# Social stigmatization in the news coverage of obesity in the Spanish press during the pandemic

## Estigmatización social en el tratamiento informativo de la obesidad en la prensa española durante la pandemia

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**ABSTRACT**
**Introducción:** This study analyzes the treatment of obesity in the Spanish press during the first year of the COVID-19 pandemic, to find out how the information on this topic was framed. **Methodology:** Using the methodology of content analysis and the framing theory as a reference, 350 content units on obesity and COVID-19 published in the digital editions of the four most widely read Spanish general-information newspapers in 2020 were analyzed: *El País, El Mundo, La Vanguardia,* and *ABC*. **Results:** In the contents that focus on obesity the individual responsibility frame predominates, attributing the cause of obesity to individual responsibility and disseminating the idea that being overweight is a personal choice. On the other hand, in those centered on COVID-19, the collective responsibility frame predominates. Offensive language and images that reflect negatively on people with obesity are

also used, albeit in a minority of cases. **Discussion:** The media can influence the beliefs and attitudes of its audience, as well as healthcare decision-making. Thus, how the media portrays obesity is important in increasing or reducing the stigmatization of people who suffer from it. **Conclusions:** The narrative attributing the cause of obesity to individual responsibility fosters increased social stigma and reinforces weight-based stereotypes and should be avoided in the media.

**Keywords:** Digital journalism; Spanish press; Content analysis; Obesity; COVID-19; Stigmatization; Framing.

**RESUMEN**

**Introducción:** El presente estudio analiza el tratamiento de la obesidad en la prensa española durante el primer año de la pandemia de COVID-19, con el objetivo de conocer cómo se enmarcaron sus informaciones sobre este tema. **Metodología:** Mediante la metodología del análisis de contenido y con la teoría del *framing* como referencia, se estudiaron 350 unidades de contenido acerca de obesidad y COVID-19 publicadas en las ediciones digitales de los cuatro diarios españoles impresos de información general más leídos en el año 2020: *El País, El Mundo, La Vanguardia* y *ABC*. **Resultados:** En los contenidos que protagoniza la obesidad prima el encuadre de responsabilidad individual, que atribuye la causa de la obesidad a la persona que la padece y que difunde la idea de que tener sobrepeso es una elección personal. Por el contrario, en aquellos centrados en la COVID-19 predomina el encuadre de responsabilidad colectiva. También se utiliza, aunque de manera minoritaria, lenguaje ofensivo e imágenes que reflejan de forma negativa a personas con obesidad. **Discusión:** Los medios de comunicación pueden influir en las creencias y actitudes de su audiencia, así como en la toma de decisiones sobre salud. Por ello, la forma en que los medios representan la obesidad es importante para aumentar o reducir la estigmatización hacia las personas que la sufren. **Conclusiones:** La narrativa que atribuye la causa de la obesidad a la responsabilidad individual fomenta el aumento del estigma social y refuerza los estereotipos basados en el peso, por lo que debería evitarse en los medios de comunicación.

**Palabras clave:** Periodismo digital; Prensa española; Análisis de contenido; Obesidad; COVID-19; Estigmatización; *Framing*.

## 1. Introduction

Obesity has become a major health concern in modern societies. According to the latest data published by the World Health Organization (WHO)[1], global obesity nearly tripled between 1975 and 2016. In 2016, more than 650 million adults over the age of 18 were obese and, by 2020, 39 million children under the age of 5 were overweight or obese. WHO warns that being overweight and obese are linked to more deaths globally than undernutrition. There are more obese than undernourished people in all regions of the world, except in parts of sub-Saharan Africa and Asia.

In Spain, the Ministry of Health estimates the prevalence of obesity[2] at 16% in adults aged 18 years or older (2020 data) and 10.3% in children aged 2-17 years (2017 data). There are differences between autonomous communities, ranging from 6.8% in Melilla to 19.7% in Andalusia, in the case of adults, and from 1.4% in Navarra to 18% in Ceuta, in the case of children.

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[1] https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight
[2] https://www.sanidad.gob.es/estadEstudios/sanidadDatos/tablas/tabla10.htm

When we speak of obesity, we refer to a condition of abnormal or excessive accumulation of fat in adipose tissue, to the point that health can be affected (WHO, 2000). It is a multifaceted and complex problem, the causes of which encompass biology and behavior but are situated in a cultural, environmental, and social framework (Flint, 2020). As a consequence, it is not a matter of individual responsibility but of the population at large and must be addressed as such; therefore, effective prevention and management of overweight will require an integrated approach, involving actions across all sectors of society (WHO, 2000).

Obesity can not only have negative consequences on the health of affected individuals but also implies discrimination, exclusion, and socially accepted rejection towards them (Benítez et al., 2021). This stigmatization is a widespread and persistent problem in recent decades (Brewis et al., 2018; Flint et al., 2015), impacting multiple areas of society, such as the workplace, schools, healthcare settings, families, and the media (Pearl, 2018; Puhl and Heuer, 2010).

Some recent studies suggest that, on the occasion of the COVID-19 pandemic, media-disseminated messages accentuated the portrayal of overweight stigma and discrimination (Flint, 2020; Monaghan, 2021; Stewart and Ogden, 2022), since almost from the beginning of the pandemic, a higher body mass index was associated with a higher risk of severe illness and death from the coronavirus. In a pandemic situation that already increased generalized anxiety among the population, this association further problematized overweight and contributed to increased anxiety among people with obesity to a greater extent than among others.

In this context, the present study aims to analyze the treatment of obesity in the Spanish press during the first year of the COVID-19 pandemic, to find out how information on this topic was framed. To the extent that the media disseminate messages that increase the stigmatization of people with obesity, they can reinforce prejudice and discrimination towards these people. It is, therefore, important to increase research that contributes to the reflection on the role of the media in the social perception of obesity.

## 1.1. Weight stigma

The World Health Organization recognizes that obesity is not a problem of individual responsibility (WHO, 2000), given that it is the result of a complex and multifactorial process influenced by genetic predisposition, pathophysiological changes, psychological stress, medications, social environment, etc., and is not solely the result of an inadequate lifestyle (AlArab and Antoun, 2022; Lawrence, 2004; Rubino et al., 2020).

Thus, the prevailing view in society that being overweight is a personal choice and can be reversed through voluntary decisions to eat less and exercise more contributes to discrimination against affected individuals. People with obesity, besides the possible negative effects it may have on their health, have to cope with prejudice and social stigmatization that considers them lazy, gluttonous, and lacking in willpower and self-discipline (Rubino et al., 2020).

Weight prejudice is defined as negative attitudes and beliefs towards others because of their weight and can result in stigma, which is the social label placed on people who are victims of prejudice and involves actions against them that can cause exclusion and marginalization, and result in inequalities (WHO, 2017). Stigma involves social devaluation and denigration of people who are perceived to be overweight and leads to negative stereotypes and discrimination towards those individuals (Tomiyama, 2014). As obesity rates have increased in much of the world, so has prejudice toward people with higher body weight (Puhl et al., 2015). Although stigma generally affects the entire population with obesity, women suffer discriminatory experiences to a greater extent than men because they are more likely to internalize the negative messages (Gómez-Pérez and Ortiz, 2019).

Weight stigma and discrimination promote poor health (Hunger et al., 2015; Pearl and Puhl, 2018; Puhl and Heuer, 2010; Puhl and Suh, 2015) and cause significant harm to affected individuals. Their consequences include an increased incidence of stress-related negative emotional experiences, such as depression, anxiety, distress, low self-esteem, and body dissatisfaction (Friedman et al., 2005; Friedman et al., 2008; Jackson et al., 2000; Puhl and Brownell, 2006, Puhl and Heuer, 2010; Rosenberger et al., 2007). They also cause eating disorders because they make these people more prone to overeating and avoiding diets (Myers and Rosen, 1999, Puhl and Brownell, 2006), and to eating unhealthy, high-calorie, high-sugar foods (Schvey et al., 2012; Tomiyama and Mann, 2013). They even increase the likelihood of mortality by up to almost 50% (Sutin et al., 2015).

Weight stigma can also exert a negative influence on public health policies, access to treatment, and research (Hayden-Wade et al., 2005; Schvey et al., 2012). The attitude of healthcare professionals toward obesity is biased and partial, as many believe that it is simply the result of a lack of self-control of the individuals suffering from it and that it is solely their responsibility to prevent it (Bleich et al., 2012; Budd et al., 2011). All of this has a negative impact on the health care received by overweight individuals.

Beyond these direct health harms, studies show that stigmatization is not only ineffective for weight loss but has the opposite effect, leading to weight gain or greater difficulty in losing weight (Charrow and Yerramilli, 2018; Jackson et al., 2014), lower motivation to exercise (Vartanian and Shaprow, 2008), as well as less actual physical activity (Wott and Carels, 2010) and increased sedentary behaviors (Schvey et al., 2012).

Coinciding with World Obesity Day 2020 (March 4), Rubino et al. (2020) published a study on the causes and consequences of weight stigma and the importance of addressing it not only as a public health issue but also as a human and social rights issue. The authors aimed to address the gap between the stigmatizing narratives surrounding obesity and the current scientific understanding of the mechanisms of body weight regulation as a novel approach to previous initiatives.

According to this study, scientific evidence shows that body weight regulation does not depend solely on personal will but that biological, genetic, and environmental factors contribute decisively to obesity. However, the widespread narrative in public health campaigns, in political discourse, in the media, and even in the scientific literature remains the conventional one, which attributes the cause of obesity primarily to individual responsibility. This narrative plays an important role in the expression of social stigma and reinforces weight-based stereotypes (Rubino et al., 2020).

Rubino et al. (2020) believe that weight stigma can mislead clinical decisions and public health messages, and may promote the unproductive allocation of limited research resources. The widespread view that obesity is a choice and is solved by a simple treatment plan to eat less and exercise more contributes to the social stigma of those who suffer from it, increases the obesity epidemic, and frustrates any attempt to improve strategies for its management. They, therefore, believe that a concerted effort by all stakeholders- including health professionals, researchers, policymakers, patients, and the media- is needed to promote initiatives to prevent weight stigma and discrimination.

The authors of the study assembled a multidisciplinary group of 36 international experts, including representatives from ten scientific organizations, which produced a joint *International Consensus Statement*[3] with recommendations for eliminating weight bias. In the following section, we will mention those relating to the media.

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[3] https://www.kcl.ac.uk/research/obesity-pledge

## 1.2. Weight stigma in the media

The media occupy a privileged position to access the majority of the population and disseminate messages to raise awareness about specific aspects of individual and collective health. It has been shown that the media influence citizens and establish beliefs, attitudes, and behaviors about health, so they play a very important role in encouraging self-care and promoting habits that promote healthy lifestyles (Finnegan and Viswanath, 2002; Parrot, 2004; Scarpati et al., 2015; Viswanath et al., 2008; Westwood and Westwood, 1999).

Specifically, traditional print media play a fundamental role in the health decision-making of their readers, even if they have not actively sought information, as they often receive information without any intentionality on their part that comes to have consequences on their health (Longo, 2005). It has also been shown that the press influences the public's perception of the seriousness of diseases and that more objective and pedagogical reporting of ailments contributes to a better understanding of them (Young et al., 2008).

This influence of the media is framed within the theory of the social construction of reality, formulated by Berger and Luckmann (1968), which argues that reality is socially constructed, in the sense that everyday life is presented as a reality that is interpreted by people and that for them has the subjective meaning of a coherent world. Therefore, the media not only inform but also construct reality (Entman, 1993; Noelle-Neumann, 1995) and influence the opinions and attitudes of the public (Lippmann, 2003; McQuail, 2000; Wolf, 1994). In this way, the media shape our perception of the world and make us participants in their way of understanding it.

The agenda-setting theory develops this influence of the media in the construction of reality. McCombs (2006) explains that the public uses media messages to decide which are the issues on which it will focus its attention and thought, and perhaps its action, so that the media agenda becomes the social agenda. The framing theory argues that the media not only establish the agenda of topics for public debate but also define a series of guidelines (frames) with which they intend to favor a certain interpretation of the facts on which they report. It is a process of selecting a few elements of the perceived reality and constructing a narrative that highlights the connections between them to promote a particular interpretation, a certain vision of the world that the public assumes in some way (Entman, 1993; Sádaba, 2008). In short, according to agenda-setting and framing theories, the issues that receive the most media coverage are those that generate the greatest concern in public opinion and, moreover, the approach to each issue implicitly dictates to the receivers a particular way of thinking about a certain topic.

Regarding weight stigma, research indicates that the media is a pervasive source of bias and perpetuates stigma through the use of inaccurate framing of obesity and inappropriate images, language, and terminology, which treat obesity as a problem of personal responsibility, rather than due to socio-structural factors (Heuer et al., 2011; Saguy and Almeling, 2008; Yoo and Kim, 2011). For their part, people with obesity perceive that information on the subject in the media increases the social discrimination they suffer (Couch et al., 2015). However, several studies have identified during the last decades a trend towards a balance between individual and social responsibility attributions, embodied in an increase in mentions of social causes and solutions and a decrease in mentions of personal solutions, especially in newspapers and not so much on television (Kim and Willis, 2007; Lawrence, 2004).

Media reports on COVID-19 and obesity have increased, along with the timing of the pandemic and the increasing number of deaths and ICU admissions of people with obesity, and a consistent undercurrent

of stigma towards people living with obesity has become evident in these reports (Flint, 2020). The relationship between obesity and COVID-19 is framed by the media as a dual threat, with a discourse that encourages established tendencies to demean bodies labeled as overweight, positioning them as deficient and in need of correction (Monaghan, 2021). The media treatment of obesity has shifted responsibility away from health systems and governments and onto overweight people with claims that further problematize fatness, in line with the principles of the controversial weight-centered health paradigm (Pausé et al., 2021). This is why messages about COVID-19 and obesity are considered flawed for being stigmatizing, inconsistent, and unclear (Stewart and Ogden, 2022).

Correct treatment of information on these topics can contribute to the elimination of stigma. To facilitate such treatment, the guidelines that have been developed by various organizations and groups to deal appropriately with the issue of obesity in the media are useful (INADI, 2020; OAC, 2017; Rubino et al., 2020). There is also a gallery[4] of bias-free images created by OAC (Obesity Action Coalition), which can be used by journalists when dealing with this topic.

Among the recommendations contained in these guidelines, it is important not to reproduce stereotypes that associate fatness with lack of exercise, malnutrition, and lack of willpower, nor those that associate fatness with disease or thinness with good health. It is also necessary to avoid any ridiculing of people because of their physical characteristics and to avoid describing body weight with terminology and language that may be offensive. It is about putting people before the disease and not labeling them. Images that reinforce negative stereotypes or disrespectfully depict people affected by obesity should be avoided, and those that show them participating in various activities, portrayed in appropriate clothing and a well-groomed appearance, and depicted neutrally, without additional features that may perpetuate weight-based stereotypes should be prioritized.

Ultimately, given the critical role of the media in public perception, they must provide a fair, accurate, and non-stigmatizing portrayal of obesity. A commitment by the media to change the narrative around obesity is necessary (Rubino et al., 2020).

## 2. Objectives

The general objective of this research is to analyze the treatment of obesity in the Spanish press during the first year of the COVID-19 pandemic to know how information on this topic was framed and whether this approach contributed to exacerbating the social stigmatization of people with obesity.

The specific objectives are the following:

O1.- To establish which are the frames that the newspapers gave to the information: whether the messages that treat obesity as a problem of individual responsibility or as a collective issue prevail.

O2.- To quantify the number and type of information sources used in the news.

O3.- To determine whether or not the type of language used is offensive to people with obesity, according to the recommendations established in the guidelines consulted.

O4.- To determine whether or not the images accompanying the information are adequate to avoid stigmatization, according to the recommendations established in the guidelines consulted.

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[4] https://www.obesityaction.org/get-educated/public-resources/oac-image-gallery/

Based on these objectives, the following hypotheses were established:

H1.- Frames that attribute responsibility for obesity to individual behavior predominate, to the detriment of those that treat the issue as a collective problem.

H2.- The most frequently used sources of information are the institutional ones, which disseminate the official version of the facts, rather than the specialized ones, which offer expert and contrasted information on them.

H3.- Language that labels people with their disease and is offensive is frequently used.

H4.- The majority of published images inadequately represent the problem of obesity.

## 3. Methodology

The method used to analyze the data was content analysis, a technique that is highly valued in communication research for examining and revealing the content of media messages (Bardin, 2002; Berelson, 1952; Holsti, 1969; Krippendorff, 1990; Matthes and Kohring, 2008). The newspapers chosen are the digital editions of the four most widely read Spanish general-information print newspapers in 2020, according to data from the 3rd wave of the EGM: *El País, El Mundo, La Vanguardia,* and *ABC*[5].

The analysis period covers from May 1st, 2020, to April 30th, 2021, a full year, to know the evolution of the results throughout the period. On March 11th, 2020, WHO declared COVID-19 a pandemic, and in April studies began to be published suggesting that people with obesity were at higher risk of developing more severe coronavirus disease (Lighter et al., 2020; Petrilli et al., 2020; Stefan et al., 2020). May 1st was chosen because it is estimated that it was around that date that news stories linking obesity and COVID-19 began to appear in the press.

The search engines of the newspapers' own websites were used to search for news items using the key terms "COVID" and "obesity" and "coronavirus" and "obesity" anywhere in the text of the news item. As a result, and after eliminating matches in both searches, 434 units of analysis were obtained (Table 1).

Of the 434 units found, 84 contents were discarded that, despite appearing in the search results, had no relation with either obesity or COVID-19 (redundant contents or ads in headlines of already registered contents, use of keywords in a figurative sense, appearance as related content of an interview that only has to do with the subject under analysis because of the interviewee's surname –Obeso–, obesity in pets...). Therefore, the corpus of the analysis is composed of 350 contents.

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[5] https://reporting.aimc.es/index.html#/main/diarios

**Table 1:** *Contents with references to "obesity" and "coronavirus", and "obesity" and "COVID".*

| Media | COVID + obesity | coronavirus + obesity | Total | Total without duplications or extraneous references |
|---|---|---|---|---|
| *abc.es* | 197 | 166 | 363 | **178** |
| *lavanguardia.com* | 102 | 75 | 177 | **77** |
| *elmundo.es* | 93 | 79 | 172 | **75** |
| *elpais.com* | 23 | 24 | 47 | **20** |
| **TOTAL** | **415** | **344** | **759** | **350** |

**Source:** Own elaboration.

The data coding sheet contains the following variables:

1. Name of the media outlet.
2. Date of publication.
3. Headline.
4. Main topic. The presence of the terms "obesity", "overweight", "coronavirus", and "covid" in the headline elements and the first paragraph determine the location of the contents in one of the following topics:

    4.1. Obesity.
    4.2. COVID-19.
    4.3. Both.

5. Number of information sources. Sum of the total number of sources mentioned.
6. Type of information sources. Identification of each of the sources mentioned, according to the following typology:

    6.1. Official Sources. They are those who speak on behalf of a group and tell the official version of the facts:

        6.1.1. Governmental. Persons or documents that convey the messages of a government or official agencies reporting to a government.

        6.1.2. Political. Persons or documents that convey the messages of a political party.

        6.1.3. Institutional. Members, spokespersons, or documents of local, regional, national, or international institutions that do not depend on a government.

        6.1.4. Food industry. Persons or documents conveying the messages of a company, corporation, or organization belonging to the food industry.

        6.1.5. Pharmaceutical industry. Persons or documents conveying the messages of a company, corporation, or organization belonging to the pharmaceutical industry.

        6.1.6. Other official sources.

    6.2. Specialized Sources. They are technically competent and are not involved in the facts, so they tend to offer a more objective and impartial point of view:

        6.2.1. Scientific/Medical. Persons, entities, or documents belonging to the scientific or medical field.

6.2.2. Scientific journals.

6.2.4. Patient associations.

6.2.5. Other specialized sources.

6.3. Media.

6.4. News agencies.

6.5. Individual citizen testimonials.

6.6. Others.

7. Informative meetings:

7.1. Attributed responsibility[6]:

7.1.1. Individual framing. The news item presents obesity as an individual issue attributable to the behaviors chosen by the person or their family and anticipates individual solutions.

7.1.2. Collective frame. The news item attributes obesity to social or environmental conditioning factors, which anticipates the need for policies aimed at the obesogenic environment to solve the problem.

7.1.3. Indeterminate.

7.2. Language used[7]:

7.2.1. It prioritizes people and is not offensive. When naming people with obesity, the news item considers the person before the disease, for example, "The woman was affected by obesity" or "The man with obesity is on the bus". It does not use moral judgments or allusions to character flaws of these people.

7.2.2. Labels people with their disease and is offensive. By naming people with obesity, the news story dehumanizes them and prioritizes the disease, e.g., "The woman was obese" or "The man on the bus is very obese." Uses potentially pejorative adjectives or adverbs when describing people affected by excess weight.

7.3. Images[8]:

7.3.1. Appropriate images of people affected by obesity. Avoid pejorative portrayals of people affected by obesity; show them in ways that defy weight-based stereotypes (e.g., eating healthy foods, and engaging in physical activity).

7.3.2. Inappropriate images. Place unnecessary emphasis on excess weight or isolate parts of a person's body (e.g., abdomen or buttocks, or people with their faces covered); show people affected by obesity engaging in stereotypical behaviors (e.g., eating junk food, engaging in sedentary behavior); show people affected by obesity scantily clad or looking disheveled.

To calculate the degree of reliability, a double independent coding was carried out on a random sample of 45 news articles: 20 from abc.es, 10 from lavanguardia.com, 10 from elmundo.es, and 5 from elpais. com, representing 12.85% of the total information to be analyzed. The articles were coded separately by two researchers, and a percentage of agreement of 0.42 was obtained according to Holsti's method (1969), an unacceptable level. The greatest discrepancies occurred regarding the type of information sources, so an analysis of the differences between the two researchers and a third one was carried out so that some variables were redefined and the categorization corresponding to specialized sources was modified. Subsequently, the first two researchers repeated the independent double coding of the sample

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[6] Encuadres utilizados por Miralles, Chilet y Hernández (2021).

[7] Obesity Action Coalition (OAC): https://bit.ly/3khBjBZ

[8] Encuadres utilizados por Miralles, Chilet y Hernández (2021).

and obtained an agreement percentage of 0.89, which yields a very acceptable reliability coefficient (Neuendorf, 2002). Likewise, we proceeded to validate the degree of agreement in one of the more qualitative variables, that of the responsibility frame of each text. For this purpose, Cohen's Kappa coefficient was applied, which gave a result of 0.738, a value that reflects a substantial degree of agreement.

## 4. Results

Of the 350 pieces of information found on obesity and COVID-19, 178 contents were published in abc.es, 77 in lavanguardia.com, 75 in elmundo.es, and 20 in elpais.com. The first step in the analysis was to identify the main topic addressed, which yielded the following results: 80 of the contents have obesity as the main topic; 222 focus on COVID-19; in 48, COVID-19 and obesity share the limelight.

### 4.1. Informative frames

Of the 350 units analyzed, 54.5% (191) have a collective framework, 40.5% (142) have an individual framework, and 5% (17) have an undetermined framework. This percentage distribution registers significant changes when analyzed separately according to the main topic addressed: obesity, COVID-19, or shared protagonism of both.

If we take as a reference the news items whose main topic is obesity (Figure 1), it has been found that, in 61 of the 80, the dominant frame is the individual, while in 17 the collective frame predominates. In two of the 80, the frame was coded as indeterminate. Also in the case of the 48 contents in which the informative protagonism is shared by obesity and COVID-19, the individual approach predominates over the collective one, although the difference is smaller. Thus, of the 48 units, in 27 the individual approach predominates compared to 19 in which the collective approach predominates. In two units, the setting has been indicated as indeterminate.

**Figure 1:** *Types of framing of texts with obesity as the main theme.*
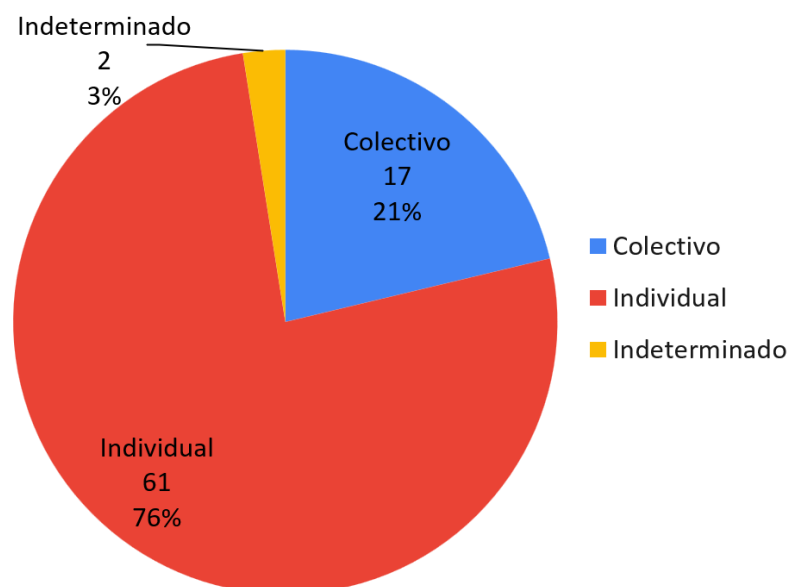


**Source:** Own elaboration.

This predominance is even more striking when we observe that, in the information in which COVID-19 is the main theme, the proportions are inverted (Figure 2). Thus, 155 of the 222 units analyzed fall under a collective frame, while 54 are reported from an individual frame, and 13 appear under an indeterminate frame.

**Figure 2:** *Types of text framing with COVID-19 as the main theme.*
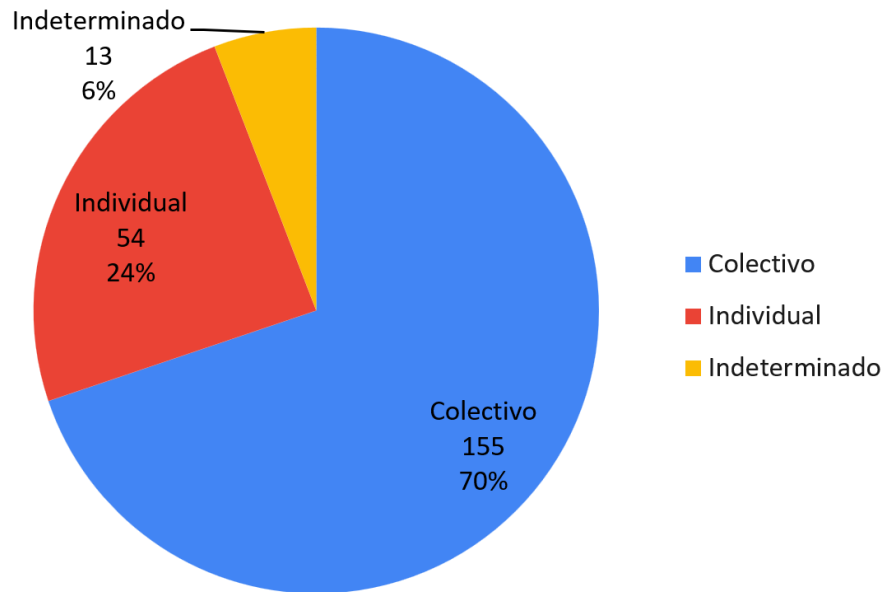


**Source:** Own elaboration.

## 4.2. Offensive language

In only 12 of the 350 contents, 3.4% of the total, has language been found that labels people suffering from obesity and overweight with their disease and is offensive.

However, the proportions change, and increase considerably, when the focus is on content in which obesity is the main topic or shares prominence with COVID-19. If these 128 units of analysis are taken as a reference, the proportion rises to 8.6%. The proportion is slightly higher in the contents with obesity as the main topic (8 out of 80, 10%) than in those in which the protagonism is shared with COVID-19 (3 out of 48, 6.25%).

Most of them focus on individual cases of public figures, such as the then President of the United States, Donald Trump, the North Korean dictator Kim Jong-un, or the then Prime Minister of Great Britain, Boris Johnson. Regarding the latter, and by way of example, information has been encoded in which he, about the weight loss he has undergone, states that "he was very fat" (lavanguardia.com, 5/03/21). Something similar happens in the case of the actor Russell Crowe (abc.es, 1/04/21). And the same can be said of the information that deals with the complaint of the mayor of the city of Cadiz for the personal attacks he has received due to his weight gain. In the latter case, the offensive language is the one that appears in quotation marks as a reflection of the comments written on social networks by anonymous citizens against the Andalusian mayor (lavanguardia.com, 27/05/20, elmundo.es, 27/05/20, elpais.com 28/05/20).

Also noteworthy are the references to specific cases of anonymous citizens whose weight and relationship with COVID-19 made them news. An example of this is the information that the "fattest man in the world" has managed to overcome the coronavirus (abc.es, 30/09/20), or that of the Chinese citizen who gained 101 kilos during confinement (elpais.com, 25/06/20).

## 4.3. Inappropriate images

In the 350 content units analyzed, we have checked whether the image or images used in each one of them are appropriate or not according to the guidelines established in the guides consulted and included in the methodology. Thus, in 18 of the content units, 5.1%, images considered inappropriate are included. As in the case of language, the proportion of inappropriate images rises significantly if obesity is the main topic or if it shares the limelight with COVID-19. In the case of contents with obesity as the main topic, 16.2% of the 80 units analyzed have inappropriate images, while this percentage drops to 10.4% in the 48 units in which obesity and COVID-19 share prominence.

A clear example of inappropriate use of images is the photograph used in the content dealing with the case of a Mexican citizen who suffers from a serious case of morbid obesity and manages to overcome the virus. Under the title "El hombre más gordo del mundo supera el coronavirus" (The world's fattest man overcomes the coronavirus) (abc.es, 30/09/20) a photograph appears (figure 3) showing the person bedridden and semi-naked. This is also the case of the information on the Chinese citizen who gained 101 kg of weight during confinement. The nuance is that, on this occasion, the person's face is pixelated, but his naked torso is reflected clearly and in detail.

**Figure 3:** *Photo of the news item "The world's fattest man overcomes the coronavirus".*



Imagen de 2017 que muestra a Juan Pedro Franco // EFE

**Source:** *abc.es,* 30/09/20.

Other photographs that have been coded as 'inappropriate' show isolated body parts (*abc.es*, 17/07/2020, 31/07/2020) (Figure 4) and body parts reflecting overweight surrounded by a measuring tape (*abc.es*, 9/03/21) (Figure 5), obese people, and/or sedentary people (*elmundo.es*, 22/07/2020, *abc.es*, 19/02/2021).

**Figure 4:** *News photo "Being obese is a lot (too much) like getting old".*



**Source:** *abc.es,* 31/07/20.

**Figure 5:** *Photo of the news item "Unveiling why a healthy weight is key to avoid complications in COVID-19".*



**Source:** *abc.es,* 09/03/21.

## 4.4. Number and type of sources

A total of 999 sources of information that appear explicitly in the 350 contents studied were collected. 10 of the contents do not include any source, 98 cite one source, 78 cite two sources, 62 cite three sources, 37 cite four sources, and 65 cite five or more sources. These data indicate that nearly 50% of

the contents studied cite at least three sources of information. Concerning the type of sources used, expert sources, which include medical professionals, scientists, and/or researchers, predominate by a considerable margin. There are 486 in total, which represents 48.7% of the sources collected. The second most frequent sources are governmental sources, with 98 (9.8%). These are followed by those linked to the publication of research in academic journals (84, 8.4%), testimonies of affected persons (70, 7%), sources from political groups (69, 6.9%), and institutional sources (54, 5.4%). The rest of the typology of sources is below 5%.

If we analyze the 128 news items that have obesity as the main topic or that share protagonism with COVID-19, the predominant type of source, and overwhelmingly so, is, as in the sample as a whole, that of expert sources. As can be seen in Table 2, they represent 55.22% of the sources used, that is, 169 of the 306 sources collected. In contrast to what happens with the overall computation of the units analyzed, the second most used type of source is not governmental, but institutional sources, among which references to entities such as the World Health Organization (WHO) stand out. There are 25 of the 306 identified, representing 8.16% of the total. These are followed by the testimonies of people who suffer from overweight or obesity, or who have people close to them who are in this situation (6.2%), and governmental (international, national, regional, and local) and political sources (both with 5.2%). Far behind is the presence of sources from the food industry (2.9% of the total) and the pharmaceutical industry (0.32%). Beyond the typology of the sources used, it can be observed that 3 of the 128 contents do not include any source, 46 use one source, 36 cite two, 21 cite three, 13 cite four, and 12 cite five or more. In percentage terms, 64% of the 128 contents cite at least two sources. This proportion drops to 34% in the case of content with three or more sources.

**Table 2:** *Sources used in the contents with obesity as the main topic and with shared prominence with COVID-19.*

| Type of sources | Obesity | % | Protagonism shared with COVID-19 | % | Sum | % |
|---|---|---|---|---|---|---|
| Government | 9 | 4,6 | 7 | 6,25 | 16 | 5,22 |
| Political | 8 | 4,1 | 8 | 7,14 | 16 | 5,22 |
| Institutional | 15 | 7,7 | 10 | 8,92 | 25 | 8,16 |
| Food Industry | 3 | 1,5 | 6 | 5,35 | 9 | 2,94 |
| Pharmaceutical Industry | 0 | 0 | 1 | 0,9 | 1 | 0,32 |
| Other Official Sources | 0 | 0 | 0 | 0 | 0 | 0 |
| Scientific/Medical | 109 | 56,2 | 60 | 53,57 | 169 | 55,22 |
| Journals | 7 | 3,6 | 6 | 5,35 | 13 | 4,24 |
| Associations | 2 | 1 | 5 | 4,46 | 7 | 2,28 |
| Other specialized sources | 9 | 4,63 | 1 | 0,9 | 10 | 3,26 |
| Media | 1 | 0,51 | 0 | 0 | 1 | 0,32 |
| Agencies | 0 | 0 | 2 | 1,8 | 2 | 0,64 |
| Testimonials | 17 | 8,76 | 2 | 1,8 | 19 | 6,2 |
| Other | 14 | 7,21 | 5 | 4,46 | 19 | 6,2 |
| TOTAL | 194 | 100 | 112 | 100 | 306 | 100 |

**Source:** Own elaboration.

If we analyze separately the presence of the different sources in the texts that deal with obesity as the main topic and in which obesity shares the limelight with COVID-19, we do not observe major differences between them compared to the general image conveyed by the sum of the two. The main exceptions are, on the one hand, the greater presence of governmental (6.25% vs. 4.6%) and political sources (7.14% vs. 4.1%), as well as from the food industry (5.35% vs. 1.35%) in the contents with a shared protagonism of obesity and COVID-19 compared to those focused on obesity, and, on the other hand, a greater use of the testimonies of affected persons and relatives in the contents focused on obesity (8.76% vs. 1.8%).

In the case of the 222 units of analysis that have COVID-19 as their main topic, expert sources, as in the previous cases, are, with a notable difference, the type of source most frequently resorted to. However, their primacy is considerably less than in texts on obesity or with shared protagonism. Compared to the 55.2% recorded in the latter, the percentage drops to 45.8%. This is the proportion of the 317 expert sources out of the total of 693 counted. The second most common type of source, with a significantly higher percentage than that recorded for obesity, is government sources (11.9% vs. 5.2%), followed by research publications in academic journals (10.1% vs. 4.24%).

Overall, and by the number of sources, 77 of the 222 texts focusing on COVID-19 (34.7%) cite four or more sources, 41 (18.5%) have three sources, 40 (18%) two, 57 (25.7%) one source, and 7 (3.1%) do not cite any source.

## 5.    Discussion and conclusions

The media can influence the beliefs and attitudes of their audience, as well as health decision-making. Besides informing about diseases, if they treat them more objectively and pedagogically, they contribute to a better understanding of them by the public. On the contrary, if the information is deficient, it can confuse, create anxiety, and encourage the population to make the wrong decisions (Casino, 2019). How the media represent obesity is, therefore, important to increase or reduce stigmatization towards people who suffer from it.

Research to date finds that the media is a pervasive source of bias and perpetuates stigma through the use of inaccurate framing of obesity, and inappropriate images and language. Common treatment continues to convey the idea that obesity is a personal choice and is solved by eating less and exercising more, when this individual responsibility approach has been shown to lead to further weight gain (Sutin and Terracciano, 2013) and numerous health harms, especially for mental health (Rubino et al., 2020).

This study shows that this frame on obesity, qualified as a pandemic by the World Health Organization (WHO), is maintained in the case of Spanish reference newspapers and is accentuated in contrast to the frame with which the same media approach another pandemic, that of COVID-19. If we take only the news whose main topic is obesity, the predominance of the individual framing, that which is linked to the stigmatization of obese people, is clear, a result consistent with the results recorded in previous research (Armentia and Marín, 2020; Atanasova and Koteyko, 2017; Atanasova et al., 2012; Boero, 2007; Couch et al., 2015; De Brún et al., 2013; Heuer et al., 2011; Islam and Fitzgerald, 2016; Jeong et al., 2014; Miralles et al., 2021; Sun et al., 2021), in which journalistic coverage of obesity is blamed for its identification as a problem for which the individual sufferer is responsible and its multifactorial condition and the incidence of social habits, cultural aspects, political measures, economic realities, and business interests are obviated. This is also the case in the contents in which obesity and COVID-19 share the limelight. However, in the information focusing on COVID-19, collective responsibility predominates.

These results seem to indicate that the COVID-19 pandemic situation has not increased weight stigma in the Spanish press, a conclusion that is consistent with other studies indicating that evidence of increased weight stigma in the COVID-19 outbreak is limited (De Macêdo et al., 2022). Still, the news coverage of the COVID-19 pandemic related to obesity in the analyzed newspapers reproduces patterns or models previously detected in content analysis in other public health crises, such as the high preeminence of the attribution of individual responsibility (Ortiz et al., 2012; Lee and Paik, 2017).

The observation of language as a possible source of stigmatization or disrespectful treatment has been another point that has been analyzed. The truth is that the use of language that labels people with their disease and is offensive can be described as anecdotal in the analyzed media. It is not only the language that is a potential source of stigmatization for obese people. Images are as well. In the analysis of the visual information accompanying the texts studied, it was found that the presence of inappropriate images, although still significantly lower than that of appropriate ones, is greater than that of offensive language. Again, it should be noted that both offensive language and inappropriate images are used more frequently in texts whose main topic is obesity and in those whose main topics are obesity and COVID-19.

Expert sources of information, which include medical professionals, scientists, and researchers, are the basis of the vast majority of the information. Added to them is a significant presence of scientific journals, so we conclude that the most used sources of information are the specialized ones, which offer expert and contrasted information on the facts, much more than the institutional ones, which disseminate the official version of the facts. Expert sources provide context to the information and sensitize readers to the issue, avoiding speculations and therefore stigmatizing information (Suárez et al., 2016).

Therefore, we did not find the results predicted in the hypotheses, which foresaw that offensive language that labels people with their disease would be frequently used, that most of the images published would inadequately represent the problem of obesity and that the most frequently used sources of information would be institutional ones.

Even so, in the media analyzed, the traditional generalized narrative that attributes the cause of obesity to individual responsibility and that spreads the idea that being overweight is a personal choice is frequently manifested. Offensive language and images that reflect negatively on people with obesity are also used in certain information. This narrative fosters increased social stigma and reinforces weight-based stereotypes. The media should accept shared responsibility for contributing to the disappearance of these types of discriminatory messages and commit to changing their narrative on obesity and promoting a discourse free of potential reproach and stigma (Rubino et al., 2020).

Furthermore, it is essential to address the problem of obesity not only as a public health issue but also as a human and social rights issue. Historical examples of diseases whose social construction incorporated moral judgments about the role of individual behavior in contracting the disease (e.g., plague, cholera, syphilis, HIV/AIDS) demonstrate that stigma can interfere with public health efforts to control epidemics (Gruskin et al., 1998). This requires bridging the gap between stigmatizing narratives around obesity and current scientific knowledge about the mechanisms of body weight regulation (Rubino et al., 2020).

Our work has limitations. One of them is that it is an analysis conducted after the onset of the pandemic, so we did not obtain data from earlier dates that would allow us to know whether stigma in newspapers has increased on the occasion of COVID-19. It would be interesting to have future studies that make a comparison with earlier dates to determine whether such an increase has occurred. Furthermore, it

would also be important to research whether the forms of weight stigma in the media have changed before and after the pandemic, along the lines of the thesis advocated by Carbone and Guise (2021) that, rather than increasing, weight stigma was perpetuated during the pandemic by adopting new forms that link individual health responsibility to the protection of the public health system and present celebrities and politicians as examples of weight control. Finally, the present work focuses only on the written digital press, and therefore the treatment of the subject in other media such as television or social networks has not been analyzed. Precisely, some studies have warned about the increase in fatphobia during the pandemic through social networks, using jokes, memes mocking, and bullying based on weight (Lessard and Puhl, 2021).

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