



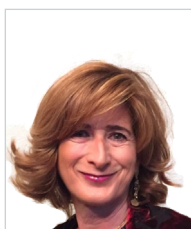
What does the digital press talk about when it talks about nutrition? An analysis of *elpais.com* and *lavanguardia.com* during 2017¹

De qué habla la prensa digital cuando habla de nutrición. Un análisis de elpais.com y lavanguardia.com durante 2017



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Abstract:

News on nutrition has become a regular feature on the media agenda. This paper analyses characteristics of texts on this topic published during 2017 in the digital editions of *El País* and *La Vanguardia*, the two newspapers with the widest circulation in Spain. The study looked in greater depth at aspects such as the main topics being addressed, authorship, genres and headlines of the texts, framing, sources and the number of comments from readers. The two chosen newspapers reveal considerable differences in matters such as quantity of sources used or the number of comments that are generated by this type of news. The conclusions from this study include the appearance of specific sections dedicated to nutrition and a shortfall in journalistic specialisation in this field.

Keywords:

Nutrition, online newspapers, framing, sources, journalistic genres.

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Resumen

Las noticias sobre nutrición se han convertido en habituales en la agenda de los medios de comunicación. El presente artículo analiza las características de los textos sobre dicha temática publicados a lo largo de 2017 en las ediciones digitales de El País y La Vanguardia, los dos diarios con mayor difusión en España. El estudio ha profundizado en aspectos tales como las principales temáticas abordadas, las autorías, los géneros y la titulación de los textos, los encuadres, las fuentes y el número de comentarios aportados por los lectores. Los dos medios seleccionados muestran notables diferencias en cuestiones tales como la cantidad de fuentes empleadas o en el número de comentarios que generaron este tipo de noticias. La aparición de secciones específicas dedicadas a la nutrición y un déficit en la especialización periodística en este campo son dos de las conclusiones de este estudio.

Palabras clave

Nutrición, diarios online, framing, fuentes, géneros periodísticos.

1. Introduction

For some time, the Spanish press has been shining a spotlight on nutrition, as a subsection of the general topic of food. One study performed by Fúster, Ribes, Bardón & Merino (2009) in 2006 on 15 newspapers found that over that year, 1,432 news articles has been published on food, of which more than half (56%) corresponded specifically to the “Nutrition and Health” section. Other regional studies found similar results. Consequently, the Agencia Catalana de Seguretat Alimentària (Catalan Food Security Agency), working with the Pompeu Fabra University Scientific Communication Observatory in Barcelona, drafted the first of its 6 pilot SAM reports in 2007 on Food Safety in the Media. In that year, analysis on 5 newspapers found a total of 530 texts on food. 211 of these items (39%) fit into the topic of “Diet and nutrition”.

Following a similar focus, Elika, the Basque Foundation for Agrofood Safety, promoted writing a series of reports between 2012 and 2015 on Food Safety in the 9 most widely read newspapers in the Basque Country. The last of these reports (2015) compiled 2359 food-related items of information, of which 406 (17%) fit into the field of “Nutrition, health and allergies.”

At least two PhD theses have studied the relationship between media and nutrition over the last few years. Carretero (2016) analysed information on nutrition compiled by *elmundo.es* and *elpais.com* during the first semester of 2014. Aranceta (2015), in turn, in the paper entitled *Periodismo y alimentación (Journalism and Food)*, looked at the question of information sources in the area of food and health, among other aspects

Other studies also deserve a mention such as Alzate (2013) who looked at nutritional dietary contents in *El País*, *El Mundo*, *ABC* and *La Voz de Almería* in 2011 or Demonte (2017) who studied social representations of food in the Argentinian written press during 2009-2014. Alzate (2013: 24) indicated a lack of specific sections on nutrition and specialisation from the journalists addressing these topics. Demonte addressed the role of the media when promoting “certain practices that are congruent with the biomedical-nutritional discourse” (2017: 14).

Concern about nutrition is not exclusive to the press and extends to other media supports. Declerq, Tulkens & Van Leuven (2018) compiled audience reactions on Twitter and Facebook regarding an info-entertainment programme on food, broadcast in Flemish by Belgian public television. The authors highlight that the information on nutrition elicits refutation, debate and suggestions from audiences; but does not have such a great effect on changing habits. On the other hand, Angela Bernabéu-Peiró (2015) addressed radio broadcasting on food and nutrition via Radio 5 Todo Noticias.

Other research has focussed on food advertising. After studying adverts in 5 South African magazines, Abrahams *et al.* (2017) found that 59% of them applied to unhealthy food. In turn, Leroy *et al.* (2018) carried out diachronic research to determine how meat consumption was treated during 2001-2015 by the *MailOnline*, the digital version of the British tabloid *The Daily Mail*. This study sheds light on what are occasionally contradictory points of view adopted by this newspaper regarding the pros and cons of consuming the food in question.

This research aims to offer in-depth analysis on how nutritional topics were treated over 2017 in *elpais.com* and *lavanguardia.com*. According to readership figures concerning the Spanish digital press drawn up by ComScore (table 1), in November of that year, these newspapers stood first and third, respectively, in the ranking, with 18.928 and 16.471

million unique users. These are the digital editions of the two best-selling general information newspapers in 2017, according to OJD data, with an average of 175,041 copies sold daily in the case of *El País* and 105,811 for *La Vanguardia*.

The study attempts to provide continuity to other research, such as the aforementioned papers by Fúster *et al.* (2009) or Alzate (2013), which demonstrated concern in the written media for matters revolving around nutrition and looked in depth at the characteristics (contents, authorship, sources, genres, focus points, etc.) of this type of text.

The relevance of the nutrition theme in the field of communication is merely a reflection of an advanced society that wishes to know increasingly more about and have further control over food and its health implications. It is worth recapping a study carried out by ComScore (2018) on internet users from Germany, France, United Kingdom, Spain and Italy which showed that 130 million people from these countries visited a food-related site in 2018. On the other hand, in its *White Paper on Food Safety*, the European Commission highlighted the consumers' right to "expect information on food quality and constituents that is helpful and clearly presented" (2000: 4). In addition, in its Framework Research Programme Horizon 2020, the European Union states "Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and Bioeconomy" as the second of its priority social challenges.

2. Objectives and hypotheses

This aim of this research is to analyse the characteristics of texts on nutrition published by *elpais.com* (121) and *lavanguardia.com* (168) during 2017. This analysis develops around the following research questions:

1. What are the overarching themes in the selected media? Is there a high match between them?
2. As this is a specialised journalistic field, are their specific characteristics of text authorship? Are professionals in this field highly specialised?
3. Which main sections, genres and types of headline are chosen when addressing nutrition topics?
4. What is the prevailing framing for these texts?
5. What type of sources do the selected media use? Is any type of source prioritised?
6. Is this type of news capable of eliciting comments from readers?

In an attempt to answer these questions, we are proposing the following hypotheses:

H1. The overarching themes are related to the concept of healthy food. These topics coincide broadly in the two online newspapers being studied.

H2. The degree of specialisation in the selected newspapers is not excessively high for topics concerning nutrition. This leads to a large number of different authors.

H3. Nutrition topics are found in sections that match themes for what the press is calling "Lifestyle". As these are extended or permanent news topics, the interpreting genres are better adapted to this type of topic, which is reflected in headlines that are a far cry from editorial standards,

H4. Texts on nutrition could be encompassed within what is known as “service journalism”, in the meaning defined by Diezhandino as information “that imposes the requirement of being useful in the recipient’s personal life” (1994: 94); meaning that the recommendations/solutions focus prevails in the texts.

H5. The professional nutritionist-dietician sector fundamentally provides the sources for matters relating to nutrition.

H6. Nutrition is an information field capable of eliciting readers’ comments.

3. Methodology

This analysis has considered contributions from agenda-setting theory. As McCombs and Evatt explained, “by focussing on certain aspects, at the expense of others, and by suggesting certain solutions or answers instead of others, the broadcasting media’s messages have rather more influence than the topics, they influence how people think about these topics” (1995: 22). In this respect, Carballo *et al.* indicate an evolution in agenda-setting theory that has widened its scope; consequently, they consider it to be a very effective theoretical framework to analyse media contents on the public (2018: 127).

To study the sample, it has been examined twice –quantitatively and qualitatively– based on proposals concerning content analysis by authors such as Krippendorff (1990) or Bardin (1996), who explains that “the quantitative approach is established by the *frequency* that certain parts of the message appear”, whilst “the non-quantitative approach resorts to non-frequency indicators that are likely to allow inference” (1996: 87).

Our case analysed the contents, authorship, sections, genres and headlines and the sources of texts on nutrition.

When establishing a classification of the sources, other research papers on food and the media were reviewed, such as Pinzón-Ríos, Ocampo-Villegas and Gutiérrez-Coba (2015), the aforementioned Aranceta study (2015), and papers used in the SAM (2008) and Elika (2015) reports on food safety in the media in Catalonia and the Basque Country, respectively.

Furthermore, Framing Theory, understanding this to be an analysis and research tool to understand how the media constructs its discourse by framing its contents, was not particularly useful. Framing is considered to be interpretive outlines that act as the main text organisers. According to Entman (1993) to frame is to “select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described.” (1993: 52).

Over the last few years, many studies have addressed nutrition and similar topics from framing theory. So, and to quote just a few, Van Hooft *et al.* (2017) analyse how child obesity is treated in the Swedish press looking at the conceptualisation of Entman’s framing in so far as it respects the problem definition and its possible solutions; Hossain, N. (2018) studies the other side of the coin and investigates how international media framed food riots between 2007 and 2012. Their conclusions note that frames such as treatment recommendation would depend, among other factors, on the location and the role played by the media’s country of origin within the world food system.

In this particular case, when listing the main frames in texts on nutrition, the inductive method (Vreese, 2005) has been chosen over the deductive method. Keywords, sources, examples, headlines, sub-headers, quotes are just some framing devices provided by authors such as Entman (1993), Tankard (2001) and Gamson and Modigliani (1989) that have been used to identify four fundamental frames.

Specifically, the “diagnostic” framing that Eilders & Lutens (2000: 417) applied to the study of editorials on the Kosovo War in the German press, along with identity and prognosis. The authors allude to Snow and Benford (1988) when explaining that this diagnosis framing refers to diagnosis of an event or aspect of social life as problematic or in need of change. Secondly, the “consequences” frame, adapted from “Economic consequences” that presents “an event, problem, or issue in terms of the economic consequences it will have on an individual, group, institution, region, or country” (Vakenburg, 1999: 552). This study considered not only economic consequences but also any that might affect the general well-being of the readership. The “recommendations/solutions” (Entman, 1993) and “responsibility” frames were also considered. The latter, according to Semetko & Valkenburg, “presents an issue or problem in such a way as to attribute responsibility for its cause or solution to either the government or to an individual or group” (2000: 96).

Table 1: The 5 Spanish online newspapers with the highest readership (November 2017).

Newspaper	Unique users (in thousands)
elpais.com	18,928
elmundo.es	17,918
<i>lavanguardia.com</i>	16,471
abc.es	14,235
elconfidencial.com	12,246

Source: ComScore

In our case, an initial preselection of information was carried out related to food, published over 2017 in *elpais.com* and *lavanguardia.com*, both standing, as previously mentioned, among the top three Spanish online newspapers with the highest readership, according to data from ComScore. This selection considered contributions from Sánchez, Del Valle & Mensa (2019) relating to quantitative processing of digital contents on the subject of food. These authors propose a procedure to carry out effective news searches on the “food fact” and suggests a list of 40 possible terms.

Considering this list, a search was performed on the digital newspaper archive for both newspapers using the following terms: agriculture, food, eating, allergy, diet, livestock, gastrostomy, food industry, nutrition, obese, obesity, fishing and food security. 465 items were obtained from *elpais.com* and 753 from *lavanguardia.com* (see table 2).

In-depth analysis was then performed on texts within the field of “Nutrition”. To determine which articles would fit that subgroup, the classification was consulted as used in the reports published by Erika (2012-2015) on how Food Safety was

treated in the press in the Basque Country. Specifically, topics have been included in this descriptor such as consumption habits, diets, allergies and food intolerances or food properties, among others.

The analysis focussed on the following variables:

- Contents.
- Text authorship.
- Sections, genres and titles.
- Framing.
- Sources.
- Number of readers' comments.

4. Results

The results of the search for texts on food were divided into 6 subcategories, as shown in detail in table 2.

Table 2: Total articles on food divided into topic areas in *elpais.com* and *lavanguardia.com*.

	<i>elpais.com</i>		<i>lavanguardia.com</i>	
	Totals	Percentage	Totals	Percentage
Safety and Risks	50	11%	100	13%
Agriculture/Livestock/Fishing	77	16%	46	6%
Food Industry	56	12%	155	21%
Nutrition	121	26%	168	22%
Gastronomy	87	19%	151	20%
Accessibility	74	16%	133	18%
TOTAL	465	100%	753	100%

Source: Compiled by author.

In both publications, the “Nutrition” descriptor appeared the most texts on the food theme: 26% in the case of *elpais.com* (n=121) and 22% for *lavanguardia.com* (n=168).

If we compare this data with data obtained by Fúster *et al.* (2009) in their study from 2006, we might talk about consolidation of food content, in general, in the written media, and more specifically relating to nutrition. In 2006, *El País* published 160 texts on food and *La Vanguardia* 105. In both cases, nutrition was the most popular theme. In turn, the *SAM Report 2008*, counted 451 texts in this year for *La Vanguardia* and 413 in *El País*. 27% of the texts in this report refer to content on nutrition.

4.1. Content

Although both newspapers generally address similar topics (table 3), the frequency at which they appear differs from one to the other. The texts can be divided into 15 large groups according to content. If in doubt, the topic highlighted in the headline was prioritised. “Healthy nutrition”, “Sugar”, “Food properties” and “Diets” are the four topics which receive special attention in both *elpais.com* and *lavanguardia.com*, although not necessarily giving them the same priority.

The “Healthy nutrition” section is the most repeated in *elpais.com* (19.8%), although it only comes in third in *lavanguardia.com* (17.2%). This descriptor encompasses texts that claim to guide the reader, so their food is as healthy as possible. “Our food is increasingly safer but less healthy” (*elpais.com*, 14/02/2017) or “What should we eat to feel better” (*lavanguardia.com*, 06/03/2017) are examples of this type of article.

On the other hand, different types of diet are the main topic in *lavanguardia.com* (20.2% of the total), whilst *elpais.com* puts this in fourth position (9.1%). News in this section might include the following: “What is a ‘ketogenic’ diet and why is it all the rage?” (*lavanguardia.com*, 19/02/2017) or “The unexpected benefits of a million-year-old diet” (*elpais.com*, 30/08/2017).

Problems derived from eating sugar are the second most repeated question in *elpais.com* (11.6%) and the fourth in *lavanguardia.com* (6.5%). It is worth remembering the controversy around this product aroused by recommendations from the World Health Organisation (2015) to reduce consumption of free sugars to less than 10% of total calorie intake.

Table 3: Main contents on Nutrition.

Topic	<i>elpais.com</i>		<i>lavanguardia.com</i>	
	n	%	n	%
Healthy nutrition	24	19.8	29	17.2
Sugar	14	11.6	11	6.5
Food properties	12	9.9	33	19.6
Diets	11	9.1	34	20.2
Obesity	10	8.3	7	4.2
Child Nutrition	9	7.4	9	5.4
Gluten	5	4.1	5	3.0
Juices	4	3.3	1	0.6
Vegan/Vegetarian	4	3.3	9	5.4
Organic food	4	3.3	2	1.2
Dairy products	4	3.3	3	1.8

Alcohol	2	1.7	1	0.6
Salt	1	0.8	3	1.8
Allergies	1	0.8	2	1.2
Others	16	13.2	19	11.3
Total	121		168	

Source: Compiled by author.

The second most popular theme in terms of number of articles in *lavanguardia.com* (19.6%) relates to the properties of certain foods: “Peppers: purifying, antioxidant and highly nutritious (11/07/2017). This stands in third place in *elpais.com* (9.9%): “Why white rice is more fattening than wholemeal although they have almost the same calories” (23/08/2017)

Obesity also plays a starring role in both newspapers (it is the fifth topic in *elpais.com* and the seventh in *lavanguardia.com*). This is an issue that has been arousing media interest for a while now, as demonstrated by a range of studies such as by Atasanova *et al.* (2012), Couch *et al.* (2015), Heuer *et al.* (2011), Jeong *et al.* (2014), De Brún *et al.* (2013) or Sun *et al.* (2016), to name just a few. Child nutrition is another popular content topic in both newspapers (7.4% in *elpais.com* and 5.4% in *lavanguardia.com*): “Which is the best milk for my child?” (*elpais.com*, 11/09/2017), “How to measure portions for your kids” (*lavanguardia.com*, 21/11/2017).

The remaining themes addressed by both newspapers include articles in *lavanguardia.com* on vegetarian food: “6 treats that you’d never have thought are vegan” (05/01/2017), “You CAN build muscle on a vegan diet” (19/03/2017).

Although there might generally seem to be similarities among the themes chosen by the two newspapers in broad terms, differences can be found in the value given to them, selection of specific topics and the times chosen to publish them. March happens to be a month when the two newspapers coincided on two of the selected contents: The controversial debate during a programme entitled *Chester in love*, produced by the Cuatro TV station, between the journalist Mercedes Milá and the biochemist José Miguel Mulet regarding the book entitled *La enzima prodigiosa* (The Enzyme Factor) (*elpais.com*, 09/03/2017; *lavanguardia.com*, 07/03/2017) and the new food pyramid proposal (*elpais.com*, 30/03/2017; *lavanguardia.com*, 03/03/2017), although in the case of the newspaper edited in Madrid, this merely entails a letter to the editor.

On 09/04/2017 *elpais.com*, quoting the University of Harvard, warned us that “the ‘gluten free’ fashion is increasing the risk of diabetes”. Almost a month later, 04/05/2017 *lavanguardia.com* alluded to the same academic institution to state that “Eating gluten-free can damage the cardiovascular health of non-coeliacs”. On 05/10/2017 *elpais.com* demonstrated “one trick to eat vegetables every day almost without noticing”, and three days later *lavanguardia.com* explained “how to eat and enjoy a variety of vegetables.”

4.2. Authorship

Authorship analysis for texts on Nutrition offers a very different snapshot for *elpais.com* and *lavanguardia.com*. In the former, 88.3% of articles are signed by journalists or newspaper contributors. Out of the 121 items published, only 9 (7.4%)

appear anonymously, whilst just 3 items come from agencies. The number of authors is high, 58, meaning that the average article per author is low, 1.8. Under the “Corporate” description, there are two texts sponsored by the Puleva Nutrition Institute.

Table 4: Authorship of the texts on Nutrition.

	<i>elpais.com</i>	<i>lavanguardia.com</i>
TOTAL	121	168
Anonymous	7.5%	11.9%
Agency	2.5%	22.6%
Corporate	1.7%	-
Signed by author	88.3%	65.2%
No. of authors	58	34
Average articles/author	1.8	3.2

Source: Compiled by author.

In *lavanguardia.com*, the percentage of news items from news agencies (22.6%) is much greater than for *elpais.com*. If we then add the anonymous texts to this block, it is clear that more than one third of the articles are not written by the Catalan newspaper’s permanent or contributing staff. The number of authors from *lavanguardia.com* is much lower than *elpais.com*. It consequently follows that the average number of articles per author is much higher.

Table 5: Number of texts signed by the authors.

	<i>elpais.com</i>	<i>lavanguardia.com</i>
>10 texts	0	2
6-10 texts	1	3
3-5 texts	11	6
1-2 texts	45	23

Source: Compiled by author.

Looking at the number of texts on nutrition written by the different authors, *lavanguardia.com* theoretically presents a higher degree of specialisation among its authors. Claudia Loring stands out due to the number of items she wrote: 22. Her texts take a clearly pedagogic tone: “Sweets are edible products, not food” (08/05/2017). The list of the most prolific authors continues with Neus Palou, with 13 insertions, Alejandra Sánchez with 8 and Elena Navarro with 7.

In *elpais.com*, the number of main authors is a long way off its competitor's figures. The list is headed up by Ángeles Gómez with 6 texts, all from the *BuenaVida* magazine. She is followed by Carlos Laorden and Verónica Palomo, with 5 articles.

It appears that most texts written on nutrition are by women: 5 of the top 6 in the case of *lavanguardia.com* and 4 out of 6 at *elpais.com*. In both media, 60% of the authors are women.

On the other hand, it is worth mentioning the high number of occasional authors on Nutrition that appear in *elpais.com*, no less than 30 authors have contributed just one text. In *lavanguardia.com*, the number of single authorships drops to 13. Sarah Palenque has written texts for both newspapers, with one article in *elpais.com* and two in *lavanguardia.com*.

This points towards limited journalistic specialisation in the field of nutrition, already detected in studies such as Alzate (2013) or by Elika (2012-2015) on Food Security in the press in the Basque Country.

4.3. Sections, genres and headlines

Both newspapers group together the vast majority of news on Nutrition into two very specific sections, “BuenaVida” (Good Life) (49%) in the case of *elpais.com*, and “Vivo” (Living) referring to *lavanguardia.com* (41%). In the case of the Prisa Group online newspaper, “De mamás y de papás” (Mums and Dads) (10%) and “Nutrir con ciencia” (Nurture with Science) (7%) come in second and third, although with significantly lower weighting. On the other hand, the Catalan publication gathers a large number of news items in the sections entitled “Vida” (Life) (24%) and “Comer” (Eat) (22%).

Remember that Demonte (2017), in his study on the Argentinian press pointed to “Lifestyle”, “General Information” and “Science and Health” as the destination for news items on this topic. In turn, Alzarte (2013) referred to the lack of sections on nutrition in the press. However, both “Nutrir con ciencia” in *elpais.com*, and the “Comer” channel from *lavanguardia.com*, constitute specialised spaces dedicated to the food field.

Table 6: Distribution of texts by sections

<i>elpais.com</i>		<i>lavanguardia.com</i>	
Section	Articles	Section	Articles
BuenaVida	59	Vivo	64
De mamás y de papás	13	Vida	37
Nutrir con ciencia	9	Comer	34
Ciencia	7	Regional-Local*	13
World	4	Cribeo	6
Others	29	Others	14
Total	121	Total	168

*In the Regional-Local description, 4 texts are grouped together for the Valencian Community, 3 for Madrid, 2 for Andalusia and 1, respectively, for Girona, Cantabria, Mataró-Maresme and L'Hospitalet y Baix Llobregat.

Source: Compiled by author.

Elpais.com compiles content in the “Buenavida” section of the monthly publication with the same name, first produced in 2014, aiming to become the *El País* well-being supplement. The texts in this section also adopt the current journalistic fashion of using lists: “These are the eight diets that promise the best results” (26/01/2017), “Seven supposedly healthy drinks that are no better than cola” (02/02/2017), “12 amazing photos that show us what food is like before harvesting” (02/03/2017).

“De mamás y de papás” is a section dedicated to different aspects of parenthood, including child nutrition: “Making your child clean their plate affects their health” (09/01/2017), “Children that drink juice every day don’t get fat, or do they?” (03/04/2017). Standing third in terms of number of articles from *elpais.com*, “Nutrir con ciencia”, is a section “on food based on scientific evidence and proven specialist knowledge”. These specialists include nutritionists and spokespersons such as Julio Basulto - “An unexpected catastrophe called ‘energy drinks’” (22/02/2017), Laura Saavedra “Our food is increasingly safer but less healthy” (14/03/2017) or Aitor Sánchez “Gluten-free diets, where’s the fire?” (30/03/2017).

“Vivo. Gente smart” is a *lavanguardia.com* channel devoted to themes such as lifestyle, psychology, motherhood/fatherhood, sex or pets that makes room for 41% of the articles on nutrition in this newspaper. Most of these texts allude to diets: “Why do we need more zinc in our diet?” (05/01/2017) or eating habits: “This is how long we should spend eating” (15/08/2017).

87% of the texts on nutrition in *lavanguardia.com* are grouped into the aforementioned section and also “Vida” and “Comer”. The web for this newspaper considers “Vida” a section, whilst “Vivo” or “Comer” would be considered as channels. In any case, contents relating to nutrition framed in these three fields do not differ a great deal. So, while “What you need to know to keep your cholesterol under control” (23/03/2017) appears in “Vivo”, “Six strange foods that your body needs” (19/03/2017) is found in “Vida” and “This is what makes a super-food” (19/03/2017) is in “Comer”.

Table 7: Genres used

	<i>elpais.com</i>	<i>lavanguardia.com</i>
Information	10.0%	28.97%
Reports	66.1%	61.9%
Opinion	10.0%	3.0%
Photo-story	4.9%	-
Interview	1.6%	4.1%
Others	7.4%	1.2%

Source: Compiled by author.

In both online newspapers, reporting is far and away the most used genre in the field of nutrition, standing at over 60%. This is a much higher percentage than detected in the *SAM Report* (2008) nine years ago for *El País* (5%) and *La Vanguardia* (13%). The data also contrasts with analysis by Demonte (2017) that points towards the news brief as the most used genre.

The prevalence of reporting can be explained by the fact that many of the topics being addressed are not recent news, but extended news or permanent news. In other words, it does not allude to anything that has just happened, but looks at questions that might arouse the audience's interest at any time: the virtues of certain food, the benefits of a diet, the problem of added sugars, etc.

News only represents 10.6% of articles in *elpais.com* but rises to 29.7% in *lavanguardia.com*. Many of these news items correspond to initiatives from institutions to improve citizens' eating habits such as "Canaries is also planning a tax on fizzy drinks and other sugary food" (*elpais.com*, 04/05/2017), "Public Health recommends reducing sugar-enriched food for children" (*lavanguardia.com*, 21/11/2017).

Opinion texts are limited to 10.6% in *elpais.com*, with a scarce 2.9% in *lavanguardia.com*. In this section, the Madrid-based newspaper includes contributions from Julio Basulto or Aitor Sánchez in the "Nutrir con ciencia" section. In the case of the Barcelona-based publication, Toni Massanés's articles in the "Comer" section deserve a mention.

Table 8: Types of headlines on nutrition

	<i>elpais.com</i>	<i>lavanguardia.com</i>
Informative	15.7%	29.1%
Questioning	25.6%	20.8%
2nd person	9.9%	13.6%
1st person	9.9%	9.5%
Numeral (lists)	7.5%	7.1%
Demonstrative (This is...)	5.8%	5.9%
Other non-informative headlines	25.6%	14.0%

Source: Compiled by author.

In the nutrition field, it is rare to find purely informative headlines, based on the subject+verb+predicate scheme, that provide readers with fundamental clues on what they will find in the accompanying text. In the case of *lavanguardia.com*, the presence of this type of headline approximately matches the number of news items. However, the majority of headers on food would be framed within what Núñez Ladevéze calls appellative headlines, namely "Any that use the language to call attention to a fact that they do not presume to know about but that they are not informed about" (1991: 222). The author explains that "headlines can be more or less *appellative*, as they can help to strengthen or modify recipients' attitudes" (1995: 62). Antonio López, referring to this type of headlines, states that "they are usually topical, in the sense that they mention a topic, but they do not give complete information on it" (2019: 68).

In a considerable percentage of cases, appellative headlines raise questions "Can you lose weight eating fast food?" (*elpais.com*, 12/05/2017), "Why does vegetarian food want to look like meat?" (*lavanguardia.com*, 17/01/2017).

The second person (appealing to the reader) is frequently used or even the first person: “Putting bread in the freezer and other huge mistakes” (*elpais.com*, 21/06/2017), “You might tend to put on weight if you use sweeteners” (*elpais.com*, 31/07/2019), “What you need to know to keep your cholesterol under control” (*lavanguardia.com*, 22/03/2017), “How much calcium we should take depending on our age” (*lavanguardia.com*, 27/06/2017).

Headlines that allude to a list, quite common in digital journalism, represent 7% of the total: “Five foods you should never buy at the supermarket” (*elpais.com*, 22/05/2017), “The worst 5 trending diets to lose weight” (*lavanguardia.com*, 22/06/2017).

Finally, under the “demonstrative” description we have grouped together headlines that hint at the existence of certain information by using a demonstrative adjective or pronoun: “These snacks can be more effective than medicine” (*elpais.com*, 28/06/2017), “This food might be the key to fighting obesity” (28/11/2017).

4.4. Framing

The selected contents were divided into the previously defined frames.

Table 9: Types of predominant framing in the texts on nutrition.

	<i>elpais.com</i>	<i>lavanguardia.com</i>
Diagnostic	25.6%	28.5%
Solutions/Recommendations	52.9%	55.9%
Responsibility	14.9%	8.5%
Consequences	6.6%	7.1%

Source: Compiled by author.

As shown in the table attached, the percentage distribution for predominant framing in the texts does not differ greater between the newspapers being analysed. In both cases, the Solutions/Recommendations framing is the most usual, covering over 50% of the sample. Entman (1993: 52) explains that the frames can “suggest solutions”. This focus indicates an intention to assess and be useful for the reader in matters concerning their food. This would be the case of articles such as “If you want to lose fat and gain muscle, follow this diet” (*elpais.com*, 26/01/2017) or “Strawberries, one of the best antioxidant fruits” (*lavanguardia.com*, 19/03/2017). In general, this refers to texts that suggest eating alternatives to make nutrition healthier. The second most used framing is Diagnosis. This frame appears in 25.6% of texts from *elpais.com* and in 28.5% from *lavanguardia.com*. “Our food is increasingly safer but less healthy” (*elpais.com*, 14/03/2017) and “New consumers demand food adapted to their lifestyle, proximity and digitalisation” (14/03/2017) are two examples of this type of focus. Responsibility framing demonstrates the greatest differences between *elpais.com* (14.9%) and *lavanguardia.com* (8.5%). This framing aligns news on nutrition with complaints on the people responsible for certain food issues: “A packaged hamburger is not a hamburger” (*elpais.com*, 04/03/2017), “The surprising quantity of sugar in these ‘healthy’ foods” (*lavanguardia.com*, 30/07/2017).

Finally, the Consequences framing is the least usual in the texts being analysed: 6.5% in *elpais.com* and 7.1% in *lavanguardia.com*. Generally, this refers to contents alluding to health consequences for consumers such as “I didn’t drink alcohol for a whole month, and this is what happened” (*elpais.com*, 12/05/2017), “Eating gluten-free can damage the cardiovascular health of non-coeliacs” (*lavanguardia.com*, 04/05/2017).

4.5. Sources

The two newspapers being analysed show divergences regarding the sources used. The first difference refers to the number of sources used. In this aspect, *elpais.com*, with an average of 3.3 references per article practically doubles the figures for *lavanguardia.com* (1,7). In addition, in *elpais.com* the number of news items that do not explicitly quote a source is much lower (4.9%); compared to the Catalan publication (12.5%).

Table 10: Number of sources quoted in the texts

	<i>elpais.com</i>		<i>lavanguardia.com</i>	
	n	%	n	%
Scientific and professional associations	28	6.9	17	5.7
Consumer associations	6	1.5	4	1.4
Food industry	23	5.9	15	5.1
Research/academic	103	25.4	55	18.6
Medical/Healthcare	42	10.3	48	16.2
Nutritionists/dieticians	70	17.2	59	19.9
NGOs and Foundations	4	1.0	10	3.4
International organisations	37	9.1	21	7.1
National organisations	25	6.7	9	3.0
Scientific publications	29	7.1	25	8.4
Others	36	8.9	33	11.2
Total	403		296	
No. of different sources	303		247	
Texts with no source	6	4.9	21	12.5
Sources/text average	3.3		1.7	

Source: Compiled by author.

Both newspapers fundamentally prioritise three types of source: corresponding to the research and/or academic field, medical-healthcare and nutritionists/dieticians. These three sectors provide 52.9% of the quotes in the case of *elpais.com* and 54.7% in *lavanguardia.com*. However, whilst *elpais.com* gives weighting to sources from the research and/or academic field (25.4%), *lavanguardia.com* tends to favour nutritionists (20%).

At the other extreme, there are the consumer associations (around 1.5% in both online newspapers) and the different NGOs and non-profit-making Foundations (under 3.5% of the two publications). Certain scientific publications get greater attention. In the case of *elpais.com*, the most quotes come from journals in the medical field, such as *The Lancet* (4 references), *Pediatrics* (2) and *JAMA Pediatrics* (2). In *lavanguardia.com*, the publications most used as a source are *American Journal of Clinical Nutrition* (in 3 texts), *Cell Metabolism* (3) and *Journal of the American College of Cardiology* (2).

The World Health Organisation (WHO) is the most quoted reference in both media. A trio of nutritionists are often used by *elpais.com*, comprising Juan Revenga, Aitor Sánchez and Julio Basulto; the latter two also contribute to the newspapers. All three are known for their dissemination work through their respective blogs “El nutricionista de la General” (<https://juanrevenga.com/>), “Mi dieta cojea” (<https://www.midietacojea.com>) and <https://juliobasulto.com>. The same newspaper also features Miguel Ángel Uruñuela, author of the blog “Gominolas de petróleo” (<http://www.gominolasdepetroleo.com>). In *lavanguardia.com*, the nutritionist Marta Sanz and doctor Raquel Nogués, from the Teknon Medical Centre, are often featured.

Table 11: The 10 most quoted sources in the texts in both newspapers.

<i>elpais.com</i>		<i>lavanguardia.com</i>	
Source	No. texts		No. texts
WHO (international organisation)	10	WHO (international organisation)	10
Juan Revenga (nutritionist)	9	Marta Sanz (nutritionist)	7
Aitor Sánchez (nutritionist)	8	Raquel Nogués (doctor)	4
Julio Basulto (nutritionist)	8	Rubén Bravo (nutritionist)	3
AECOSAN (national organisation)	8	José Miguel Mulet (biochemist)	3
José Miguel Mulet (biochemist)	7	FAO (international organisation)	3
EFSA (international organisation)	5	Ministry of Agriculture (National org.)	3
FAO (international organisation)	5	American Journ. of Clinical Nutrition (journal)	3
Rubén Bravo (nutritionist)	4	EFSA (international organisation)	3
Ministry of Agriculture (National org.)*	4	Cell Metabolism (journal)	3
4 texts also quote the Spanish Nutrition Foundation and <i>The Lancet</i>		Another 17 sources are quoted in two different texts.	

Source: Compiled by author.

Both newspapers featured José Miguel Mulet on different occasions, biotechnology professor at the Valencia Polytechnic University. This doubling-up also occurs in the case of Rubén Bravo, expert in nutrition from the European Obesity Institute. Among the non-personal sources, both publications also use the WHO, plus the FAO (Food and Agriculture Organisation of the United Nations), the Spanish Ministry of Agriculture, Fisheries and Food and the Environment and EFSA (European Food Safety Authority).

4.6. Most commented news

Gomis stated that “news is the journalistic expression for a fact capable of interesting people to the point of eliciting comments” (1991: 49). The participation and number of comments from the readers in relation to the texts on nutrition reveal considerable divergences between the two newspapers being studied. The 121 news items on this topic published during 2017 in *elpais.com* caused a total of 3,703 comments, which represents an average of 30.3 per text. However, reader participation is not particularly homogeneous. 19.6% of the information did not merit a single post and another 29.5% received no more than 5 comments. Only 7.3% of the news items exceeded one hundred interventions.

In the case of *lavanguardia.com*, the total number of comments stood at 637, giving an average of 3.7 per insertion. Distribution is also very irregular in this case. 51.1% of texts do not receive any reader contributions and 30.3% have no more than 5 comments. Only one news item exceeded 100 comments.

Table 12: The 10 most commented news items in *elpais.com* and *lavanguardia.com*.

<i>elpais.com</i>		
Date	Title	Comments
30/08/2017	The unexpected benefits of a million-year-old diet	424
17/11/2017	We can't keep on eating meat like we do now	281
04/05/2017	Why do we wonder if a vegan diet is safe?	241
09/01/2017	Overdose of calcium to get strong bones?	194
13/05/2017	“Damn those vegetarians!”	169
03/04/2017	I ate 10 portions of fruit and vegetables a day for one week and this is what happened	148
09/07/2017	The Vatican against gluten-free communion wafers	145
05/07/2017	“Vegetarians are not only cruel, but they are bad people”	117
14/05/2017	“Do we know what we're eating?”	104

23/02/2017	Eating 800 g of fruit and vegetables a day reduces the risk of premature death by 31%	96
<i>lavanguardia.com</i>		
05/01/2017	6 treats you'd never have thought were vegan	133
24/02/2017	Who lives longer, meat eaters or non-meat eaters?	51
19/06/2017	"Diets are useless"	37
06/05/2017	Spain produces 95% of Europe's transgenic crops	33
07/04/2017	Palm oil faces the music	22
23/04/2017	Spirulina, Goji berries, coconut water... the myth of miracle ingredients	21
25/05/2017	Food that seems healthy but isn't	20
14/02/2017	Are we omnivores, carnivores or herbivores? Let's settle the debate	18
11/02/2017	A group of chefs from Girona come up with recipes to help with erectile dysfunction	15
03/02/2017	Chemo, meditation and food awareness: here's how I beat cancer	14

Source: Compiled by author.

In the case of *elpais.com*, the text that received the most comments (424) was a first-person report entitled "The unexpected benefits of a million-year-old diet," written by Tim Spector and Jeff Leach, on a trip to Tanzania to visit the Hazda people, "one of the last hunter-gather groups living in Africa" and study their diet. According to the authors, the Hazda have some of the most diverse microbiota on the planet. It appears that 4 out of the 10 most commented articles are related to vegetarianism or veganism, which would infer that these eating habits cause a stir among the readers of this medium. 8 of these texts are signed, in another the author is an agency and the tenth does not reveal the author.

In the case of *lavanguardia.com*, the article with the most comments (133) is an unsigned photo-report entitled "6 treats you'd never have thought were vegan", which, just like in *elpais.com* corroborates reactions to this eating habit. The second most commented text, "Who lives longer, meat eaters or non-meat eaters?", also alludes to vegetarian and vegetarian diets. In the case of the Catalan newspaper, two out of the 10 most commented pieces were written by the same author, Albert Molins; while the other 2 are anonymous.

5. Discussion and conclusions

The relevance that the two online newspapers, *elpais.com* and *lavanguardia.com*, give to nutrition contents is clear if we consider that out of the 465 and 753 texts published respectively on food, 26% (121) and 22% (186) address this topic. Consequently, in the light of the results obtained in previous studies such as by Fúster *et al.* (2009) or the *SAM reports*, it might be stated that nutrition content has been consolidated in the written media.

Healthy nutrition, sugar, properties of food and diets are the 4 contents that received the most attention from the two newspapers being analysed during 2017. Whilst *elpais.com* particularly focussed on the first two; *lavanguardia.com* centred mainly on analysing different diets and the properties of certain foods. Obesity, particularly in the case of *elpais.com*, remains in the news; confirmed by studies such as by Atasonava *et al.*(2012), De Brún *et al.*(2013) or Jeon *et al.*(2014), among other authors.

If we look at text authorship, it stands out that in *lavanguardia.com*, up to one third of its contents come from an agency or appear anonymously, which does not stop it exceeding *elpais.com* by 287 items. In turn, *elpais.com*, either due to its particular business idiosyncrasy or due to explicit recognition of the interest aroused by nutrition, puts an author's name to 87.1% of its contents. However, its specialisation in the matter is clearly restricted, as most of the authors have only written just one or two articles.

The majority of the texts are framed in sections that would correspond to the "Lifestyle" field, as happens with "Buenavida" in *elpais.com*, where half the articles from this newspaper are published, or "Vivo" and "Vida" that cover 60% for *lavanguardia.com*. In any case, it should be highlighted that, although it still has a limited percentage of articles, *elpais.com* promotes a section called "Nutrir con ciencia", working with well-known nutritionists Julio Basulto, Lucía Martínez or Aitor Sánchez, among others; while *lavanguardia.com* has the "Comer" channel, in which nutritional contents appear side by side with items on gastronomy or wine reviews. Therefore, it might be concluded that these digital newspapers have started to develop specific sections for food topics.

Far and away (over 60% of cases in both newspapers) the most-used genre in the texts on nutrition is reporting. This is a considerably higher percentage than registered in other studies quoted in this paper.

The predominant framing in the texts is Recommendations/Solutions, defined by Entman (1993). It appears in more than half the texts in both publications. Secondly, there is Diagnostic, followed by Responsibility. This focus indicates an intention to assess the reader and would link in with the concept of "service journalism" defined by Diezhandino (1994: 89) as something which "is not limited to informing *on* but *for*, that imposes the requirement of being *useful* in the recipient's personal life".

In concordance with this idea and, after analysing its type, there are the appellative headlines that accompany texts on nutrition, where it is common to see use of a question (26% in *elpais.com* and 20% in *lavanguardia.com*), plus the first or second person and lists.

The most used sources by both media come from what is known as the researcher-academic field and from nutritionists. Among them, certain names are repeated such as Juan Revenga, Aitor Sánchez, Julio Basulto or Miguel Ángel Uruñuela, known for their dissemination work in their respective blogs. In any case, we should highlight the fact that the average number of sources per text used by *elpais.com* (3.3) practically doubles the *lavanguardia.com* (1.7).

Although, according to data from ComScore, *elpais.com* had 14.9% more readers than *lavanguardia.com* in 2017, the number of comments provided by users of the Prisa publication were five times higher than comments for the newspaper from the Godó group (3,730 compared to 637). In both cases, texts related to vegetarianism and veganism elicit special participation from the readers.

The data leaves no room for doubt on the intention of both newspapers to offer its readers abundant information on nutrition. However, although *elpais.com* seems to be more involved than *lavanguardia.com* in how this content is treated with a greater spread of sources and own authorship, which could explain the greater participation from its readers, it might be said that specialisation is still a challenge that the media must assume. In any case, the limitations of this study cannot be ignored, as it is bound to just two newspapers. Nutrition and its health implications require greater depth and responsibility from the media, and it is the academic community's duty to continue investigating these topics and digging into how the media treat them.

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