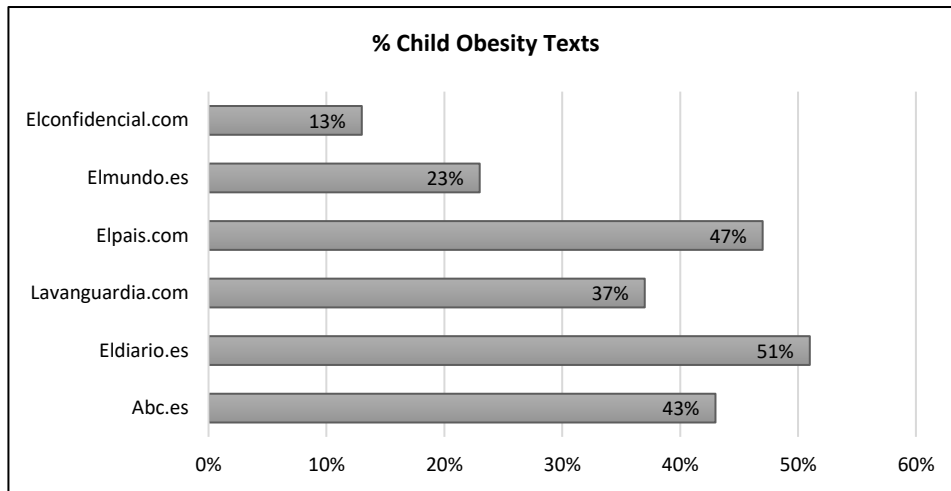


Figure 2: % Texts on Childhood Obesity Out of All News Stories that Highlight Obesity.

4.1. Frames

4.1.1. Diagnosis/Identification

From the diagnostic point of view, the predominant frame for news coverage in the main Spanish digital newspapers is that childhood obesity is a social problem (table 2). Out of the 333 content items analysed, this happens in 61% (202). Among the indicators that have been determined to identify the diagnosis as a social problem, there is the classification of childhood obesity as a “public health challenge or problem”, as an “epidemic” or “pandemic” or as a “social problem”. Rates and statistics are also used to illustrate its general impact, giving the reader the idea that childhood obesity goes beyond personal or individual circumstances. In fact, the use of rates and statistics has been detected in 137 of the 202 content items, in other words 68%. As one example, this is how the news item from the *Elpais.com* newspaper began when reporting on the Ministry of Consumer Affairs prohibiting advertisements for junk food aimed at children under 15 years old: “40% of Spanish children are overweight, almost half of that figure are obese, affecting children from low-income families more” (*elpais.com*, 9/10/20).

Table 2: Presence Of Main Indicators of Diagnosis Frame.

Diagnosis	Total	%
Identification: Social Problem	202	61%
Challenge/public health problem/plague	14	
Epidemic/Silent epidemic	19	
Pandemic/Silent pandemic	16	
Social/worldwide problem	15	
National struggle	1	
Rates/Statistics	137	
Individual Problem Identification		
Obesity as a disease	131	39%
TOTAL	(N= 333)	100%

Alongside the numbers, items mention that childhood obesity is a global problem. Phrases such as “the childhood obesity epidemic that affects the younger generations all over the world” (*elmundo.es*, 11/02/21), “If obesity is the 21st century epidemic, childhood obesity is an after-effect” (*elconfidencial.com*, 23/01/2021), “the external factors should be attacked on what is considered to be one of the greatest ‘epidemics’ of the 21st century” (*abc.es*, 10/06/21).

On the other hand, in 131 of the 333 content items analysed, 39% of the total, the diagnosis to be gleaned from this describes childhood obesity as an individual problem. In this case, the individual diagnosis stems from the lack of explicit references to the problem condition that affects society as a whole, the lack of rates or statistics for prevalence of the disease and its mere identification as a disease.

4.1.2. Causes

Although there is a predominate frame diagnosing obesity as a social problem, when its causes are addressed, individual reasons are highlighted (table 3). This happens in half of the units analysed (166). Among the individual reasons, the most quantitative relevance is given to linking childhood obesity to unhealthy eating habits and lack of physical exercise. This is the case of 142 of the news items analysed, 43% in total. News items like “Don’t let your child snack on processed juices or sweets: these are the key aspects of healthy eating for children” (*abc.es*, 9/01/20) or “Garzón calls for healthy consumption to curb 40% overweight children” (*eldiario.es*, 13/12/21) are two examples. Within this more general categorization, there are also more specific reasons such as excess screen use (*eldiario.es*, 6/10/20), not enough sleep (*abc.es*, 24/03/21), or lifestyle changes caused by the Covid-19 pandemic: “The Department of Health is studying the impact of lockdown on children: obesity, fear, dependency...” (*elconfidencial.com*, 16/06/20). Concerning individual reasons, 16 of the content items studied specifically emphasise the family environment, particularly the living conditions of mothers and grandmothers: “A stressful pregnancy raises the risk of giving birth to autistic or obese babies” (*abc.es*, 27/3/21). Finally, seven cases relate childhood obesity to genetic causes, particularly brain disorders: “Obesity and brain disorders: the Spanish study that links them in children” (*elconfidencial.com* 9/06/21).

Table 3: List of Causes Associated with Childhood Obesity.

Causes	Total	%
Social Causes	77	23%
Economic	30	
Fewer economic resources, fewer places available for physical exercise	2	
Low-income children were more affected by obesity during the pandemic	9	
Fewer economic resources, greater consumption of “junk” food	7	
Low budget for school canteens	1	
Fewer economic resources, more people overweight	7	
Junk food in school canteens	2	
Economic system promotes production of poor-quality food that lasts longer	1	
Price of food	1	
Environmental	9	
Less space for children to play outside encourages sedentary lifestyles and worsens obesity	2	
Exposure to parabens during pregnancy	2	
Scarcity of sports centres	1	
Air pollution, traffic and noise	3	
Junk food sold close to schools	1	
Exposure to advertising	36	
Dishonest advertising/illegible labels	2	
Exposure to advertising for unhealthy food and drinks	34	
Socio-cultural	2	
Fatter females are seen as beautiful and a requirement for marriage in Mauritania	2	
INDIVIDUAL CAUSES	166	50%
Unhealthy eating habits/lack of physical exercise	142	
Changes in eating habits and lifestyle during the Covid-19 pandemic	18	
Sleeping fewer hours affects obesity in childhood	9	
Lack of physical activity	16	
Lifestyle, nutritional aspects	96	
Excessive use of screens	2	
Scarce activity as a baby	2	
Family environment	16	
Authoritarian parents and poor eating models	1	
Living conditions of mothers and grandmothers	8	
Children left home alone are at risk of obesity	2	
Deficient nutritional education, unhealthy table habits	2	
Dinner/lunch times	2	
Type of birth	1	
Genetic	7	
Teenage brains are more sensitive to the gratifying properties of high calorie food	2	
Prader-Willi syndrome	1	
Brain disorders influence obesity in minors	4	
HYBRID CAUSES	32	10%
Multi-factor	32	
None	58	17%
Total	(N= 333)	100%

Among the social causes, the reason that recurs most often talks about the harm of exposing minors to junk food advertising. This happens in almost half the news stories that address social causes, 36 out of 77. This is the case of news items such as: “The Ministry of Consumer Affairs will prohibit advertising targeting children and adults for chocolate, sweets, desserts, biscuits, juices and ice creams” (*elpais.com*, 28/10/21), “The United Kingdom will prohibit junk food adverts during children’s viewing hours” (*elmundo.es*, 24/06/21), “Consumption will prohibit unhealthy food advertising targeting children under 15 years old” (*lavanguardia.com*, 9/10/20). The next most frequent social causes

are economic. This includes how family income affects the chances of childhood obesity (*eldiario.es*, 30/09/20) and the need to change products on school menus.

The “multi-factor” concept appears more frequently to identify the hybrid causes, where childhood obesity is described as the combination of individual and social reasons. Here are two examples: “It highlighted that obesity is a multi-factor condition and so this problem must be tackled from different sides” (*eldiario.es*, 8/10/20), “Childhood obesity is a disease that originates in a complex causal chain, with multi-factor aetiology, where individual, genetic, behavioural and environmental factors interact, including lifestyles” (*eldiario.es*, 27/01/20).

It should be noted that even when adding 10% of the multi-factor causes to the percentage intended for the socioeconomic causes, 32%, we are still a long way from the 50% content that prioritises individual causes.

4.1.3. Consequences

The consequences frame, more acutely than the causes, clearly leans towards the individual rather than the social aspect. Just 6 of the 333 units analysed (2% of the total) explicitly reflect social consequences, compared to 128 (38% of the total) that list individual consequences. Only four (1% of the total) demonstrate consequences where individual and social elements appear jointly, while most of the news items analysed on childhood obesity do not clearly refer to any consequence at all.

The most frequent and recurring individual consequence refers to the impact of childhood obesity on its victims’ current and future health. This appears in 102 out of the 333 units studied (31%). This is the case of the item on “Cardiovascular disease, the toll of childhood obesity” (*abc.es*, 15/12/2021), or the item “Nearly 40% of children between 3 and 8 years old are obese or overweight” (*eldiario.es*, 9/06/2020), which mentions that the Spanish Cardiology Society has warned that “excess weight and obesity in childhood is associated with a higher probability of being an obese adult and a greater risk of suffering diseases such as type II diabetes, heart disease or some types of cancer in adulthood.”

Among the individual health consequences, there are 25 news items (7.5% of the total) that mention the effects on the child’s mental health. This appears in the item on the mayor of Cadiz denouncing fat-shaming: “Kichi [the mayor’s nickname] wonders today “how children will fare in our school playgrounds, where bullying targets fatties” (*Elmundo.es*, 4/06/2020).

4.1.4. Measures

The focus of the measures reported in the media being analysed leans towards social rather than individual measures (table 4). In the case of social measures, the majority are legislative measures, including legal provisions, rules, prohibitions and local, regional, national and international regulations. Four out of every ten news items that mention social measures fit this description. In this respect, there are stand-out items on the decision by the Spanish Ministry of Consumer Affairs to ban advertising for unhealthy food and drink before the watershed. It also includes articles that mention the criticisms handed out to this measure by the opposition such as “Criticism from the PP on prohibiting advertising from industrial pastries: “Drugs yes, sweets no” (*lavanguardia.com*, 29/10/2021), and from the food industry: “The industry sees the ban on advertising sugary products as an unjustified attack” (*lavanguardia.com*, 29/10/2021). The media being analysed also provide information on similar measures set up in countries such as the United Kingdom, Canada or Chile: “Quebec prohibits, Chile limits: this is how junk food is advertised” (*eldiario.es*, 7/11/2021).

One in every three items addressing social measures are related to political-administrative matters, in other words, institutional campaigns, executive decisions or awareness-raising or education programmes in the local, regional and national field. This includes the Ministry of Consumer Affairs launching a recipe book to improve children’s food (*eldiario.es*, 10/11/2021), or the campaign promoted by the same ministry to raise awareness on excess sugar consumption (*elmundo.es*, 23/10/2021). In addition, items appear on actions in different autonomous regions.

Table 4: Measures Against Childhood Obesity in the Newspapers Being Analysed.

Measures	Total	%
Social Measures	157	47%
Legislative	71	
Political-Administrative	58	
Non-governmental initiatives	26	
Agro-food industry	2	
Individual Measures	75	23%
Lifestyle, exercise, improving nutritional habits	65	
Others	10	
Hybrids	37	11%
Multi-factor	37	
None	64	19%
Total	(N= 333)	100%

The contents under analysis also compile actions promoted by non-governmental organisations and other non-profit-making organisations. They are significantly less present than governments and institutions, although topping 10%. Several foundations stand out, such as Fundación Gasol, set up by the former basketball players Pau and Marc Gasol to fight childhood obesity (*abc.es*, 10/10/2020); “Gasol Foundation launches an obesity prevention project for early childhood” (*eldiario.es*, 7/10/2020).

Among the individual measures, nine out of ten content items that include this type of actions focus on matters linked to lifestyle, physical exercise and improving eating habits. It is common to report guidelines, lists and recommendations that are made directly to children’s parents, “Here’s how to convince your child to step away from their screens and do some exercise” (*elpais.com*, 9/10/21); “How to help children lose weight and fight obesity” (*elconfidencial.com*, 1/08/21); “Letting children choose their quantities of food can prevent obesity in adulthood” (*abc.es*, 17/05/2020).

The combination of individual actions and actions from the administration defines content classified as hybrid. Once again, concepts such as “multi-factor” or “transverse” become keywords that mark out this type of information. This happens in the case of the item “Clamour for a national plan to fight obesity, that affect 23% of the population”, published by *eldiario.es* on 17/11/2021 that includes statements such as: “(...) has requested a multi-factor strategy because prohibiting advertising of certain products is just a drop in the ocean”.

4.1.5. Responsibility

Regarding the frame of responsibility, in 40% (133) of the 333 texts analysed, this has been classified as a social responsibility (table 5). In this social responsibility, the most common allocation links childhood obesity, its control, its rise or fall with the political and/or administrative sphere. This responsibility is made explicitly clear when the institution/administration is held directly responsible, or implicitly, when responsibility is deduced from the context of the text. The most obvious case is the controversy arising during the COVID-19 lockdown when the Madrid Regional Government decided to bring in fast food chains to feed children on free school meals. Items such as “Vulnerable children in Madrid will eat a Telepizza menu for more than three months” (*elpais.com*, 4/05/2020), “Nutritionists lament the pizza and nuggets menu for vulnerable children” (*lavanguardia.com*, 1/05/2020) or “The Gasol Foundation warns of the "negative consequences" of the Telepizza and Rodilla menus in the Madrid Region” (*elmundo.es*, 4/05/2020) are some examples of laying the responsibility for childhood obesity at the door of an administration, in this case the Madrid regional government.

Table 5: Individual and Social Responsibility.

Responsibility	Total	%
Social Responsibility	133	40%
Political-Administrative	77	
Agro-food industry/Government	38	
Society as a whole	21	
Individual Responsibility	98	29%
Parental	68	
Mothers	9	
Individual	21	
Hybrid	40	12%
Government/administration/agro-food industry/parental	11	
Government/administration/parental	20	
Schools/parental	11	
Schools/supermarket/parental	1	
None	62	19%
Total	(N= 333)	100%

The agro-food industry is also deemed responsible in items that address childhood obesity, particularly regarding advertising campaigns for unhealthy products and the regulation proposed by the Spanish Ministry of Consumer Affairs regarding this type of advertisement. Here are a few examples: “Breakfasts advertised for children triple the quantity of sugar than the equivalent advertised for adults” (*abc.es*, 12/02/2021), “Advertising for unhealthy products has increased 66 % in 5 years in Spain” (*eldiario.es*, 1/07/2020), “The Ministry of Consumer Affairs will prohibit advertising for children for chocolate, sugar, biscuits, juice, energy drinks or ice creams” (*eldiario.es*, 28/10/2021), “Children’s health is at risk due to advertising for soft sugary drinks” (*abc.es*, 6/07/20).

Regarding social responsibility, 29% of the items frame the responsibility for childhood obesity on individuals. This mainly targets mothers and fathers. The eating habits that they put across to their children, physical activity, regulating screen time and sleeping hours define that responsibility implicitly and explicitly. This is the case for information published by *abc.es* on 18/07/2021 entitled “Childhood obesity, a problem worsened by lockdown and the pandemic”, stating: “Parents play a primordial role helping children to set healthy routines.”

The items that reflect hybrid responsibility compile texts referring to the responsibility of social actors (governments, agro-food industry, schools) and families.

5. Discussion and Conclusions

The concept of obesity as a public health problem is identified and strengthened by data and reports from international organisations and institutions (**World Health Organization**, 2000). Concern particularly focuses on the child population, which is the subject of specific studies and analysis (**ALADINO**, 2020; **OECD**, 2019). The media also feature this

specificity, and its approach to the issue also arouses academic interest (**Benítez Brito et al.**, 2021; **Sun et al.**, 2016; **Atanasova et al.**, 2012; **Atanasova; Koteyko**, 2017). In the case of the main Spanish digital newspapers, 40% of content covering obesity in 2020 and 2021 included childhood obesity as the main topic or one of the main topics. This data confirmed our first hypothesis and corroborated guidelines identified in previous investigations (**Miralles et al.**, 2021).

Greater awareness-raising on this situation is reflected in a majority presence of concepts and ideas that associate childhood obesity with a social problem. The use of statistics and reports that warn of the magnitude of the problem, and use of terms such as “pandemic”, “epidemic” and “public health problem” has been detected in 61% of the content analysed. This finding rejects the second hypothesis from this research, which presumed that the social problem diagnosis would be a very small minority, and it differs from results recorded in previous research projects (**De Brún et al.**, 2013; **Miralles et al.**, 2021). However, a relevant percentage of the content, 39%, prioritises the diagnosis that continues identifying childhood obesity as an individual disease or pathology, so that the individual frame maintains a presence that is still far from negligible.

Furthermore, the individual focus becomes majority when the newspapers tackle the causes of childhood obesity. In 50% of content analysed, these causes point to individual reasons, mainly associated with unhealthy eating habits and lack of exercise. Despite falling to 23%, attributing childhood obesity to social reasons would top 30% if news items were to be added that mention both social and individual causes. This includes exposure to junk food advertising on television and social media, a question that also stands out in the scientific literature analysing the relationship between obesity and advertising (**Bragg et al.**, 2021; **Coates et al.**, 2019; 2020; **Montaña et al.**, 2019; **World Health Organization**, 2016b). Although the environmental, sociocultural and economic causes are in the minority, they are becoming more important, unthinkable until recently. Numerous studies and reports along this line from international and national organisations have helped reinforce this trend.

Therefore, we can confirm part of our third hypothesis, although properly explaining the weight of the different factors being analysed. The other part of this hypothesis, related to the majority presence of content with a focus on healthcare-related consequences, would be unequivocally confirmed. In fact, the apparent paradox of combining a majority diagnosis of childhood obesity as a social problem with a priority focus of individual causes is emphasised when it is seen that practically all content referring to the consequences of childhood obesity prioritises individual effects, particularly future health problems for overweight and obese children. Economic costs and social stigmatisation are perceived as minor evils compared to the long list of diseases that can be derived from this pathology. Comparing consequences against each other seems to be quite unlikely in the short term.

However, this apparent contradiction fades away when it is shown that, in accordance with the diagnostic frame for childhood obesity as a social problem, the responsibility frame is also mainly social. This happens in 40% of the texts analysed, plus 10% of content that shows shared responsibility between the social and individual spheres. Therefore, the fifth hypothesis in this work, which stated that responsibility falls above all on the parents, is rejected. Nonetheless, there is significant identification of childhood obesity as a question of individual responsibility where the parental figure is the majority, as it occurs in 29%.

The spread of the idea that it identifies childhood obesity as a reality that requires actions beyond individual initiatives is also reflected in the frame on the measures to be taken to prevent, reduce or treat it. So, there is a clear leaning towards social measures, that represent practically half the content analysed compared to 23% of the measures in the individual frame. The impact of legislative initiatives, that include legal provisions, standards, prohibitions and local, regional, national and international regulations are the most outstanding social measures. This had already been pointed out in studies on previous years (**Miralles et al.**, 2021). Four out of every ten news items that mention social measures fit this description.

It is therefore observed that, in the period being analysed, content on childhood obesity from the main Spanish digital newspapers favours a social-problem diagnosis that requires measures to be implemented by society as a whole, that is also responsible for prevention. These results stress the growing trend recorded by other studies (**Hilton et al.**, 2012; **Miralles et al.**, 2021; **van Hoof et al.**, 2018; **Barry et al.**, 2011; **Nimegeer et al.**, 2019) to report on obesity, in general, and childhood obesity in particular, from a social perspective.

It would be interesting to confirm whether this gradual modification of the digital newspapers' outlook on childhood obesity, confirmed in previous and the present research as a multi-factor and complex reality that requires implication from institutions and governments, can be extended to other media. This is one of the main limitations and future lines of research. This line would also require special attention to frames that appear in relevant messages on social media.

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References

- ALADINO** (2020). "Estudio sobre la Alimentación, Actividad Física, Desarrollo Infantil y Obesidad en Canarias." https://www.aesan.gob.es/AECOSAN/web/nutricion/detalle/aladino_2019.htm
- Amoedo-Casais, Avelino; Vara-Miguel, Alfonso; Negrodo-Bruna, Samuel; Moreno-Moreno, Elsa; Kaufmann-Argueta, Jurg** (2021). *Digital News España 2021*. Pamplona, Servicio de Publicaciones de la Universidad de Navarra. <https://doi.org/10.15581/019.003>
- Armentia, José I; Marín, Flora** (2020). "How the Spanish press frames obesity: A study of content published by El País, La Vanguardia, and El Correo in 2015". *Journalism*, v. 21, n. 12, pp. 1932-1950. <https://doi.org/10.1177/1464884918754851>
- Atanasova, D.; Koteyko, N.; Gunter, B.** (2012). "Obesity in the News: Directions for Future Research". *Obesity Reviews*, v. 13, n. 6, pp. 554-559. <https://doi.org/10.1111/j.1467-789X.2012.00985.x>
- Atanasova, Dimitrinka; Koteyko, Nelya** (2017). "Obesity frames and counter-frames in British and German online newspapers". *Health*, v. 21, n. 6, pp. 650-669. <https://doi.org/10.1177/1363459316649764>
- Baker, Paul; Brookes, Gavin; Atanasova, Dimitrinka; Flint, Stuart W.** (2020). "Changing frames of obesity in the UK press 2008–2017". *Social Science & Medicine*, v. 264, pp. 113403. <https://doi.org/10.1016/j.socscimed.2020.113403>
- Barry, Colleen L; Jarlenski, Marian; Grob, Rachel; Schlesinger, Mark; Gollust, Sarah E** (2011). "News media framing of childhood obesity in the United States from 2000 to 2009". *Pediatrics*, v. 128, n. 1, pp. 132-145. <https://doi.org/10.1542/peds.2010-3924>
- Benítez Brito, Nestor; Pérez-López, Alberto; Camacho-López, Saby; Fernández-Villa, Tania; Petermann-Rocha, Fanny; Valera-Gran, Desirée; Almendra-Pegueros, Rafael; Martínez-Sanz, José Miguel; Gamero, Amparo; Nava-González, Edna J** (2021). "Estigmatización de la obesidad: un problema a erradicar". *Revista Española de Nutrición Humana y Dietética*, v. 25, n. 1, pp. 5-7. <https://doi.org/10.14306/renhyd.25.1.1271>
- Bragg, Marie; Lutfeali, Samina; Greene, Tenay; Osterman, Jessica; Dalton, Madeline** (2021). "How Food Marketing on Instagram Shapes Adolescents' Food Preferences: Online Randomized Trial". *Journal of Medical Internet Research*, v. 23, n. 10, pp. e28689. <https://doi.org/10.2196/28689>
- Brewis, Alexandra; SturtzSreetharan, Cindi; Wutich, Amber** (2018). "Obesity Stigma as a Globalizing Health Challenge". *Globalization and Health*, v. 14, n. 1, pp. 20. <https://doi.org/10.1186/s12992-018-0337-x>
- Bueno Lozano, G.; Moreno Aznar, L. A.; Garagorri Otero, J. M.; Bueno Sánchez, M.** (2008). "Aspectos Clínico-epidemiológicos De La Obesidad Infantil". *Anales de Pediatría, XXX Congreso de la Sociedad Española de Endocrinología Pediátrica*, v. 68, n. Supl 1, pp. 45-51. https://seep.es/images/site/publicaciones/congresos/SEEP_2008.pdf
- Camacho Markina, Idoia; Bilbao, Udane Goikoetxea; Castillo, Iñigo Marauri** (2023). "Estigmatización social en el tratamiento informativo de la obesidad en la prensa española durante la pandemia". *Revista Latina De Comunicación Social*, n. 81, pp. 250-274. <https://doi.org/10.4185/RLCS-2023-1895>
- Castelló-Martínez, Araceli; Tur-Viñes, Victoria** (2021). "Una combinación de alto riesgo: obesidad, marcas de alimentación, menores y retos en YouTube". *Gaceta Sanitaria*, v. 35, n. 4, pp. 352-354. <https://doi.org/10.1016/j.gaceta.2020.06.018>
- Coates, Anna Elizabeth; Hardman, Charlotte Alice; Halford, Jason Christian Grovenor; Christiansen, Paul; Boyland, Emma Jane** (2019). "The effect of influencer marketing of food and a "protective" advertising disclosure on children's food intake". *Pediatric Obesity*, v. 14, n. 10, pp. e12540. <https://doi.org/10.1111/ijpo.12540>
- Coates, Anna Elizabeth; Hardman, Charlotte Alice; Halford, Jason Christian Grovenor; Christiansen, Paul; Boyland, Emma Jane** (2020). "'it's Just Addictive People That Make Addictive Videos': Children's Understanding of and Attitudes Towards Influencer Marketing of Food and Beverages by Youtube Video Bloggers". *International Journal of Environmental Research and Public Health*, v. 17, n. 2, pp. 449. <https://doi.org/10.3390/ijerph17020449>
- De Brún, Aoife; McCarthy, Mary; McKenzie, Kenneth; McGloin, Aileen** (2013). "'Fat is your fault'. Gatekeepers to health, attributions of responsibility and the portrayal of gender in the Irish media representation of obesity". *Appetite*, v. 62, pp. 17-26. <https://doi.org/10.1016/j.appet.2012.11.005>
- Eilders, Christiane; Lüter, Albrecht** (2000). "Research Note: Germany at War: Competing Framing Strategies in German Public Discourse". *European Journal of Communication*, v. 15, n. 3, pp. 415-428. <https://doi.org/10.1177/0267323100015003009>
- Elliott-Green, Alex; Hyseni, Lirije; Lloyd-Williams, Ffion; Bromley, Helen; Capewell, Simon** (2016). "Sugar-sweetened Beverages Coverage in the British Media: an Analysis of Public Health Advocacy Versus Pro-Industry Messaging". *BMJ Open*, v. 6, n. 7, pp. e011295. <https://doi.org/10.1136/bmjopen-2016-011295>

- Entman, Robert M** (1993). "Framing: Toward Clarification of a Fractured Paradigm". *Journal of Communication*, v. 43, n. 4, pp. 51-58. <https://doi.org/10.1111/j.1460-2466.1993.tb01304.x>
- FAO; IFAD; UNICEF; WFP; WHO** (2021). *The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition and affordable healthy diets for all*. Rome, FAO. <https://doi.org/10.4060/cb4474en>
- Flint, Stuart W** (2020). "Stigmatizing media portrayal of obesity during the coronavirus (COVID-19) pandemic". *Frontiers in Psychology*, v. 11, pp. 559721. <https://doi.org/10.3389/fpsyg.2020.02124>
- Flint, Stuart W.; Hudson, Joanne; Lavalley, David** (2015). "UK adults' implicit and explicit attitudes towards obesity: a cross-sectional study". *BMC Obesity*, v. 2, n. 1, pp. 31. <https://doi.org/10.1186/s40608-015-0064-2>
- Flores-Peña, Yolanda; Trejo-Ortiz, Perla M; Gallegos-Cabriales, Esther C; Cerda-Flores, Ricardo M** (2009). "Validity of two tests to evaluate maternal perception of child's weight". *Salud Pública de México*, v. 51, n. 6, pp. 489-495. <https://www.medigraphic.com/cgi-bin/new/resumenl.cgi?IDARTICULO=25759>
- Galván, Ilse Tatiana Mejía; Blázquez, Ferrán Padrós** (2022). "¿Influye el estilo parental percibido por el hijo en el sobrepeso u obesidad infantil?". *Psicología y Salud*, v. 32, n. 1, pp. 151-160. <https://doi.org/10.25009/pys.v32i1.2721>
- Gracia-Arnaiz, M.** (2010). "La obesidad como enfermedad, la obesidad como problema social". *Gaceta médica de México*, v. 146, n. 6, pp. 389-396. <https://www.medigraphic.com/cgi-bin/new/resumenl.cgi?IDARTICULO=29839>
- Hernández-Aguado, Ildefonso; Chilet-Rosell, Elisa** (2020). "The role of the media in the health policymaking process: perspectives of key actors in Spain". *Critical Public Health*, v. 30, n. 3, pp. 270-279. <https://doi.org/10.1080/09581596.2019.1575949>
- Hilton, Shona; Patterson, Chris; Teyhan, Alison** (2012). "Escalating coverage of obesity in UK newspapers: the evolution and framing of the "obesity epidemic" from 1996 to 2010". *Obesity*, v. 20, n. 8, pp. 1688-1695. <https://doi.org/10.1038/oby.2012.27>
- Holsti, O. R.** (1969). *Content Analysis for the Social Sciences and Humanities*. Reading, MA: Addison-Wesley. <https://library.wur.nl/WebQuery/titel/410414>
- Iyengar, Shanto** (1989). "How citizens think about national issues: A matter of responsibility". *American Journal of Political Science*, v. 33, n. 4, pp. 878-900. <https://doi.org/10.2307/2111113>
- Losada, Analia Veronica; Adrio, María Laura; Germano, Guadalupe** (2020). "Estilo parental percibido en adolescentes con trastorno de la conducta alimentaria". *Perspectivas Metodológicas*, v. 20, pp. e2687/7. <https://doi.org/10.18294/pm.2020.2687>
- Mathieu-Bolh, Nathalie** (2022). "The Elusive Link Between Income and Obesity". *Journal of Economic Surveys*, v. 36, n. 4, pp. 935-968. <https://doi.org/10.1111/joes.12458>
- Mccombs, Maxwell E.; Shaw, Donald L.** (1972). "The Agenda-Setting Function of Mass Media". *Public Opinion Quarterly*, v. 36, n. 2, pp. 176-187. <https://doi.org/10.1086/267990>
- McCombs, Maxwell; Evatt, Dixie** (1995). "Los temas y los aspectos: explorando una nueva dimensión de la agenda setting". *Communication & Society*, v. 8, n. 1, pp. 7-32. <https://doi.org/10.15581/003.8.35616>
- Medina, F X; Aguilar, A; Solé-Sedeño, J M** (2014). "Aspectos sociales y culturales sobre la obesidad: reflexiones necesarias desde la salud pública". *Nutrición Clínica y Dietética Hospitalaria*, v. 34, n. 1, pp. 67-71. <https://doi.org/10.12873/341medina>
- Miralles, Mar; Chilet-Rosell, Elisa; Hernández-Aguado, Ildefonso** (2021). "Encuadre mediático de la obesidad infantil en las noticias de prensa generalista en España". *Gaceta Sanitaria*, v. 35, n. 3, pp. 256-259. <https://doi.org/10.1016/j.gaceta.2019.09.010>
- Monaghan, Lee F** (2021). "Degrading bodies in pandemic times: Politicizing cruelty during the COVID-19 and obesity crises". *Journal of Communication Inquiry*. <https://doi.org/10.1177/01968599211043403>
- Montaña, Mireia; Jiménez-Morales, Mònika; Vázquez, Mercè** (2019). "Food advertising and prevention of childhood obesity in Spain: analysis of the nutritional value of the products and discursive strategies used in the ads most viewed by children from 2016 to 2018". *Nutrients*, v. 11, n. 12, pp. 2873. <https://doi.org/10.3390/nu11122873>
- Nimegeer, Amy; Patterson, Chris; Hilton, Shona** (2019). "Media framing of childhood obesity: a content analysis of UK newspapers from 1996 to 2014". *BMJ Open*, v. 9, n. 4, pp. e025646. <https://doi.org/10.1136/bmjopen-2018-025646>
- OECD** (2019). *The Heavy Burden of Obesity*. OECD Health Policy Studies, OECD Publishing. <https://doi.org/10.1787/67450d67-en>
- Ortiz-Barreda, Gaby; Vives-Cases, Carmen; Ortiz-Moncada, Rocío** (2012). "La cobertura periodística de la obesidad en la prensa española (2000-2005)". *Perspectivas en Nutrición Humana*, v. 14, n. 1, pp. 23-32. <https://doi.org/10.17533/udea.penh.10706>

- Pearl, Rebecca L** (2018). "Weight Bias and Stigma: Public Health Implications and Structural Solutions". *Social Issues and Policy Review*, v. 12, n. 1, pp. 146-182. <https://doi.org/10.1111/sipr.12043>
- Puhl, Rebecca M; Heuer, Chelsea A** (2010). "Obesity Stigma: Important Considerations for Public Health". *American Journal of Public Health*, v. 100, n. 6, pp. 1019-1028. <https://doi.org/10.2105/AJPH.2009.159491>
- Reyes Pedraza, María Eugenia; García González, Janet; Téllez Castilla, María Delia** (2018). "Impacto de la publicidad en los hábitos alimenticios en los niños". *Revista Espanola de Comunicacion en Salud*, v. 9, n. 2, pp. 116-126. <https://doi.org/10.20318/recs.2018.4490>
- Rodríguez Rossi, Rubén** (2006). "La obesidad infantil y los efectos de los medios electrónicos de comunicación". *Investigación en Salud*, v. 8, n. 2, pp. 95-98. <https://www.redalyc.org/pdf/142/14280207.pdf>
- Rubino, Francesco; Puhl, Rebecca M; Cummings, David E; Eckel, Robert H; Ryan, Donna H; Mechanick, Jeffrey I; Nadglowski, Joe; Ramos Salas, Ximena; Schauer, Phillip R; Twenefour, Douglas** (2020). "Joint International Consensus Statement for Ending Stigma of Obesity". *Nature Medicine*, v. 26, n. 4, pp. 485-497. <https://doi.org/10.1038/s41591-020-0803-x>
- Sanchez-Sabate, Ruben; Zunino, Esteban; Badilla-Briones, Yasna; Celedon Celis, Natalia; Caro Saldías, Daniel** (2021). "Chilean Digital Press Coverage of the Relation Between Diet and Mental Health". *International Journal of Environmental Research and Public Health*, v. 18, n. 5, pp. 2273. <https://doi.org/10.3390/ijerph18052273>
- Semetko, Holli A.; Valkenburg, Patti M.** (2000). "Framing European Politics: A Content Analysis of Press and Television News". *Journal of Communication*, v. 50, n. 2, pp. 93-109. <https://doi.org/10.1111/j.1460-2466.2000.tb02843.x>
- Shekar, Meera; Popkin, Barry** (2020). *Obesity: Health and Economic Consequences of an Impending Global Challenge*. World Bank Group. <https://doi.org/10.1596/978-1-4648-1491-4>
- Sievert, K.; Lobstein, T.; Baker, P.** (2018). "Stigmatizing Images in the Media – A Cross-national Survey". *Clinical Obesity*, v. 8, n. 6, pp. 407-410. <https://doi.org/10.1111/cob.12282>
- Stanford, Fatima Cody; Tauqeer, Zujaja; Kyle, Theodore K.** (2018). "Media and Its Influence on Obesity". *Current Obesity Reports*, v. 7, n. 2, pp. 186-192. <https://doi.org/10.1007/s13679-018-0304-0>
- Stewart, Sarah-Jane F; Ogden, Jane** (2022). "Motivating or stigmatising? The public health and media messaging surrounding COVID-19 and obesity: a qualitative think aloud study". *Health Education*, v. 122, n. 4, pp. 374-386. <https://doi.org/10.1108/HE-04-2021-0067>
- Sun, Ye; Krakow, Melinda; John, Kevin K.; Liu, Miao; Weaver, Jeremy** (2016). "Framing Obesity: How News Frames Shape Attributions and Behavioral Responses". *Journal of Health Communication*, v. 21, n. 2, pp. 139-147. <https://doi.org/10.1080/10810730.2015.1039676>
- Valenzuela, Sebastián; McCombs, Maxwell** (2014). "The Agenda-Setting Role of the News Media." In: *An Integrated Approach to Communication Theory and Research*. Stacks, Don W.; Salwen, Michael B. (Eds.), pp. 104-119. Routledge. <https://www.taylorfrancis.com/chapters/edit/10.4324/9780203887011-14>
- van Hooft, J.; Patterson, C.; Löf, M.; Alexandrou, C.; Hilton, S.; Nimegeer, A.** (2018). "Media Framing and Construction of Childhood Obesity: A Content Analysis of Swedish Newspapers". *Obesity Science & Practice*, v. 4, n. 1, pp. 4-13. <https://doi.org/10.1002/osp4.150>
- Vorkoper, Susan; Arteaga, S Sonia; Berrigan, David; Bialy, Kevin; Bremer, Andrew A; Cotton, Paul; Czajkowski, Susan; Neilson, Elizabeth; Osganian, Stavroula K; Pratt, Charlotte A** (2021). "Childhood Obesity Prevention Across Borders: A National Institutes of Health Commentary". *Obesity Reviews*, v. 22, n. S3, pp. e13243. <https://doi.org/10.1111/obr.13243>
- Wang, Youfa; Lim, Hyunjung** (2012). "The Global Childhood Obesity Epidemic and the Association Between Socio-Economic Status and Childhood Obesity". *International Review of Psychiatry*, v. 24, n. 3, pp. 176-188. <https://doi.org/10.3109/09540261.2012.688195>
- Wellman, Nancy S; Borra, Susan T; Schleman, Jennifer C; Matthews, Jania A; Amundson, Daniel; Tuttle, Michele** (2011). "Trends in news media reporting of food and health issues: 1995-2005". *Nutrition Today*, v. 46, n. 3, pp. 123-129. <https://doi.org/10.1097/NT.0b013e31821a9da4>
- Westall Pixton, Debra Lynne** (2011). "La obesidad infantil en la prensa española". *Estudios sobre el Mensaje Periodístico*, v. 17, n. 1, pp. 225-239. https://doi.org/10.5209/rev_ESMP.201.v17.n1.13
- WHO** (2017). "Weight bias and obesity stigma: considerations for the WHO European Region." World Health Organization. Regional Office for Europe. <https://apps.who.int/iris/handle/10665/353613>
- World Health Organization** (2000). "Obesity: preventing and managing the global epidemic: report of a WHO consultation." World Health Organization. <https://apps.who.int/iris/handle/10665/42330>

World Health Organization (2016a). "Report of the commission on ending childhood obesity." World Health Organization. <https://apps.who.int/iris/handle/10665/204176>

World Health Organization (2016b). "Tackling Food Marketing to Children in a Digital World: Trans-disciplinary Perspectives." <https://nijz.si/wp-content/uploads/2022/11/Tackling-food-marketing-children-digital-world-trans-disciplinary-perspectives-en.pdf>

World Health Organization (2022). "Report on the fifth round of data collection, 2018–2020: WHO European Childhood Obesity Surveillance Initiative (COSI)." WHO Regional Office for Europe. <https://www.who.int/europe/publications/i/item/WHO-EURO-2022-6594-46360-67071>

Zonana-Nacacha, Abraham; Conde-Gaxiola, María Elena (2010). "Percepción de las madres sobre la obesidad de sus hijos". *Gaceta médica de México*, v. 146, n. 3, pp. 165-168. <https://www.anmm.org.mx/bgmm/2010/3/2010-146-3-165-168.pdf>