



INFORMATION ABOUT CANCER ON THE INTERNET. COMPARATIVE ANALYSIS OF THE INSTITUTIONAL WEBSITE OF AECC, GEPAC AND FEFOC

Información sobre cáncer en internet. Análisis comparativo de las webs institucionales de AECC, DEPAAC y FEFOC

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Abstract

The search for health information on the Internet is mainly associated with the diagnosis of a disease of the user or a family member and can be considered the first consulted source after a medical consultation (Marín-Torres et al., isanidad.com, 2015; 2012; III Barómetro PIC, 2019; INE, 2019;). The main barriers to access and use of eHealth (eHealth in its English terminology) have to do with the readability of the content and poor usability of the sites (Cline and Haynes, 2001; Kim and Xie, 2017). In addition, in the current context, the enormous volume of data available on the network makes it essential to develop analysis protocols that allow users to identify in a comprehensible way the sites that offer quality information both in their content and in their presentation. This research proposes an analysis of the corporate web pages of three Spanish institutions of recognized prestige -and diverse nature- in the field of cancer dissemination and prevention: the Spanish Association Against Cancer, the Spanish Cancer Patients Group and the Foundation for Public Education and Training in Cancer; addressing both the usability and the type of offered information, with the aim of knowing the state of information on the web about cancer in Spain and identifying good practices in communication about the disease.

Keywords: Communication; eHealth; eHealth; Cancer; Web; Institutional communication; Usability.

Resumen

La búsqueda de información sobre salud en internet está asociada fundamentalmente al diagnóstico de una enfermedad del usuario o de un familiar y puede considerarse la primera fuente a la que acuden tras una consulta médica (Marín-Torres et al., isanidad.com, 2015; 2012; III Barómetro PIC, 2019; INE, 2019;). Las principales barreras para el acceso y uso de la eSalud (eHealth en su terminología inglesa) tienen que ver con la legibilidad del contenido y con una

pobre usabilidad de los sitios (Cline y Haynes, 2001; Kim y Xie, 2017). A esto se suma en el contexto actual el enorme volumen de datos disponible en la red que hace imprescindible desarrollar protocolos de análisis que permitan a los usuarios identificar de un modo comprensible los sitios que ofrecen información de calidad tanto en sus contenidos como en su presentación. Esta investigación plantea un análisis de las páginas web corporativas de tres instituciones españolas de reconocido prestigio —y naturaleza diversa— en el ámbito de la divulgación y prevención del cáncer: la Asociación Española Contra el Cáncer, el Grupo Español de Pacientes con Cáncer y la Fundación para la Educación Pública y la Formación en Cáncer; abordando tanto la usabilidad como el tipo de información ofrecida, con el objetivo de conocer el estado de la información en la red sobre el cáncer en España y de identificar buenas prácticas en la comunicación sobre la enfermedad.

Palabras clave: Comunicación; eHealth; eSalud; Cáncer; Web; Comunicación institucional; Usabilidad.

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1. INTRODUCTION

The Internet is offered in the current context as the first and main means of information for citizens (Marín-Torres et al; 2012; III Barómetro PIC, 2019; INE, 2019;), even ahead of the face-to-face visit to the doctor (cf. results of the 19th National Congress of Hospitals Technology, health system and citizenship in isanidad.com, January 27, 2015) becoming a “fundamental instrument of *knowledge transmission* in health” (Jiménez Pernet, et al., 2007, p. 44).

Its functions and use related to public health have already been the subject of study for several decades -cf. Fernández (1998) on the list of publications, databases, institutions and public bodies related to public health in the nineties- although, currently, the concern in the institutional (cf. Dirección General de Salud Pública de la Generalitat Valenciana, 2010), academic and social sphere lies in the type of information, especially in its quality, as well as the infodemic problem that exists in this regard (Navas-Martín et al., 2012).

The search for health information on the Internet is mainly associated with the diagnosis of an illness of the user or a direct relative and can be considered the first source which both consult after a medical visit. Thus, it is noted that 60.1% of Spaniards between 16 and 74 years of age have used the Internet to search for information on health issues in the last three months (INE, 2019). While this fact seems to be linked to education - users with a diploma, bachelor's degree, master's degree, university doctorate or equivalent are those population groups that use the Internet to locate information on health issues to a greater extent -

nevertheless, and despite the differences, it is observed that this is a widespread practice in the different population groups, regardless of gender, education or socioeconomic level.

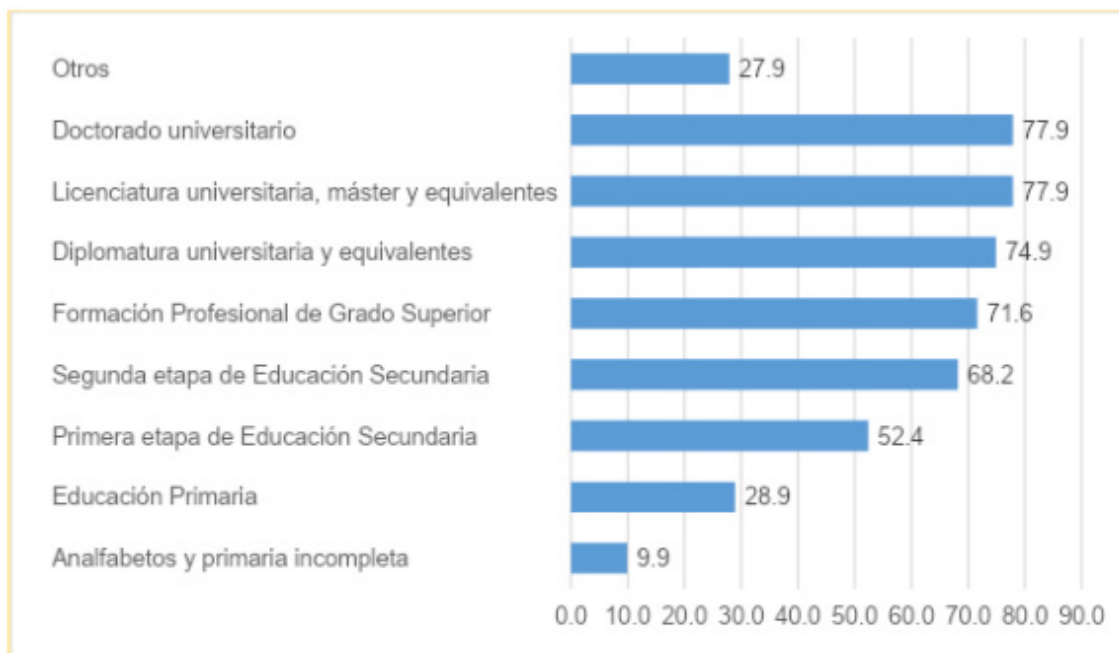


Figure 1. *Level of education of people who consult health information on the Internet: total number of people (16-74 years old).*

Source: *Survey on Equipment and Use of Information and Communication Technologies in Households (INE, 2019).*

In fact, in relation to the data provided by the INE for users in the period of the last three months and in comparison with the data provided in 2017, it can be noticed that the figures relating to illiterate users and with incomplete primary education increase significantly (from 9.9% to 21.1%) as well as users whose education corresponds only to Primary Education (which rises from 28.9% to 42.7%); a fact that could be due to the progressive access to the Internet by the entire Spanish population (according to the Internet audience data collected in the General Media Study, Internet access has increased from 77.3% of users in 2016 to 84.5% in the last wave of 2019). In the data of users who consult information on health issues corresponding to a higher education (diploma and/or equivalent, bachelor's degree and/or equivalent and university doctorate), hardly any alterations are observed. This fact is significant for the purpose of understanding the profile of users who access the Internet in search of information related to health in general and in relation to the field of health specifically: information that clarifies doubts about cancer, treatments, symptoms, prevention, etc. That is to say that the person seeking information on cancer should be able to identify and reach the right source and, once there, be offered quality information and content that clarifies their doubts on this subject.

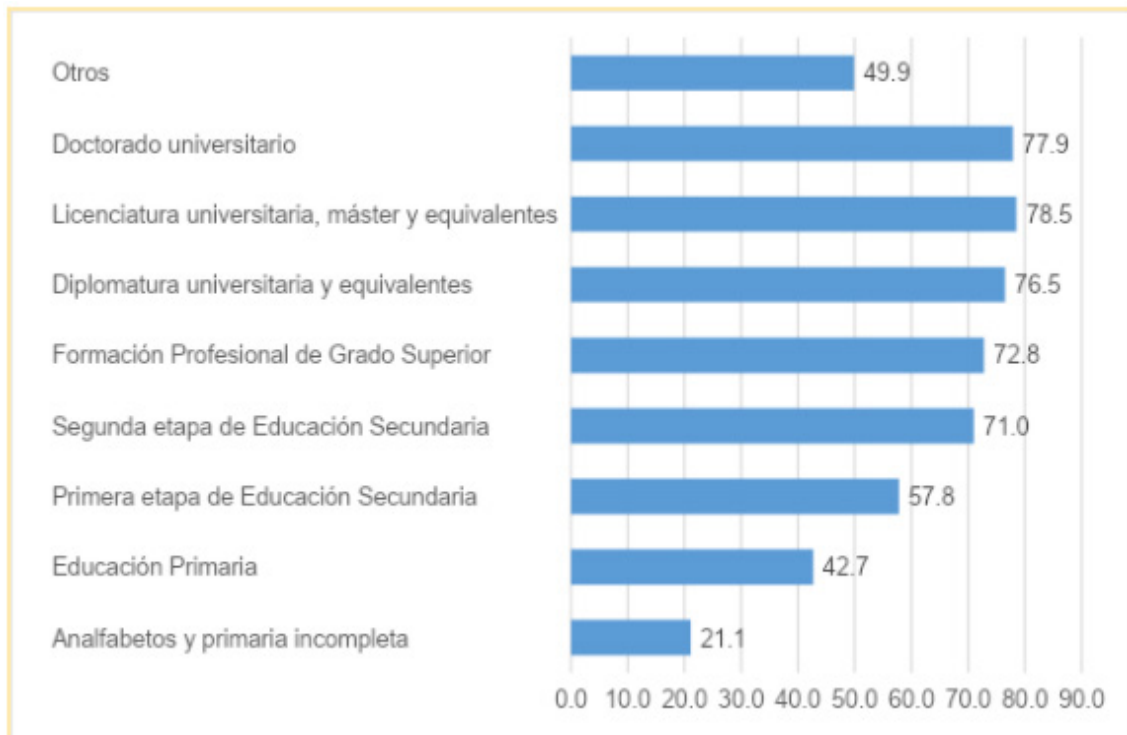


Figure 2. *Level of education of people who consult health information on the Internet: Internet users in the last 3 months.*

Source: *Survey on Equipment and Use of Information and Communication Technologies in households (INE, 2019).*

As stated by Conesa-Fuentes et al., (2010), “among the main advantages of the Internet, there are its great accessibility, updating, freedom of expression for patients, etc., while among the various disadvantages, the most notable is that the information contained on the Internet may not be reliable”. The diversity of sources and possibilities - scientific journals, institutional websites, virtual communities in forums or social networks (which are becoming increasingly relevant for seeking medical recommendations or advice, or comments on medication, as reported by Martín Fombellida et. al., 2014), etc. – they are an advantage for the citizen, but at the same time, there is a certain saturation, which becomes an obstacle to obtaining useful and legitimate information.

According to Kim and Xie (2017), the main barriers to access and use of web-based health information have to do with content readability and poor usability of eHealth-related sites, a problem that was already highlighted by Cline and Haynes in 2001.

To this deficiency in the presentation of information, it must be added the enormous volume of data available on the network, as well as their quality. This fact seems to make it essential to develop analysis protocols, beyond existing codes of ethics and conduct -HONCode, IHC (Internet Health Coalition), Health Information Technology Institute, DISCERN, MedPICS, WMC Project, CATCH II (cf. Ávila de Tomás et al., 2001)- that make it possible to identify the websites that offer quality information both in their content and in their presentation in a comprehensible way to users. While some authors point out that consumers

can deal with content on the Internet as they have previously done with other media (cf. Jiménez Pernet et al., 2007). However, the lack of identification of sources and authors or creators of information, or the inability of search engines to differentiate between portals or pages with valid information from others that are less reliable (cf. Mira, Pérez-Jover & Lorenzo, 2004), among other factors, suggest that the application of this type of codes, protocols and measures is becoming a necessity in the current context.

Therefore, as a starting point to improve the quality of health information on the Internet, this research proposes an analysis of the corporate websites of three Spanish institutions of recognized prestige -and diverse nature- in the field of cancer dissemination: the Spanish Association Against Cancer (AECC), the Spanish Cancer Patients Group (GEPAC) and the Foundation for Public Education and Training in Cancer (FEFOC). We propose the design of an analysis questionnaire based on a study of the scientific literature on the analysis of web pages, together with the SEO and SEM positioning of the websites under study in the Google search engine with the aim of identifying their possibility of contact with users who are looking for information related to this disease.

2. OBJECTIVES AND STARTING HYPOTHESIS

The analysis proposed in this research addresses, as indicated, both the usability of the websites of the three institutions under study and the type of information offered in each of them, with the aim of knowing the state of information on the web about cancer in Spain and identifying good practices in communication about the disease.

The specific objectives of the research are, firstly, to know the state of the issue of the proposals for the analysis of health web pages; secondly, to design a suitable questionnaire for the study of web pages of institutions working in the field of cancer; and, thirdly, to establish conclusions on the (informative) use that the three main cancer organizations in Spain (already referenced) make of their corporate web pages by applying, on the one hand, the designed questionnaire and, on the other hand, by offering a detailed analysis of the type of content that each of them addresses.

The research is carried out in the context of the year 2020 (the data is collected, specifically, during the months of January and February) and it is complemented with a bibliographic review for the elaboration of the state of the issue of publications of the last twenty years with the aim of establishing an in-depth review of the evolution experienced in the methodology and techniques used in the analysis of web pages (contents, design and navigability) and to create, from there, a methodological design of its own. The purpose is to create a model from which to indicate whether or not the institution has or has not such information or content, or respects the basic needs of design and navigability. Therefore, values related to the updating of communication (news on the web or publications in social networks) are not explored since this aspect would lead to the elaboration of not only quantitative but also qualitative research, which is not the aim of this initial

exploratory research, which will be used as a starting point for further studies.

Based on these objectives and the presented ideas, the following departure hypotheses are proposed:

1. Existing questionnaires for the analysis of health web pages are incomplete for the current analysis of institutional sites about cancer.
2. The web pages of three of the main Spanish cancer prevention and dissemination institutions show coincidence in content and services: they offer in-depth information on the disease, its types, detection and prevention, as well as information segmented by different types of audiences.
3. The communication of the functions and activities of the institutions is part of the web pages of the analyzed institutions.
4. The presence in social networks has become a mandatory action for this type of institutions.
5. The organizations under study offer a clear and immediate identification of their financing sources.
6. Coincidence in the objectives of the corporate web pages related to cancer is noted.
7. Certain complexity in the management of corporate web content is observed.
8. The effectiveness in the positioning of corporate websites is reduced.

3. STATUS OF THE ISSUE REGARDING eHEALTH INFORMATION

To proceed with the state of the question, a search was carried out in the Doyma-Elsevier search engine, Web of Science, Scopus and Google Scholar with the terms: *cancer information internet*, *health information internet*, *information cancer internet*, *health information Internet* and *eHealth*. This initial search also allowed an approach to other articles related to the subject, from which it can be drawn that the concern for the type of information published on the Internet on the various issues related to the field of health is a topic of current interest for researchers and academics, as well as for the social sphere.

From the obtained results, we first examined the literature review carried out by Conesa Fuentes and Aguinaga Ontoso (2009), which allowed an initial approach to the literature published on the object of study, it presents a selection of studies, codes of conduct and certification systems related to the evaluation of the quality of web pages with health information.

Secondly, several studies that focus on the use of the Internet to search for information on certain aspects related to health have been published. Among them, it should be highlighted the analysis by Jiménez Pernett et al. (2006), who identify the main trends in the use of the Internet as a source of health information, focusing on certain population groups such as adolescents, the elderly, women, health professionals and virtual communities of patients; analysing, in addition, the codes of conduct that have been proposed to improve the quality of websites with health contents or the proposal by Lima and Maza (2019) on the information needs of family members (focused on diseases of premature infants in neonatal

intensive care units, using Internet sources). Studies that analyze the influence of the search for information on the Internet on the doctor-patient relationship (Marín-Torres et al., 2012) are also noted, stating that “the Internet has the power to influence the way of thinking and achieve changes in lifestyles”. A third pathway of research is focused on official information carried out and published by journalists who are specialized in this thematic area (Saavedra Llamas et al., 2019).

Llinás et al. (2005), on their own, try to determine which characteristics are the most valued by Internet users of a health web page, observing that Internet users trust a page more if “after accessing it quickly and navigating easily, they can see that it is updated, that the information is complete and accurate, that it is presented in a visually attractive way and that it uses simple and understandable language”. Thus, it is noted that elements such as navigability, accessibility, design and aesthetics seem to be more important than the search for quality and reliability of the source.

In another order of results, there are some case studies that are useful for understanding the required needs of health web pages. In this sense, Arencibia Jiménez & Aibar Remón (2007) carried out an exploratory cross-sectional descriptive study of hospital web pages by preparing an evaluation questionnaire with the following criteria: accessibility, usability, interactivity, presented information, updating of contents, quality and information for the professional. The web pages of this sort of institutions are also addressed by Díaz Cuenca (2007), who offers a questionnaire with five groups of content in his study: 1. General information on the hospital; 2. Information on the services portfolio; 3. Types of activities that are accessible through the web; 4. Web links typology; and 5. Ergonomics.

On the other hand, it is essential to specify those studies or proposals that analyze different instruments for evaluating health web pages. Thus, in relation to the parameters which are taken into consideration to approach the analysis of information in web spaces, it should first be mentioned Codina (2000) -a leading author in this field whose contribution has been accepted, among others, by Merlo Vega, 2003 or Robert Barrera et al., 2006- who proposes fourteen generic criteria for this type of analysis: 1. Quality and volume of the information; 2. Authorship: responsibility and solvency; 3. Readability and ergonomics; 4. Navigation and representation of the information; 5. Retrievability; 6. Interactivity/Computability; 7. Download speed; 8. Additional Services; 9. Luminosity; 10. Links' quality; 11. Links' updating; 12. Description, selection and evaluation; 13. Visibility; and 14. Auto description.

More specifically in the field of health, the e-Europe code must be mentioned, it contains the following dimensions: a) transparency and absence of clash of interests; b) authorship; c) protection of personal data; d) information updating; e) responsibility; and f) accessibility.

Núñez Gudás (2002) and Ramos Sánchez (2004) also provide a list of the most widely used criteria to evaluate the quality of health information resources

available on the Internet, including Caywood's more generic proposal, which is focused on access, design and content; Smith's criteria, which include scope, content, graphic and multimedia design, purpose, review, applicability and cost; as well as Tilman and Grassian (the first authors to introduce the topic of quality of information on the Internet); and the proposal of Jacobson and Cohen, who begin with authors with previous formulations and incorporate the following items: objectives (expected audience, the source); source (creator's authority, address and e-mail), content (accuracy, balance, quality, range, updating, links) and style and functionality.

However, regarding the published literature on the topic, it is clear that different instruments have been developed to measure the quality of health websites in recent years. In this regard, Bermúdez Tamayo et al. (2006) point out that:

some instruments are used in the form of filters (which exclude pages that do not meet criteria), user guides (automated or not) and third-party accreditation seals. Other initiatives have focused on supplier self-regulation through self-applied quality seals.

Bauer and Deering (2009), Mayer, Leis and Sanz (2009) and Batalla Martínez (2009), among others, also discuss quality seals on web pages as an aid for the user -mainly non-expert-.

Thus, Bermúdez Tamayo et al. propose the design of a questionnaire to evaluate the fulfillment of the quality criteria of health websites and analyze their reliability. To this end, the criteria of the e-Europe 2002 code of conduct are taken into account and compared with those of the AMA, Summit, eHealth Code of Ethics, regulations and guidelines in force, and they consider the study of transparency and the absence of clash of interests, authorship, data protection, updating, responsibility and accessibility.¹

Conesa Fuentes et al. (2010), on their own, evaluate the quality of general health information websites in Spanish, as well as the official websites of the health services of the different Spanish autonomous regions, using the Bermúdez-Tamayo et al. questionnaire as a departure point and making modifications. They observe that, in general, the quality of the web pages with health information is low, especially in reference to the quality of the information; however, the studies that evaluate the quality of the web pages focused on a specific disease (such as breast cancer) conclude that the quality is generally high. The proposal by Conesa Fuentes, et al. (2010) includes several content elements structured under the following headings: 1. Transparency²; 2. Personal data protection³; 3.

1 Formed by the items: 1. Transparency and absence of conflict of interest: responsible for the page, objective, audience and sources of financing; 2. Authorship: (sources and date); 3; Personal data protection; 4. Information updating; 5. Responsibility: contact address and qualification of authors in *online* consultations, editorial policy procedure and recommended links; 6. Accessibility: ease of finding content and searching, readability and accessibility for people with disabilities.

2 The transparency group includes: name of the person in charge; E-mail address of the person in charge; objective of the website; target population; financing of the website

3 The heading Personal data protection consists of: Description of the form of personal data protection.

Accessibility⁴; 4. Authorship⁵; 5. Procedure for updating information; and 6. Page responsibility.⁶

In this list of authors who study the quality of health information on the Internet, Arcos-García (2012) establishes his analysis of the quality of health web pages in a specific case that of the human papillomavirus, applying an evaluation questionnaire again, based on the e-Europe 2002 code.

Among the most recent studies, the contributions of Fahy et al. (2014) can be found, among others, who conduct a review on the quality of health information for patients on the Internet, or Zhang et al. (2015), who conduct a systematic review of indicators, criteria and tools for the quality of health information on the web.

Thus, it is noted that most of the authors seem to agree on the relevance of certain aspects such as easy navigation, updating and accuracy of the information or identification of the source; however, the contributions of the consulted authors seem to indicate that users of this type of websites attach greater importance to aspects related to navigability, accessibility, design and aesthetics than to the quality and reliability of the source. Likewise, it is also relevant to add the proposals that focus on exploring the need for it to be precisely the healthcare professionals and the institutions themselves the ones who make the website recommendations (cf. Grau, 2017). However, given the behavior of the patient or family members who resort directly to the sources published openly on the Internet, it is important to analyze specific sources, starting in this proposal with corporate websites of associations specialized in a specific disease, institutions -generally- in direct contact with medical specialists who should offer quality information to the citizen.

4. METHODOLOGY

In order to proceed with the analysis of the web pages of the three cancer-related organizations in the sample, a web application is first used to evaluate web accessibility⁷, thus, identifying possible errors related to usability and accessibility.

Secondly, a content analysis of the sites is carried out. To this end, several previous proposals have been taken into consideration, such as those specified in the state of the issue, specifically Bermúdez Tamayo et al. (2006) and Conesa Fuentes et al. (2010), as well as other types of proposals for analyzing websites in other areas that are useful due to their method and structure, as it is the case of the Infoparticipa Map (mapainforparticipa.com) on the quality and transparency

4 By Accessibility, the authors refer to: ease of finding content; ease of searching; ease of reading; appropriate font size; appropriate language for the target audience; accessibility for people with disabilities.

5 Under the heading Authorship, the source of information of the documents and the date of publication are included.

6 The authors establish the following content items in the Responsibility section: Webmaster's e-mail address; On-line consultation; Information selection procedure; Link selection procedure.

7 For the current study, concretely, this app has been used: <http://examinator.ws>.

of public communication, specifically in the case of local corporations (Molina Rodríguez Navas et al., 2015); as well as the analysis proposal and adaptation of the Infoparticipa Map proposed by Baamonde-Silva et al. (2017) for the analysis of corporate websites of Non-Governmental Organizations for Development.

Thereupon, our own proposal was developed, it includes a list of 32 content items that are structured around the following content groups (Table 1): 1. Information about the institution; 2. Information about the cancer; 3. Help; 4. Sources of financing and partners; 5. Communication; 6. Social Media; 7. Accessibility; and 8. Update.

As it can be observed in the proposal, the analysis is structured in eight content blocks, which allow addressing the different components of the institution: **institutional identity** (what the institution manifests it is) and **institutional image** (what the institution transmits), both are imaginary constructions based on declarative aspects and the **institutional reality** (what the institution is objectively) and **institutional communication** (what the institution communicates).

Based on the items contained in Table 1, which identify whether the evaluation parameter for the web pages under study is met (1) or not (0), the work can be completed with a content analysis of the pages based on specific aspects of the dimensions indicated above.

In addition to the internal analysis of the corporate websites, in the next phase of the study, an evaluation is also made from the point of view of their organic and advertising positioning, indicating with this parameter the possibilities of access to the referred websites from search engines, the main resource used by users to search for information on the Internet.

Table 1. *Items for content analysis of institutional cancer web pages*

Institution information	1.	Who they are
	2.	Functions
	3.	Location
	4.	Contact with the institution
	5.	Specialized sections by audience segments
Information about the disease	6.	Definition of the disease
	7.	Types of cancer
	8.	Prevention
	9.	Detection
	10.	Treatments
	11.	Recommendations for living with the disease
	12.	Other useful information for family members
Help	13.	Contact telephone (toll free)
	14.	Form
	15.	Others
Sources of financing and partners	16.	Main source of financing identified
	17.	Advertising and sponsorships
	18.	Partners, collaborators and volunteers
	19.	How to collaborate/donate
Communication	20.	News
	21.	Calendar of events
	22.	Publications
	23.	Facebook
	24.	Twitter
	25.	Youtube
	26.	Other networks
	27.	Newsletter
Design and usability	28.	Site Map
	29.	Responsive design
	30.	Search engine
	31.	Meets readability criteria
Update	32.	Accessible information on the latest update

Source: *Own elaboration.*

5. RESULTS

Taking into account the above background and the proposed methodology, it can be proceeded to evaluate the websites of the three main non-governmental institutions related to cancer in our country. These are the Spanish Association Against Cancer (AECC), the Spanish Cancer Patients Group (GEPAC) and the Foundation for Public Education and Training in Cancer (FEFOC). The same dynamic of analysis was applied to the three of them, with the questionnaire already described in order to be able to carry out the subsequent content analysis.

5. 1. Analysis of the corporate website of the Spanish Association Against Cancer (AECC).

Firstly, it should be mentioned -in addition to the information contained in the table- that the AECC website (www.aecc.es) has other social networks, specifically Instagram. Be that as it may, sight should not be loss of the fact that the AECC is the institution, out of the analyzed three, with the greatest offline media presence

(both in paid advertising media and in the organization of awareness-raising activities), so that, a priori, its website should contribute to this priority positioning.

Despite this, the analysis shows a corporate website with institutional information and a variety of content to get information on cancer. In this sense, it distances from static websites by incorporating updated information through news, publications, information on events and other news in a blog-like section ("Your health comes first"). It is also significant to note that the website includes various contact formulas, even enabling interactions between those directly or indirectly affected by cancer through the Community section.

On the other hand, according to the information provided, the objectives of this platform are to raise awareness of the disease and to attract sources of funding for the development of its activities. Thus, it could be understood that the website includes management elements similar to those that would be used in a commercial website. However, this fact does not seem to be confirmed, therefore eliminating linked options such as contact forms.

Continuing with regard to formal issues, it is clear that the established parameters for the evaluation of the web site have been clearly complied with in an orthodox manner. In fact, it confirms the professional management of this platform in a way that it is technically very effective. From another point of view, in terms of content, the absence of aspects related to disease prevention is striking. In addition, there is no information on the organization's main sources of funding.

However, all these contents do not seem to be useful to achieve organic positioning of the website in the Google search engine. It is not present in searches such as "cancer", "cancer disease" or "types of cancer", searches in which the National Cancer Institute or the American Cancer Society occupy the top positions. The direct search for the Spanish Association Against Cancer reveals the existence of SEM and SEO positioning, with a preferential ad for "AECC for families and patients; find the help you are looking for".

Table 2. *Analysis of the corporate website of the Spanish Association Against Cancer.*

Institution information	1.	Who they are	1
	2.	Functions	1
	3.	Location	1
	4.	Contact with the institution	1
	5.	Specialized sections by audience segments	1
Information about the disease	6.	Definition of the disease	1
	7.	Types of cancer	1
	8.	Prevention	1
	9.	Detection	1
	10.	Treatments	1
	11.	Recommendations for living with the disease	1
Help	12.	Other useful information for family members	1
	13.	Contact telephone (toll free)	1
	14.	Form	0
Sources of financing and partners	15.	Others	1
	16.	Main source of financing identified	0
	17.	Advertising and sponsorships	0
	18.	Partners, collaborators and volunteers	1
Communication	19.	How to collaborate/donate	1
	20.	News	1
	21.	Calendar of events	1
	22.	Publications	1
	23.	Facebook	1
	24.	Twitter	1
	25.	Youtube	1
	26.	Other networks	1
	27.	Newsletter	1
Design and usability	28.	Site Map	1
	29.	Responsive design	1
	30.	Search engine	1
	31.	Meets readability criteria (font size)	1
Update	32.	Accessible information on the latest update	1

Source: *Own elaboration.*

5.2. Analysis of the corporate website of the Spanish Cancer Patients Group (GEPAC).

Unlike the AECC, the Spanish Cancer Patients Group (GEPAC) has a website (www.gepac.es) with an “informative” character. The contents related to the disease are prioritized over the institutional ones. In addition, the web site has variable and updated contents in this case. GEPAC has no external social presence and, in fact, its work takes place -precisely- during the process of the disease (where discretion is valued).

Table 3. *Analysis of the corporate website of the Spanish Cancer Patients Group (GEPAC).*

Institution information	1.	Who they are	1
	2.	Functions	1
	3.	Location	1
	4.	Contact with the institution	1
	5.	Specialized sections by audience segments	0
Information about the disease	6.	Definition of the disease	1
	7.	Types of cancer	1
	8.	Prevention	1
	9.	Detection	1
	10.	Treatments	1
	11.	Recommendations for living with the disease	1
	12.	Other useful information for family members	1
Help	13.	Contact telephone (toll free)	1
	14.	Form	1
	15.	Others	1
Sources of financing and partners	16.	Main source of financing identified	0
	17.	Advertising and sponsorships	1
	18.	Partners, collaborators and volunteers	1
	19.	How to collaborate/donate	1
Communication	20.	News	1
	21.	Calendar of events	1
	22.	Publications	1
	23.	Facebook	1
	24.	Twitter	1
	25.	Youtube	1
	26.	Other networks	1
	27.	Newsletter	0
Design and usability	28.	Site Map	1
	29.	Responsive design	1
	30.	Search engine	1
	31.	Meets readability criteria (font size)	1
Update	32.	Accessible information on the latest update	1

Source: *Own elaboration.*

The analysis shows an informative website of a purely informative nature and with dynamic (updated) information. The contents of the page are updated but they are not included in newsletters. The objectives of the website are to make advances in research on the disease and, once again, to obtain funding for its activities. However, it is clear that this is a website that can be identified as a content site, with great similarities to a blog.

In this case, it also includes the link to its different profiles in social networks and, in addition to Facebook, Twitter and YouTube, it is present on Instagram. Thus, it follows the trend of including this network in the communication plan in social media that is being carried out by mainly commercial companies, but also by other institutions or associations with a more informative purpose.

Continuing with regard to formal issues, the parameters established for the evaluation of the website are almost completely fulfilled once again. The management of this page is more complex as it is an informative website, which requires more monitoring and effort. In relation to the contents, the sources of

financing of the institution are not indicated either in this case.

As indicated in the previous section, this organization is not organically positioned in generic searches ("cancer", "cancer disease" or "types of cancer") and has not carried out SEM positioning for the organic web (no paid positioning is recorded). It is also important how this association presents itself through its website, its Facebook page and an additional page in which the URL changes and becomes www.somospacientes.com. This "division" of options makes positioning more complex.

5.3. Analysis of the corporate website of the Foundation for Public Education and Training in Cancer (FEFOC).

Regarding the Foundation for Public Education and Training in Cancer (FEFOC), more similarities with GEPAC than with the Spanish Association Against Cancer (AECC) are found. Once again, the informative nature of the website (<https://www.fefoc.org/>) prevails over the corporate data. This page could almost be described as crowdfunding since, within this informative character, the priority is the information on the means of financing. Precisely this information has a stable and permanent character, focusing on the objective of obtaining funding for its activities. The second objective of the FEFOC organization is to make advances in research on this disease. FEFOC has no social presence either.

Once more, the website has static information with low content updating. The contents do not include an agenda nor do they develop a newsletter. In this case, the website has more similarities with a sales website than the previous two.

Table 4. *Analysis of the corporate website of the Foundation for Public Education and Training in Cancer (FEFOC).*

Institution information	1.	Who they are	1
	2.	Functions	1
	3.	Location	1
	4.	Contact with the institution	1
	5.	Specialized sections by audience segments	1
Information about the disease	6.	Definition of the disease	1
	7.	Types of cancer	1
	8.	Prevention	1
	9.	Detection	1
	10.	Treatments	1
	11.	Recommendations for living with the disease	1
Help	12.	Other useful information for family members	1
	13.	Contact telephone (toll free)	1
	14.	Form	1
Sources of financing and partners	15.	Others	1
	16.	Main source of financing identified	0
	17.	Advertising and sponsorships	0
	18.	Partners, collaborators and volunteers	1
Communication	19.	How to collaborate/donate	1
	20.	News	1
	21.	Calendar of events	0
	22.	Publications	1
	23.	Facebook	1
	24.	Twitter	1
	25.	Youtube	1
	26.	Other networks	0
	27.	Newsletter	1
Design and usability	28.	Site Map	0
	29.	Responsive design	1
	30.	Search engine	1
	31.	Meets readability criteria (font size)	1
Update	32.	Accessible information on the latest update	0

Source: *Own elaboration.*

In terms of formal issues, it is the one that most complies with the parameters established for the evaluation of a website. The management of the website is simple in terms of information content management, though it is more elaborated in terms of fundraising. Focusing exclusively on content, the creation of microsites for the different projects linked to the FEFOC is particularly interesting.

Finally, the organic positioning of the foundation is direct and concrete and even linked to publicity in the national media.

6. CONCLUSIONS

Firstly, it should be pointed out that the current study was based on an analysis of the three websites as a starting point for improving the quality of health information on the Internet, focusing on the concepts of legibility of the content, usability, the

lack of identification of sources and authors of the information and the inability of search engines to differentiate between portals or pages with valid information and others that are less reliable. In relation to this main objective, the first of the obtained conclusions is that the three analyzed websites do not initially present these problems although they should continue to work on offering information in a constant and updated manner.

The work carried out in relation to cancer information on the Internet has led to progress in terms of the feasibility of the specific questionnaire on corporate websites. This questionnaire is a fundamental analysis tool to evaluate the performance of the web pages linked to information on this disease. Fieldwork carried out on the web pages of the three main Spanish associations provided a broad index of compliance with the 32 established parameters: AECC, 29; GEPAC, 29 and FEFOC, 26.

This level of compliance indicates that there is a professional, conscious and probably strategic work when developing these websites. In fact, the content analysis that was carried out shows signs of professional management of these spaces. In all of them there is institutional content, but this loses weight as fundraising becomes more important. Despite this fact, there is a coincidence of contents and services in the three websites. All these organizations have an important presence in social networks but have less weight in terms of SEO positioning.

The objectives pursued by these organizations fully coincide but their approach is not the same. The AECC shows a more corporate and institutional image, a fact that is reflected in its campaigns and actions and even in the fact that it has decided to use SEM positioning resources.

On its part, GEPAC goes a step further both in obtaining the necessary funding and in informing about the disease. The GEPAC is less direct in fundraising than the FEFOC, which has developed its contents very much for this purpose. The most important fact is that none of these three organizations report their main sources of funding on their websites (although they do provide information on sponsors and collaborators).

The updating of informative content is low (although with differences among the three associations) and hardly any references to communication management are made -only the AECC- so there are no contacts or specific materials for the media. This fact is directly related to the social presence of the analyzed institutions and to their SEM and SEO positioning.

All of the above finally confirms the possibilities of the Internet as a means of disseminating health contents and, more specifically, in relation to cancer. The searches that are carried out by users must, however, be targeted, since the work of these organizations is not oriented towards positioning. In any case, the analysis model developed demonstrates its effectiveness in assessing this type of content and allows more extensive research to be carried out in the future.

As indicated in the section corresponding to the research objectives, only the updating of the web page is evaluated, without dwelling on carrying out an in-depth qualitative analysis of the updating of other communicative elements such as the recent publication of news on the web or the publications, also updated and with high regularity on the social networks considered (Twitter, Facebook, etc.). The proposal, in this sense, allows information to be obtained on the contents of the corporate websites of a sample of cancer associations in Spain in order to provide a starting point for further studies. Thus, it would be interesting to continue the current research through an analysis of aspects related to the presence in social networks of these institutions, assessing their age, frequency of publication, users' engagement, type of published content, etc.; so that the existence of a communication strategy behind them is delimited, if applicable.

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THE CHALLENGE OF BUILDING MENTAL IMAGES OF CHRONICAL NON-TRANSMISSIBLE DISEASES IN ASYMPTOMATIC PATIENTS

El desafío de construir imágenes mentales de las enfermedades crónicas no transmisibles en pacientes asintomáticos

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Abstract

During an early stage of diagnosis, diabetes, hypertension or dyslipidemia can be considered asymptomatic for most patients. Hence, explaining how their pathologies are framed to patients becomes a challenging task, especially for acknowledging the risks associated with diseases with a high rate of neurovascular damage. The construction of mental images of chronic pathologies is a pending task in Primary Health systems, which deny education and communication as essential assets for clinical treatments. In this sense, efforts from the health professionals are required to jointly create mental images of the diseases with their patients. This approach implies new communication dynamics, which promote acknowledgement of the economic, social, and cultural context of the patient in order to explain and explore the patient's reality.

Keywords: Mental images; Health communication; Chronic diseases; Treatment adherence; Medicine.

Resumen

En las primeras etapas de la enfermedad, la diabetes, la hipertensión o la dislipidemia, pueden ser asintomáticas para la mayoría de los pacientes. Por ello, es una tarea compleja para el equipo de salud encontrar la forma de explicarles que padecen de una patología que “silenciosamente” los daña a nivel neurovascular. Si una persona no tiene una imagen mental de su enfermedad, difícilmente podrá tomar conciencia de los riesgos que corre si no logra compensarse adecuadamente. La construcción de imágenes mentales de las patologías crónicas es una tarea pendiente en Salud Primaria, área en la

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que tanto la educación como el rol de la comunicación han sido relegadas a un segundo plano. Los profesionales de la salud primaria deben generar junto a sus pacientes, una co-construcción de las imágenes mentales de sus enfermedades. Esta nueva visión, implica que el profesional deberá insertarse en el contexto del paciente y desde ahí iniciar una exploración y explicación de cada realidad.

Palabras clave: Imágenes mentales; Comunicación en salud; Enfermedades crónicas; Adherencia terapéutica; Medicina.

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1. INTRODUCTION

Currently, one of the main public health problems are chronic non-transmissible diseases, where diabetes, hypertension and obesity are the three most frequent conditions in the population. Statistics show that three out of every four deaths in the world are attributable to these pathologies, representing the greatest health burden in industrialized countries and becoming a rapidly increasing problem for underdeveloped countries (Moiso, 2007).

Therapeutic adherence is one of the main strategies used in the fight against these diseases, and is defined as the context in which the person's behavior coincides with health-related recommendations, and includes the patient's ability to attend scheduled appointments, take medications as indicated, make the recommended lifestyle changes and finally complete the laboratory studies or tests requested (Peralta and Carbajal, 2008).

How do one convince the carrier of an asymptomatic pathology to comply with the indications of the healthcare team? Achieving therapeutic adherence is a multidimensional problem, where the ideas or representations that patients have about the diseases that they suffer and about the treatment that is prescribed for them determine their prognosis (Ramos, 2015).

For decades, the therapeutic approach to disease has been based on the biomedical model, which is useful and infallible with acute diseases (which hurt, bleed and hospitalize), but insufficient with those that are asymptomatic. If the person neither perceives a symptom nor sees a clinical sign, he/she will not be able to construct a mental image of dyslipidemia (high cholesterol, which causes most heart attacks) and without this representation, it is highly probable that medical indications will fall on infertile ground.

2. OBJECTIVE

This paper seeks to reflect on the importance of mental imagery in the treatment of chronic pathologies such as diabetes, hypertension and dyslipidemia, which are asymptomatic in their early stages and require enormous efforts by the health care team to achieve therapeutic adherence.

3. THE IMAGES

For Villafañe (1992), there is a selection of reality in the image, configuring elements and a syntax which is understood as a manifestation of order. "Any phenomenon that can be reduced in this way, without altering its nature, can be considered an image" (p.30), and its study can be reduced to two major processes: perception, with its mechanisms of selection of reality, and representation, with the explicitness of a particular form of such reality or an aspect of it.

Although all images must have a correlative of reality, the individual can create images based on his or her learning and generated ideas on the basis of experience. Frusser (cited in Soto, 2015), explains that imagination is the specific capacity to create and decipher images; however, imagination itself is not sufficient for the creation of such images. What is seen must be fixed and made accessible to others. It must be reconverted into symbols, and that resulting code must then be fed into memory and deciphered by others. Traditionally, imagination has played a fundamental role in the process of knowing, since it has been estimated that the means that humankind constructs to mediate with the world emerge from it; it is the way one has to access himself or herself from one's existence, in other words, from the outside of oneself.

Images can be described as endogenous, of which example are memories, and exogenous, which need a technical support to reach our gaze. These endogenous images are not always of an individual nature, they can have a collective origin and people, without realizing it, incorporate them as their own, influenced by the mass media (Belting, 2007).

Images are usually given the expression of a meaning and the duration of a personal memory, being subject to self-censorship (Belting, 2007). Therefore, the experience with images is based on a construction that the subjects themselves elaborate and is determined by the particular conditions in which they are mediated and modeled; this kind of metamorphosis occurs when images of something that happened become memories.

3.1. The Mental Image.

According to cognitive psychology "Images are not only a type of code which is intended to promote recall, but they seem to play a central role in creative thinking" (Otero, 2016, p. 96)

For the group of Teaching Innovation *Image and Text*⁹ of the University of
9 <http://www.ugr.es/~imagenytexto/trad/>

Granada (2011), mental images constitute internal representations of knowledge and belong to the concept level since they are the result of the manipulation of symbolic entities in the dynamic processing of information. Mental images help to reduce the load that is sent to the working memory and thus increase the efficiency of comprehension processes.

In order to activate all the processes that are involved in the transformation from physical to mental images, perception is fundamental, so is the memory defined by Ballesteros (1999) as a psychological process that serves to store encoded information, which can be retrieved, sometimes voluntarily and consciously, and sometimes involuntarily.

In relation to how images are formed, the dual coding theory explains that people have two forms of representation: the verbal system and the image system. The latter is specialized in the processing of information concerning non-verbal, concrete, sensory objects and events, of which main function is the generation and processing of *mental images* (Fernández, 2013).

With a strong subjective charge, mental imagery is a term that refers to mental representations that provide the experience of perception without the presence of an afferent sensory stimulus. It would be the sound images of linguistic signs, versus visual ones, better to explain the involvement of imagery in the way conceptual ideational thought materializes (Martinez, 2014). However, most research has focused on the study of visual mental imagery and there is almost no research focused on imagery related to the other senses (Pardos, 2017).

Mental images can also have a proprioceptive substrate through movements that “provide the perceiver with kinesthetic information obtained from muscles, tendons and joints” (Ballesteros, 1999, p.709). The absence of this sense, which can cause a loss of the body, may have a cause that has nothing to do with physiology: Baitello (2005) explains that social and cultural factors, such as the hypertrophy of communication by images, can alter one’s own perception, the sensation of one’s own body, space and self.

Despite the advances in the study of these representations and the processes that are involved in their genesis and evocation, much uncertainty exists still and there is not total clarity between the connection generated by mental images and thinking, mainly because of the variety of mental images that exist, and the diversity of ways of thinking (Campos & González, 2017). However, it exists some consensus that mental images are present when thinking and making decisions.

3.2. Images and the In-Communication Media

People are exposed to images of elements and topics daily, most of them coming from the media. The media are generators of social values through images, disseminating and creating cultural stereotypes, some of which revolve around an overestimation of the cultural image (Herrero, 2005), this has led to an excessive bombardment of circulating images to the detriment of communication itself

(Browne, 2006). This indiscriminate and compulsive proliferation of exogenous images in all types of media spaces generates an exacerbated compulsion of appropriation in the receivers (Baitello, 2004). Iconophagy (impure) arises then, where bodies devour the images that arrive through propaganda, fashion, lifestyles and the media.

An indiscriminate consumption of images can derive in an iconic indigestion or an iconoadiction, something similar to what happens with drugs -explains Browne (2017)- generating a narcotizing effect and a kind of tele-addiction or teledependence. He even speaks of "Iconorrhea" to create a simile between physiological indigestion and mental saturation by images.

3.3. Images of Health and Disease.

The construction of the image of the disease in the patient can also be explained through the mental model or context that was proposed by Van Dijk (2001). These mental representations control the communicative event and regulate the relationships between the discourse and its social-cognitive environment, they assure the appropriate components according to the situation. There is also shared knowledge (*Common Ground*) that manages the complex structure of implicit and explicit discourse, as well as presuppositions and implications. In all this process, the treatment given by the media to news content is also relevant since it contributes to the construction of the social image of diseases and of those affected by them (García, 2013).

The personal models of the disease include among its elements the beliefs that have been built, which translates into the affected person acting from the mental representation (cognitive or emotional) that he or she has about the pathology and not so much from the symptoms or the objective evidence that he/she has, all "with the aim of providing it meaning in a personal vision or interpretation of the condition and, from this interpretation, to manage the problem as appropriately as possible"(Castillo, 2016, p.43).

The most relevant aspects of chronic non-transmissible diseases are that they last for long periods, are asymptomatic in the early stages, affect daily life and can only be monitored because they have no cure (Espinosa & Ordúñez, 2010). Carriers have little awareness of self-care, which causes 30 to 80% of them to stop taking their medication six months after starting treatment. This abandonment, which can be explained by the initial asymptomatic experience and the conceptions about the disease, is also amplified by the construction of the disease by the media and the received education (Facchini, 2004). Consequently, the absence of bothersome symptoms and the underestimation of the severity of the disease explain the low frequency of doctor visits (Castillo-Morejón, et al., 2017).

Mental images reflect the beliefs that people have about their disease, explaining their fears, worries and even the hope for recovery. However, it is not clear whether these images originate from the influence exerted by health professionals or from cultural beliefs about one or another pathology (Harrow et al., 2007).

For example, results have shown that the representation of people with diabetes is not consistent with the biomedical vision that defines the natural history and course of the disease. This is mainly because emotional processes, life changes, religious beliefs and the possibility of cure of those affected are not considered (Torres-López et al., 2005).

In the same line, the perceptions of overweight and obesity in women have been reported, concluding that their mental image makes them think that their BMI (Body Mass Index) is normal and they are not aware of their nutritional problem (Rodríguez-Guzmán, et al., 2010).

4. CONCLUSIONS

Communication between the doctor and the chronically ill patient is one of the main tools to be used to construct mental images of pathologies such as diabetes, dyslipidemia or hypertension. The above, in a context of asymptatology, which will require prolonged treatments, where the establishment of a basic link is fundamental for therapeutic action (Facchini, 2004).

Health professionals should double their efforts to build mental images together with patients in order to promote assertiveness and adherence in subsequent treatments, guiding them towards the prevention of complications, compliance of indications and, in this way, helping them to manage their disease.

For decades, the biomedical model has been characterized by presenting the patient as an individual who is separated from the environment or the place where he or she comes from, forgetting that mental images constitute internal representations of knowledge and link people with their environment. This leads to conclude that each individual brings different internal representations, which depend on their social, cultural and economic context; and where their perception allows them to interpret and understand the received information through the senses (Fuentemayor & Villasmil, 2008).

In the analysis of this problem, the possibility of an erroneous self-perception of health should not be ignored since the media and social networks have a severe impact on the population. Sometimes, these media and information platforms can even distort the subject's perception to the extent of provoking a pathological reaction, an iconorrhea (Browne, 2006), but this time, in such a delicate context as the health and well-being of the individual is.

All of the above requires rethinking and reformulating interpersonal communication in the health care setting, where more visions are added to what is known as the doctor-patient relationship and giving way to innovative strategies in the field of cognitive psychology, health education and cultural studies. It is clear that the current biomedical approach, which is masked in a biopsychosocial model, is not providing answers in specific aspects and challenges of modern medicine.

The new primary health specialists will have to generate, together with the

patients, a co-construction of the mental images of their illnesses. This new vision implies that the professional will have to integrate himself into the patient's context and begin an exploration and explanation of each reality from there. Religious and ethnic beliefs, socio-cultural factors that are associated with the territory - such as extreme rurality or urban marginality - are some of the elements to be considered with similar importance to pharmacological dosage, nutritional evaluation or physical exercise. The above should always take into account that the lack of therapeutic adherence is a multidimensional problem, where the ideas or representations that patients have about the diseases that they suffer and about the treatment that has been prescribed for them mark their prognosis (Ramos, 2015).

This approach should be addressed in undergraduate programs and clinical training of future physicians, nurses, psychologists, nutritionists, kinesiologists and paramedical technicians. The aforementioned efforts and innovations will not make sense if the State, through its approach and public policies, is not capable of approaching the treatment of diseases in a holistic logic, abandoning the merely pharmacological and therapeutic approach. It is also essential for educational systems to be innovative and inclusive and for development models to overcome the associated economic gaps.

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FROM THE RESEARCH TO THE DOCUMENTARY “DESHAUCIOS Y SALUD”: A METHODOLOGICAL MODEL FOR QUALITATIVE RESULTS DISSEMINATION

De la investigación al documental “Desahucios y salud”: Un modelo metodológico para la difusión de resultados cualitativos

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Abstract

The objective of this article is to describe the process of transferring scientific research to a documentary on the basis of a methodological model with an application for qualitative health research. The methodology of Arts-Based Knowledge Translation was used in order to transfer the scientific results from a primary research (qualitative study of self-perceived health with 58 individuals in process of mortgage-related eviction) to an artistic format. This led to the creation of a documentary collecting participants' experiences as well as opinions from representatives of citizen platforms and the research team. The qualitative results exposed in the Documentary “Eviction and Health” show participants' experiences during the eviction process, changes in their self-perceived health, life habits, drug consumption, social and family relationships. Furthermore, it describes their interaction with citizen platforms or Public Administration, as well as their proposals. The process of transferring qualitative results to an audiovisual format

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led to a proposal of artistic transformation, including 10 phases: 1. decision-making on the artistic format, 2. production team selection, 3. definition of objectives, 4. identification of target audiences, 5. selection of participants, 6. script adaptation from a scientific to an artistic format, 7. Interviews recording, 8. post-production: final editing, 9. triangular validation and 10. media dissemination/ distribution strategy. The application of this methodological model contributed to guarantee the internal validation, credibility and reliability, to resolve potential methodological and ethical problems, and to reduce limitations and biases during the process of Arts-Based Knowledge Translation.

Keywords: Qualitative Research; Scientific Communication and Dissemination; Audiovisual Media; Science in the Arts; Arts-based Knowledge Translation; Arts-Based Research.

Resumen

El objetivo del artículo es describir el proceso de transferencia de conocimiento de una investigación a un documental, proponiendo un modelo metodológico con aplicación a investigaciones cualitativas del ámbito socio-sanitario. Se partió del marco de Transferencia de Conocimiento basada en las Artes (ABTK), para traducir los resultados de un estudio cualitativo sobre la salud autopercebida de personas en situación de desahucio a un formato artístico. Se desarrolló un documental que recogió las experiencias de una muestra de personas participantes en el estudio. En el documental "Desahucios y salud", se reflejan los resultados de la investigación: las vivencias de las personas durante el proceso de desahucio, su salud autopercebida, hábitos, relaciones sociales y familiares, interacción con plataformas ciudadanas y administraciones y propuestas de mejora. La transferencia de los resultados de la investigación al documental incrementó su alcance a audiencias amplias y generó una herramienta didáctica y de sensibilización. Como resultado de este proceso se elaboró una propuesta de modelo de transformación artística, incluyendo 10 fases: 1. Decisión del formato artístico, 2. Selección del equipo de producción, 3. Definición de objetivos, 4. Identificación de públicos, 5. Selección participantes, 6. Adaptación del guion científico al artístico, 7. Grabación de entrevistas, 8. Post-producción: montaje final, 9. Validación triangular, 10. Estrategia de difusión. La aplicación del modelo propuesto contribuyó a garantizar la validez interna, credibilidad y fiabilidad, a resolver problemas metodológicos y éticos y reducir limitaciones y riesgos del uso de la transferencia del conocimiento basada en las artes.

Palabras clave: Investigación Cualitativa; Comunicación y Divulgación Científica; Medios Audiovisuales; Transferencia Artística del Conocimiento; Investigación basadas en las artes.

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1. INTRODUCTION

Communication of scientific results beyond the academy is an emerging field of research (Lafrenière, 2013). Traditional dissemination formats — conferences, scientific articles, book chapters —, are effective in presenting results to an academic or subject matter expert audience, but less accessible to broader audiences (Spagnol, 2019). This prompted the exploration of innovative approaches to knowledge transfer and dissemination of scientific results (Scott, 2013; Houston, 2011), generating the proliferation of studies on dissemination strategies, a phase of the research process that historically received little attention in the methodological literature (Brannen, 2002).

In this scenario, artistic formats begin to be used to communicate research results, making them more accessible and applicable (Bergum, 2008), mobilizing emotion and action in audiences, improving the understanding of complex ideas, and helping to build closer relationships with and among research participants (Spagnol, 2019; Mahtani, 2016; Bartlett, 2015; Archibald, 2014).

The Arts-Based Research concept is rooted in the tradition of qualitative social science and encompasses this new approach to the dissemination of results. It is also known as ABKT, Arts-Based Knowledge Translation (Parsons, 2012), referring to the use of artistic formats to generate, interpret, and also communicate and/or transfer knowledge, at any stage of the research process (Knowles, 2008).

In the field of health, most of the effort in knowledge transfer and dissemination of results has focused on increasing the knowledge of health professionals through the development of clinical practice guidelines, decision-making guides or other types of educational materials (Knowles, 2008). However, emerging evidence suggests that knowledge transfer initiatives aimed at citizens, especially those related to health/disease processes, also play an important role in decision making, reduce the use of health resources or improve health outcomes (Reid, 2017; Slater, 2003).

Other aspects that favored the use of alternative formats for the dissemination of results are: the unprecedented demand for reliable and evidence-based health information, the rapid increase in the number of socio-health research and the easy access to research through the Internet (Scott, 2013; Houston, 2011). In this sense, the World Health Organization (WHO, 2011, p. 39) also invites to work on improving the dissemination of information so that it "makes sense to the final recipients, further empowering the community in the interpretation and use of this information."

In the field of health, arts-based knowledge transfer has generated concrete experiences of storytelling (Mahtani, 2016), illustrations (Reid, 2017; Archibald, 2017), e-books (Archibald, 2018), films and documentaries (Brannen, 2002; Bartlett, 2015), installations (Lapum, 2014), dance performances (Spagnol, 2019) and theater (Ahmed, 2015; Schochet, 2013) or textile banners (Bartlett, 2015).

In qualitative research, the use of the arts represents an opportunity to

enhance social participation, enrich communication, increase applicability (Boydell, 2012) and deeply engage people, prioritizing the affective domain of learning (engagement, attitude or emotion) over the cognitive (understanding, comprehension or application) (Friedman, 2013) and favoring dialogue and shared storytelling (Bartlett, 2015).

Potential limitations of applying arts-based research to the dissemination of scientific results include the management of the creative process and the researcher-artist relationship (Bartlett, 2015), the risk of distortion, simplification (Barone, 2012) or creation of new meanings (Bartlett, 2015), possible conflicts related to power dynamics and problems of representation (Bartlett, 2015), and the scarce systematic evaluation of its impact (Mahtani, 2016; Boydell, 2012). To counteract these risks, an active and responsible reflection process should be adopted, based on selecting appropriate formats and artistic teams (Bartlett, 2015).

Based on previous reflections on arts-based research, the documentary "Evictions and Health" was made with the aim of developing and applying an innovative strategy for knowledge transfer, using audiovisual language to disseminate and improve the applicability and awareness of the results of qualitative research on eviction processes and health.

2. OBJECTIVES

The objective of this article is to describe the process of transferring knowledge from a research study to a documentary, proposing a methodological model that can be replicated in qualitative research in the social and health care field.

3. METHODOLOGY

For the elaboration of the documentary "Evictions and Health", an arts-based knowledge transfer (ABKT) methodology was followed, aimed at translating qualitative results into an audiovisual format. The starting point was the adaptation of the strategies that were described by Lincoln and Guba (1985) on the replication of the rigor of qualitative studies in the process of transforming scientific results into artistic ones.

The baseline research was a qualitative study at regional level (Andalusia) on the self-perceived health of people in eviction processes, conducted between January 2014 and December 2015, and based on semi-structured individual interviews and triangular groups with 58 people in eviction processes, and 6 focus and triangular groups with activist platforms in the 8 provinces of Andalusia.

For the dissemination of results, an audiovisual format was chosen to gather first-person experiences. A descriptive documentary of approximately 22 minutes in length was made. The recording and editing of the documentary was carried out once the research was completed.

The people who were involved in the elaboration and validation of the documentary were the research team, the production team - an external producer was hired, some of the people participating in the research and a group of experts in social determinants of health and communication, external to the research.

In order to ensure internal validity in the artistic transformation process, the following methodological phases were followed:

Phase 1. Definition of the objectives of the documentary: dissemination of the results of the research 'Eviction processes and health' beyond the academic field; improve the applicability of the results; create a didactic and awareness-raising tool on the situation of people who are undergoing eviction processes.

Phase 2. Identification of the target audience of the documentary: people in the process of eviction, citizen platforms, health professionals, political agents and citizens in general.

Participants in Phase 1 and 2: members of the research team.

Phase 3. Selection of the protagonists: The selection of the protagonists of the documentary was made among the participants in the qualitative research who had indicated their availability for an audiovisual recording. Criteria on audiovisual, narrative and communication skills were also taken into account. Finally, the profiles of the four people who participated in the documentary reproduced the selection criteria in the baseline research with respect to gender, but not in reference to age. (Table 1). An informed consent process was carried out.

Table 1. *Analysis of the corporate website of the Foundation for Public Education and Training in Cancer (FEFOC).*

Distribution by profile of people in the process of eviction who were interviewed in the qualitative research							
Genre	Woman (research/ documentary)				Man (research/documentary)		
	40/2				18/2		
Age	18-45		>45		18-45		>45
	18/2		22/0		10/0		8/2
Place of residence	C	NC	C	NC	C	NC	C
Total	5/1	13/1	9/0	13/0	3/0	7/0	4/1

C: Capital/ NC: Non-capital

Source: *Own elaboration.*

A 4-member group of two citizen platforms that were participating in the research and 4 members of the research team were also filmed for the documentary.

Participants: research and production team.

Phase 4. Creation of the audiovisual script: The script that was used in the individual interviews, triangular and focus groups of the research was adapted

to a documentary script format. The research team and the production team validated its adaptation.

Participants: Research team, direction/production team and people who were participating in the documentary.

Phase 5. Recording of the documentary: In the recording of the documentary, special attention was paid to the preparation time of the interview and the recording with the participants. The contact with the people in eviction process and their families was key to reduce as much as possible the influence that the presence of the camera could exert on the discourse of the interviewees. It took 6 days of recording, one day per participant and group. The participants chose the scenarios. Those in the process of eviction chose their homes, which were also the places for the qualitative research interviews.

Participants: direction/production team and documentary participants.

Phase 6. Post-production: In order to be faithfully to the results of the qualitative research, the following steps were followed: Content analysis of the audiovisual interviews and selection of the most representative content of the final results of the research; 2. Preparation of the staging, including resources to reinforce and complete the results obtained in the research; and 3. Validation of the documentary through a validation process with different profiles (research team, people participating in the documentary, a group of 4 experts in social determinants of health and 3 experts in communication, who were external to the research team).

Dissemination strategy. A distribution strategy for the documentary was designed through different channels: face-to-face events (presentation days at an university and citizen platform headquarters in two provinces), presentation of the methodology that had been followed in the documentary at national and international congresses, Internet (Youtube channel and social networks with a hashtag) and press release and deliver of the documentary to the media.

4. RESULTS

4. 1. Transfer of key research results through the documentary "Evictions and health".

The result of the methodological model applied was the documentary "Evictions and health" with a duration of 22 minutes (<https://youtu.be/Hstu23jEjk4>), based on testimonies of the participants and image resources related to their story.

The results of the qualitative research on eviction processes and health, carried out prior to the filming of the documentary, reflected the experiences of people in the process of eviction, including the motivations for the acquisition of housing, causes of the difficulty of payment and strategies to avoid non-payment of the mortgage, their self-perceived health, living habits, drug consumption and family and social relationships, as well as the response received from the Public Health

System and other public administrations, the role of citizen platforms and the demands and recommendations addressed to different key agents. In addition, the results of the research showed the perspective of activists in citizen platforms against evictions, regarding the process of the emergence of the platforms, internal functioning, form of contact and motivation to participate, demands, difficulties and achievements. These results were collected in the documentary "Evictions and health" through the experience of 4 people in eviction processes with different personal situations, education, professions and places of residence, as well as 4 people who were activists in citizen platforms.

Both the research and the documentary described the process of acquiring the house, the moment when the difficulties in paying the mortgage began and the negotiation process with the banks.

Estela: "In 2007, with what I had saved, I decided to buy a house. It was the natural step. The bank, when you went to ask, told you that of course, this was an investment. The house never, I say it literally, never loses value".

Matías: "The real problem came when the company we were working for stopped paying us (...). It was terrible. We didn't even have enough to eat.

Pedro: "At the beginning we started paying 780. By the fourth year, it was already 1,500 €. We were able to afford all the payments until the child fell ill. The mother had to stop working to take care of the child, and I had to stop working that many hours to support her a little.

Regarding the state of physical, mental and psychological health of the people undergoing eviction, the people who were interviewed indicated that they had experienced different problems during the eviction process. In the documentary, the most relevant aspects related to the state of health were collected through the experiences of the four protagonists.

Matías: "I aged a lot. In fact, my hair turned white and my beard turned white. There were a lot of sleepless nights. And Antonia's face changed. In terms of health, it was terrible".

Estela: "My father used to be stabilized and had 0 episodes in 5 years. In two years, he went through 8, 9 or 10 episodes of very strong angina pectoris".

Pedro: "(...) she [his partner], because she does not want to accept these things, acts crazy taking 100 of the pills that the child takes and has a suicide attempt. She spends 24 days in the ICU plus 6 days in a room. A total of 28 days in the hospital".

Eva: "And aggressiveness in my son. My son loses his temper in a way he never did before".

Another of the aspects addressed in the qualitative research was the evaluation of the health and social care received during the eviction process, it was collected

in the documentary through specific proposals to the institutions in the social and health field.

Eva: "Psychological help is always essential. Psychologists should be within everyone's reach, especially because there are people who, due to the lack of resources, self-medicate".

Estela: "Because it is important that people who are going to see how their state of health is going to deteriorate throughout the process, that has to be valued, it has to be valued in some way that this person has to be more assisted and that this person has to be more cared for. In order to avoid greater evils".

According to the results of the qualitative research, the eviction process also influenced the consumption of drugs and the lifestyle habits (diet, physical activity and alcohol and tobacco consumption) of the evictees and their family members.

Eva: "When your son tells you again... "Mom, we've been eating macaroni for 4 days now". That affects you a lot psychologically, do you understand?"

Estela: "...All habits deteriorate. I was a person who did a lot of sports, who had very established routines, and I completely broke those routines".

Pedro: "Tobacco is the only thing that takes away our nerves a little. Me... the doctor tells me to quit, but... there has been a slight increase in consumption".

Eva: "You are tenser, you are more susceptible. Then, you don't even think about stopping taking antidepressants. I don't even think about it.

Pedro: "If I showed you my wife's and my children's medication, it's better not to see it".

The research analyzed the potential impact of the situation on the relationship with the family and the closest environment, an aspect that was also reflected in the documentary through testimonies that described situations of conflict, initial reactions of rejection and concealment of the situation and feelings of lack of understanding, guilt and shame.

Pedro: "We were ashamed of life. We didn't want to talk about it to anyone. It was something we kept hidden, just for ourselves".

Estela: "And the first reaction was a lot of embarrassment. I have never owed anything. In fact, families default on everything, before they even default on the mortgage. You feel very, very ashamed.

Pedro: "They look at you differently. It's not like before... "Man, Pedro, what's up, let's have a beer, let's watch the soccer game..." They don't say that anymore. It's as if Pedro was someone else.

Matías: "I was an outcast. Overnight you go from being Don Matías, to being an

outcast".

With reference to the support that they received from the citizen platforms, the interviewed people highlighted the emotional, legal and psychological support, the mutual help in daily aspects, the accompaniment in negotiation strategies and bureaucratic procedures, as well as the pressure on the banking entities through collective mobilization, aspects which were widely collected in the documentary.

Eva: "The past Eva was depressive, sad... and now I have learned to have more confidence in myself, to be very clear about what I want".

Pedro: "For me it has given me relief, peace".

Matías: "Being part of the collective gives you enormous strength".

Estela: "It was a climate of companionship, of struggle, of confrontation against what is coming to you, which is unfair. They guided me, they reviewed my mortgage, they told me which clauses were abusive, they told me where I could go... Where the institutions do not reach, the platform reaches".

The documentary also included the objectives, activities and strategies of the citizen platforms, which were included based on the recording of a group of members of two citizen platforms.

Macarena (APDHA): "And there you realize that the problem is very serious, it is at the labour level, at the emotional level, at the level of protection, your home, your space, where you raise your children".

Pablo (APDHA): "Perhaps one of the most interesting achievements has been to make visible these situations that were experienced as personal dramas, as personal failures".

Cristina (Diamantino García Social Action Group): "To move from this shame to empowerment, and to move to anger, to indignation, to action".

Francisco (APDHA): " [The citizen platform] has a series of functions, of empowerment, of raising awareness, of telling people, this is done by all of us, by forming a group, but it is also fulfilling a therapeutic function".

Finally, the documentary included the recording of a focus group with the research team, focused on the reflection on methodological and ethical aspects.

Noelia: "We tried, but it was very complicated to contact people who were affected but were not on the platform, because also, in the results we could see, it is lived with shame, it is hidden, and we had no access whatsoever".

Ainhoa: "What has impressed me most about this project is getting to know the reality, the harsh reality, what so many people are going through".

Maribel: "We have to fight, we have to help these people, we have to do more research. And above all: we are all cannon fodder".

Amet: "I have felt this potentiality very strongly in the interviews, when people come together to create a space of mutual support and activism."

The selection of an audiovisual format made it possible to reflect the results, not only through verbal testimonies but also through images that complemented the discourse and reinforced the main results that were obtained in the research (e.g. images of the homes, the environment and professional activities of the participants, scenes of demonstrations and an eviction).

4. 2. Impact and media scope of the documentary

A multichannel dissemination strategy was designed to increase the coverage of the documentary and, thus, the transfer of the results obtained in the qualitative research.

The following communication actions were carried out:

1. Press release and media coverage: published in digital press (Cordópolis.es, Granada Hoy and Eldiario.es), radio (Cadena Ser Sevilla) and television (Tele 5 and La Sexta).
2. Presentation of the documentary (Faculty of the University of Granada, headquarters of one of the citizen platforms participating in the research and headquarters of 2 of the participating citizen platforms).
3. Channels 2.0: Youtube: >5,000 views, Twitter with the hashtag #DesahuciosySalud.

Mention or presentation of the documentary at scientific congresses and festivals: II Ibero-American Congress of Epidemiology and Public Health, Santiago de Compostela, 2015 (mention), International Conference on Narratives of Health and Illness, Tenerife, 2016 (presentation of 2-minute version) and Festival Cines del Sur de Granada, 2018 (presentation of the documentary).

4. Used as a didactic tool in secondary education, undergraduate and graduate programs in different IES (Institutes of Secondary Education), University of Granada, University Carlos III of Madrid and Andalusian School of Public Health.

4. 3. Methodological model for disseminating the results of qualitative research through a documentary film.

From the experience of transferring the results of qualitative research on eviction processes and health to an audiovisual format (documentary "Evictions and Health"), a proposal for an artistic transformation model was developed, based on 10 phases (Table 2), with application in the dissemination of the results of qualitative research, ensuring internal validity and collection of the main results.

Table 2. *Phases of the results dissemination model: from qualitative research to documentary research.*

Phase	Participants/decision makers
1. Artistic format decision	Research team
2. Selection of the artistic/production team	Research team
3. Definition of the objectives of the artistic/documentary format.	Research team
4. Identification of target audiences	Research team
5. Selection of participants	Research team and artistic/production team
6. Adaptation of the scientific script to the documentary script.	Research team and artistic/production team
7. Interview recording: work plan	Research team and artistic/production team
8. Post-production: final editing	Research team, artistic/production team and people involved in the documentary.
9. Triangular validation of the final assembly	Research team, artistic/production team participating in the documentary and an external group of experts.
10. Dissemination/distribution strategy	Research team, artistic team with the help of participants

Source: *Own elaboration.*

5. DISCUSSION

The description of the methodological model for the elaboration of the documentary “Evictions and Health”, as well as its media outreach and use as a didactic tool in secondary and university education, highlighted the usefulness, advantages and limitations of the use of artistic formats for the transfer of knowledge in health, within the framework of ABKT (Parsons, 2012).

The main limitations of the work were related to the characteristics of qualitative research, which was carried out in a specific geographical, socio-cultural and political context. Secondly, the design of the dissemination methodology was developed as a dynamic and adaptive process, which entailed the risk of limitations that were controlled through triangulation within the research team, in addition to the advice of experts external to the project. Thirdly, there were methodological limitations, mainly related to the difficulty of contacting people in the process of eviction who were not linked to citizen aid platforms. Only the latter could be interviewed, which could have led to a selection bias in the baseline research and, therefore, in the documentary. It should also be noted that the segmentation criteria of the research were replicated with respect to gender, but not with respect to age. Despite these limitations, an attempt was made to reproduce the heterogeneity criteria established in the baseline study with respect to educational level, profession and place of residence.

Because of this study, it was observed that the production and subsequent multichannel distribution of the documentary “Evictions and health” increased the visibility of the results of the baseline research, reaching multiple audiences, with the aim of promoting the understanding and participation of society. In this sense, it showed the importance of including dissemination and communication strategies of the results that ensure the social, political and economic impact of

the scientific results as an integral part of any research project (Marin, 2017).

This aspect achieves special relevance if we refer to the socio-health field, in which it is considered of great importance that research personnel acquire greater commitment and responsibility to ensure that society in general can access and understand the results of science (Emanuel, 2000).

In the dissemination of the documentary "Evictions and health", the use of traditional media -press, radio and television-, social networks -Youtube and Twitter- and academic media -congresses and scientific articles- was especially relevant, besides using video as a didactic tool (Kuhn, 2018) on qualitative research, as well as a potential instrument for raising awareness about the situation of people in the process of eviction.

The methodological proposal contained in this article, with a clear definition of the role of the different actors -research team, artistic/production team and people participating in the research- in each of the phases, provided a model for the management of the creative process between the research staff and the artistic team, in view of the lack of discussion in this regard highlighted by some authors (Bartlett, 2015). The methodological model contributed to reduce possible tensions generated during the artistic creation process between research and artistic team (Filnley, 2008). Thus, the application of the model to the process of elaboration of the documentary "Evictions and health", allowed to resolve the debates that arose during the collaborative creative process through consensual decision-making.

The balance between verbal testimonies and audiovisual resources was one of the most debated issues, reaching the conclusion and decision to value the potential of images to provide content, thus reinforcing the testimonies collected and reflecting nuances that could not be included through spoken discourse (images of homes, professional activities, experiences in demonstrations or interaction between people from citizen platforms). Along the same lines, the literature supports that the use of images can improve and broaden the understanding of social phenomena independently of the text, reinforcing empathy with the situations reflected (Bartlett, 2015).

The constant review and validation, both by the research team and the people who were involved in the documentary, sought to ensure the collection and fidelity to the most relevant results of the baseline research (Barone, 2012). The revision process with the people who were participating in the research was especially important to identify and reinforce relevant content that was not reflected in the documentary.

This work also opened a process of reflection on the benefits of using artistic formats, as well as guidelines for selecting the best formats and artistic teams to collaborate with (Bartlett, 2015). It is important to keep in mind the different modalities of use in ABKT, grouped in between narrative, audiovisual and performative, and oscillating in different levels of description and interpretation. Each modality has its advantages and disadvantages, so it is essential to

understand the options that exist and to choose the most appropriate one for the messages to be conveyed and the audience to be reached. In this case, the choice of the documentary modality was based on the possibility that it offered to reflect the problem realistically and without embellishment, understanding that real testimonies were the key to raise awareness in society, thus being able to influence change.

In addition to the methodological rigor of this work, ethical responsibility was considered as one of the priorities when involving people in the process of eviction from the beginning, trying to constantly evaluate and minimize the ethical risks that could arise during the process.

The informed consent, a basic ethical and legal requirement, was considered an open and continuous process, based on trust and motivation, and validated through the sustained involvement of the participants. Respect for the people who were involved in this work was not limited to informing about the study and asking permission for the recording. Throughout the entire process, the possibility of changing one's mind about participating in the documentary was offered at a time prior to its release and dissemination, explaining the limit of the possibility of withdrawing participation once the documentary had been disseminated.

Another issue that was taken into consideration was how participation in the video could have led to discriminatory or stigmatizing treatment, given the risk that some sectors of society might make unfair judgments about the situation and conditions of people in eviction proceedings. As Adela Cortina (2017) rightly points out, we live in an aporophobic society, which singles out and blames people who do not have certain resources. To avoid increasing the vulnerability or stigmatization of individuals or groups, the team tried to convey a respectful and non-discriminatory image of the labour, socio-economic, family and personal situation of the participants, especially through the audiovisual resources and the recording of the focus group with the research team that had an impact on these aspects.

At the same time, the team reflected on the possibility of using other audiovisual formats for transmitting results in future projects, such as the use of a theatrical performance or animation in order to preserve the anonymity of the narratives and avoid potential risks of exposure to discriminatory dynamics.

In the same line of the research's ethics, as well as communication's, the need to return the results to the participants is integrated (Emanuel, 2000), the research team used different mechanisms to return them, such as delivery of reports, review of the documentary, information about its publication on Youtube, invitation to the premiere of the documentary, as well as to other sessions of presentation of the results of the study and the documentary with the citizen platforms.

6. CONCLUSIONS

The results confirmed the need to use artistic formats to increase the outreach and

visibility of scientific results and to reach multiple audiences not only effectively, but also affectively. To this end, it is recommended to apply methodological models of knowledge transfer such as the one described in this article, which guarantee internal validity, credibility and reliability. The proposed model provided clues to resolve methodological doubts, as well as clues to address potential limitations and risks of using ABKT. During the process of artistic transformation, beyond the methodological uncertainties, it was ethics that took center stage, raising the need for continuous dialogue and reflection within the research team in order to minimize possible risks and ensure the well-being of the participants. processes and health to an audiovisual format (documentary "Evictions and Health"), a proposal for an artistic transformation

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USE OF SMARTPHONES IN CHILDHOOD AND FOOD ADVERTISERS' MONITORING OF THE PAOS CODE

Uso de smartphones en la infancia y seguimiento del código PAOS por parte de anunciantes de alimentación

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Abstract

Diseases related to eating habits, such as obesity, anorexia or bulimia, are on the rise in developed and developing societies (Haas et al., 2010). In 2018, the Spanish Ministry of Health and Consumer Affairs warned about the figures for obesity (15%) and DIDs (12%): the age group with the highest incidence is children between 6 and 12 years old (McCabe et al., 2019). This issue concerns the media (Lara & Lara, 2018; Levine & Murnen, 2009;), which are configured as educators due to the influence that they have on children by emitting certain values, which may be assumed by them (Carrillo et al., 2011). In this sense, the application of the "Code of self-regulation of advertising and food aimed at minors, obesity prevention and health" proposed a qualitative and quantitative change in advertising aimed at children. The aim of this research is to analyse the advertising of food on mobile devices aimed at minors to see if this change has been real. For this purpose, a mixed methodology was used with a sample of advertisers' publicity that had been recorded for 7 days (19 - 25 August 2019) when interacting with children. Specifically: a content analysis of the studied advertisements, completed with a survey of children and parents, as well as a focus group with parents.

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Keywords: Advertising; children; educommunication; food; health; media; smartphone.

Resumen

Enfermedades relacionadas con los hábitos alimentarios, tales como la obesidad, la anorexia o la bulimia, vienen aumentando en sociedades desarrolladas o en vías de desarrollo (Haas et al, 2010). El Ministerio de Sanidad y Consumo del Gobierno de España alertaba, en 2018, de las cifras que alcanzaba la obesidad (15%) y las EDDs (12%): el grupo de edad de mayor incidencia es el de los menores de entre 6 y 12 años (McCabe et al., 2019). Esta cuestión atañe a los media (Levine & Murnen, 2009; Lara & Lara, 2018), que se configuran como educadores, debido a la influencia que suponen en los niños al emitir ciertos valores, susceptibles de ser asumidos por estos (Carrillo et al., 2011). En este sentido, la aplicación del “Código de autorregulación de la publicidad y alimentos dirigida a menores, prevención de la obesidad y salud” planteaba un cambio cualitativo y cuantitativo en la publicidad dirigida a niños. El objetivo de esta investigación es analizar la publicidad de alimentos emitida en dispositivos móviles dirigida a menores para comprobar si, efectivamente, este cambio ha sido real. Para ello se utilizó una metodología mixta con una muestra resultado de haber grabado durante 7 días (19 - 25 de agosto de 2019) la publicidad emitida por los anunciantes en el momento de interacción con los niños. En concreto: un análisis de contenido de la publicidad objeto de estudio, completada con una encuesta a niños y progenitores, además de un focus group realizado a progenitores.

Palabras clave: Alimentación; educomunicación; medios; niños; publicidad; salud; smartphone.

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1. INTRODUCTION

The term ‘epidemic’ is used to refer to diseases related to eating disorders and poor eating habits, such as obesity, bulimia or anorexia nervosa. The increase of these diseases is a reality at international level. Even more so in the case of children under 12 years of age, whose data are alarming: The Ministry of Health and Consumer Affairs has been providing data since 2006 and the World Health Organization (WHO) estimates that childhood obesity stands at over 14%, with indicators that overweight reaches ciphers of over 12%. Thus, the data that were found in the study conducted by Jiménez-Morales (2006, p. 246) launched issues such as that childhood obesity tripled in Spain, positioning itself in second place among European countries in the prevalence of overweight among minors aged 6 to 12 years old during that period. However, since 2015, a reduction of 3 points in overweight has been observed in relation to previous years, which would confirm

a certain stabilization, in addition to the reversal of the trend (Ortega et al., 2015).

At the same time, it should be noted that there is a market where the possibility of finding a wide range of ultra-processed products is very high. This is increased by the fact that potential consumers are recipients of an excessive amount of advertising stimuli, many of them aimed at minors, who are a more sensitive and vulnerable group (Del Mar Pàmies et al., 2016). This, through the mobile communication medium par excellence: the smartphone.

It is true that the media are not the only ones responsible for the epidemic, pointing to the food industry, clearly, but they do represent an important factor to consider. Because advertising can generate representations that imply unhealthy image patterns and behaviors (Carlson & Clarke, 2014; Elías, Jiménez-Marín & Silva, 2017), this can directly disrupt the self-esteem of minors and, with it, the construction of their own body image.

1. 1. The media and the construction of body image

The influence of the media, in general, can be seen in studies carried out worldwide by authors such as McCabe and Ricciardelli (2005), or Skemp-Arlt et al. (2006), which show that half of children between 5 and 12 years of age feel dissatisfied with their physical appearance. As McCabe et al. (2019), Mancilla et al. (2012), Skemp-Arlt et al. (2006), McCabe & Ricciardelli (2005), Phares et al. (2004), Davison et al. (2003), Hendy et al. (2001) or Abramovitz & Birch (2000) state, about 40-50% of children aged 6-12 years feel dissatisfied with their physical appearance. In fact, scientific evidence (De Jans et al., 2019) finds that this dissatisfaction affects both genders, but the type of distortion differs by gender. Typically, girls desire a slimmer body, while boys desire a more muscular physique with minimal body fat. Therefore, close attention must be paid to these gender differences to develop specific body image content (Bird et al., 2013; Frederick et al., 2005).

In this sense, it can be stated that minors are the social group who is most sensitive to the negative consequences of the *media* (Charry, 2014), assuming, to a large extent, that they are dependent on the consumer market (INTEF, 2005). Thus, numerous studies consider that reducing exposure to media content, especially children's advertising (Smith et al., 2019; Folkvord et al., 2016; Matthes & Naderer, 2015), is beneficial for girls and boys, for their physical and mental health. Furthermore, much of the research on body image disorders points directly to the media as producers of physical stereotypes and, therefore, among others, of the manifestation of eating disorders (Botta, 1999; Harrison & Cantor, 1997; Myers & Biocca, 1992; Stice et al., 1994; Hamilton & Waller, 1993). Therefore, the fact that minors possess fewer cognitive resources to correctly decode the messages that they receive from the media is emphasized (Kapferer, 1995; Unnikrishnan & Bajpai, 1996; McLean et al., 2013; Fernández & Díaz, 2014).

According to the Social Learning Theory, through exposure to media content related to social attractiveness, the person (children and adolescents in particular)

learns which models of physical appearance are socially rewarded, the social expectations of what is considered beautiful versus what is considered ugly, and the consequences of not being attractive. On its part, Cultivation Theory (Gerbner, 1998) asserts that social reality is shaped by extensive and cumulative exposure to media messages. This theoretical model assumes that individuals develop beliefs, attitudes, and expectations about the real world based on what they see and hear on television, video, movies, magazines, etc. Subsequently, they will use these beliefs, attitudes and expectations to make decisions and adopt behaviors in real-world situations. Thus, within the framework of a study on body image and media content, Cultivation Theory formulates that media messages are agents of socialization about the concepts of feminine and masculine beauty, and other aspects of body image. This is particularly true in children's audiences, given that children's programming uses messages that put at stake strong emotional bonds.

Parallel to these stereotypes, the same media launch other types of contradictory messages, often promoting unhealthy or high-fat and high-sugar behaviors and products during children's programming. That is: ultra-processed food products, prize culture as a reward for ingesting a large amount of food, etc. This issue is highly surprising since, in fact, two completely different sections are observed in terms of media strategies: content that shows happy children thanks to the consumption of sugars and fats in the form of pastries, sweets or fast food, versus content that shows happy and slim adults, basically at the mercy of the consumption of low-calorie foods. This dichotomy ends up influencing children who, at an early age, reject their body image, starting restrictive diets that can lead to eating disorders (Jiménez-Morales, 2006). On a theoretical level, the European Union's 'Television Without Frontiers' directive (89/552/EEC and amendment 97/36/EC) specifies that "television advertising shall not cause moral or physical harm to minors" (art. 1) and provides that member states shall monitor television broadcasts so that they do not include any program "which might seriously impair the physical, mental or moral development of minors" (art. 22). Accordingly, both television programming and advertising content should avoid depicting unhealthy lifestyle behaviors and beauty patterns.

1. 2. The PAOS Code

The current situation has brought with it strategies to prevent childhood obesity and eating disorder-related diseases, as well as the strengthening of tactics to help to increase a healthy lifestyle. However, regulations aimed at prevention are quite limited, both in the United States and in Europe, which are geographical areas of reference in this matter. In both territories there is some regulation, but it is quite relaxed in relation to compliance with their codes for broadcasting images in the media and promoting other healthy lifestyle initiatives.

Following Sánchez (2016), it is observed, in order to promote healthier habits, different strategies have been implemented, such as reducing taxes for families participating in sports activities (case of Canada) or the use of levies and fees to discourage unhealthy behaviors in those employees who exceed certain waist circumference levels (Japan). Initiatives have also been promoted to increase

the variety and quality of fruit and vegetables' consumption (case of USA or UK) or the regulation of access to food and drinks with high fat, sugar or salt content in schools and control and regulation of food and drinks advertising by self-regulatory codes (case of Spain) or specific regulations to influence food and drinks purchasing decisions such as specific labeling with traffic light colors (UK), etc., besides the fact that very few companies comply with such regulations correctly. This shows that self-regulation itself is not effective and that other measures should be taken to ensure that minors are really protected against abusive campaigns from advertisers, such as the adoption of a bylaw system using a nutritional profile model to restrict the exposure of unhealthy products or imposing a legal ban on any type of food and drinks advertisement aimed at minors.

At the European level, the European Food Safety Authority (EFSA) is an independent institution that is responsible for advising governments on the existence of food risks and emerging epidemics or pandemics. Its objective is to protect public safety through actions such as the promotion of scientific research, advice, dissemination or the development of actions on food safety.

In the case of Spain, reliant on the EFSA, the Spanish Agency for Consumer Affairs, Food Safety and Nutrition (AECOSAN) provides co-regulatory assistance. Attached to the Ministry of Health, Consumption and Equality, its main tool is the Code for the Co-regulation of Food and Drink Advertising Aimed at Minors, Obesity Prevention and Health (PAOS Code), framed in the global state strategy for social welfare of the Spanish Government, a provision that affects children in the promotion of a healthy life and diet.

The PAOS Code was reinforced in 2009 by means of a collaboration agreement with the main television operators in Spain so that the television channels took the commitment of food and drinks advertisements aimed at children under 12 years of age (or broadcast in the reinforced child protection slots) to comply with the standards that were in the PAOS Code. In 2012, the Ministry of Health, Social Services and Equality and AECOSAN had to subscribe to a new PAOS Code, where the Spanish Federation of Food and Beverage Industries (FIAB), the Association for the Self-Regulation of Commercial Communication (Advertising self-regulation), the distribution sector (ANGED, ASEDAS and ACES), the hotel and catering industry (FEHR) and the restaurant industry (FEHRCAREM) joined in.

This update of the PAOS Code brought as an effect that the code also applies to advertising broadcast on the internet and on mobile devices now, which are those where the child audience is growing the most in recent years (INFOADEX, 2019). Similarly, the age of application is extended to 15 years.

A study that was conducted between 2008 and 2012 showed non-compliance with the PAOS code increasing from 50% in 2008 to 88.2% in 2012. In the reinforced protection slot, this non-compliance with the code rose from 43% to 86%.

This is the aspect that prevails in this study: the use of personalities who are

known by minors, famous people or known to them, in which this non-compliance has increased the most, rising from 5.4% to 25% (León-Flandez et al., 2012). In a research carried out by Hastings et al. in 2003, it could be seen how advertisements were inserted within the children's time slot and that they used unconventional advertising techniques such as sponsorship, distribution of samples or gifts when buying products, such as toys. Subsequently, a research that was conducted by the European Union itself showed that children who did not watch TV at lunchtime were less likely to be overweight than those who did (Vik et al. 2013).

Multimedia groups have also become aware of the problem of children's health and some conglomerates, such as A3Media (in the case of Spain), carried out a campaign called 'El Estirón' [The growth spurt] in 2012, which was aimed at children with childhood obesity. The campaign consisted of advertisements in the channels: Antena 3, Neox, Nova and Nitro and in the radio stations Onda Cero and Europa FM. The campaign featured the participation of some famous personalities who gave advice on how to lead a healthy life. In our opinion, the possible positive consequences of this action were dissolved since it was an isolated action and without a public, political, social and family context that reinforced it.

1. 3. The use of mobile devices by minors

On the one hand, certain direct connections can be established between the stereotypes portrayed by advertising, on the other hand, its capacity to influence society. More specifically, in the capacity to influence minors, who are highly susceptible to being persuaded by such influences. As a result: a high dissatisfaction of girls and boys with their bodies. As a consequence of this result: physical and psychological disorders.

Today, it exists a wide variety of permanently connected contents and devices capable of supporting them (Pérez, 2008). They are accessible anywhere and at any time, through different platforms.

Today, it can be seen that among children under fifteen years of age, the most consumed medium is television, a conventional medium, which contents are viewed during their leisure time.

In fact, "in front of the new idealized, loved, envied, but also feared digital spaces, there is the permanent figure of television, which remains firmly in the collective imagination as the familiar space of leisure" (Gewerc et al., 2017, p. 178). However, the second most consumed media by minors is the Internet, mainly through smartphones (INFOADEX, 2019), without detecting among this type of public the consumption of neither press nor conventional radio (Navarro et. al, 2012). As they are digital natives, the Internet is present in their daily lives.

In the specific case of children under 12 years of age, television competes, on a large scale, with the smartphone, and not so much with the desktop and laptop which, for this age group, is being relegated. From the age of 12 onwards, the

values change (INFOADEX, 2019). In fact, the penetration level of mobile devices at the age of 9-12 years reaches a relative value of 72.7%, according to data from AIMC (2017). This percentage increases if the age range is widen. In this sense, Bringué & Sábada (2011) provide that the mobile reaches percentages of 83% in children aged over 10 years.

We are, therefore, facing a generation that has taken ownership of the communicative culture based on the use of digital and mobile technologies, which are increasingly affordable and universal (Bringué & Sábada, 2011). They have access to all types of screens and a large percentage have regular access to the Internet.

2. OBJECTIVES

Internationally, food safety has never been as high as it is today, yet food-related health problems continue unabated.

In 2001, the WHO first coined the term "*Globesity*" to define the severity of the global obesity pandemic. In this regard, predictive models used by the UK Foresight Report have suggested that 55% of the British population could be obese in the UK by 2050.

The estimates of the prevalence of obesity and/or overweight in OECD¹² and other emerging ones in the child population aged 5-17 years provide average values of around 22% (Sánchez, 2016). One in 5 children is suffering from obesity in a large number of countries, with this value standing at one in 3 in countries such as Greece, USA or Italy. In contrast, overweight affects less than 10% in countries such as China, Korea or Turkey.

The question then arises: Is it lawful to subject a weak and immature group, like minors, to such a large number of stimuli? Why not work to rigorously optimize certain codes and legislation? Whether for capitalist doctrine, or for other adjacent reasons, advertising agencies and other marketing systems set their target market on children, presenting minors as prescribers and consumers although not necessarily as buyers. This practice is not mere exaltation of the norm among economic principles, but is the result of utilitarianism where healthy eating and the educational factor are put before packaged food, ultra-processed and easy-to-use for the general public. Thus, the attraction of children's food brands is based on the behavioral psychology of young children.

This situation occasions, on the authorities' part, a certain obligation to regulate self-compliance with certain ethical standards, as well as the legal obligation to take action against companies that are unfair to consumers.

12 OECD: Organization for Economic Co-operation and Development, in 2019, consisted of: Australia, Austria, Belgium, Canada, Chile, Colombia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Luxemburg, Mexico, Holland, New Zealand, Norway, Poland, Portugal, Republic of Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and the United States.

The objective of this study is, specifically, to analyze and evaluate food advertising on mobile devices aimed at minors, before and after the approval of the code in order to sight the next objectives or purposes:

1. To evaluate the monitoring of the PAOS code by food advertisers in relation to the advertising pieces observed during the study period.
2. Derived from the above, to assess the existence of professional ethics in this advertising sector.
3. Extract a list of the main advertisers of food products that approach children under 12 through apps, interactive games or advertising in traditional formats.
4. To highlight, through specific data, the influence of advertising of children's food products on the purchase intention of parents and caregivers after observing the advertising.

3. METHODOLOGY

The used methodology is a mixed one since it is based on a content analysis, then complemented by a series of interviews and a *focus group*.

In relation to the content analysis, the sample was obtained through the 7-day recording (week of August 19 to 25, 2019) of advertising content that was broadcasted by advertisers, which was inserted in content aimed at the child population.

Although there are protected hours on television currently (from 6:00 am to 10:00 pm), this does not apply to advertising on mobile devices, whose parental control must be activated by the parents or caregivers of minors. It is for this reason that the recordings took place at different times throughout the day, comprising the time slots between 10:00 am and 9:00 pm.

The method of analysis was based, on the one hand, on a content analysis of food and drinks advertising aimed at children under 12 years of age on mobile devices in Spain. Specifically, advertising directed at minors through Musical.ly, Snapchat, YouTube, Instagram and BabyTV App was analysed. The criterion for choosing these apps and pages was the audience (IAB Spain, 2019).

This content analysis was basically intended to detect the main advertisers and brands that frequently use advertising in these applications, portals or social networks.

The advertisements were classified according to their compliance in reference to the PAOS Code and its ethical standards in three different levels: a) compliant; b) non-compliant; and c) uncertain (León et al., 2017). Making use of this classification, and in relation to its visualization by the researchers, the sample was typified and such data were tabulated. Compliance with each standard was evaluated considering that these were entirely compliant with the PAOS Code when none of the requirements or standards were circumvented, i.e., they were considered non-compliant if more than 50% of the standards which are internal

to each regulation were non-compliant. Those whose compliance lacked the consensus of external and impartial researchers and experts were considered to be of uncertain compliance.

On the other hand, and after informed consent from the parents, in accordance with the *Codes of Conduct for the processing of personal data in Market Research* (2018) at a quantitative level, a survey was carried out on a total of 524 children between 5 and 12 years of age and mothers/fathers of minors of the same ages. Specifically: 209 minors and 315 adults, these being parents or caregivers. This was achieved thanks to the Google Forms tool. Additionally, data were obtained from the application of a qualitative methodology based on a *focus group* carried out with 8 mothers and 2 fathers.

4. RESULTS

4. 1. Results of the content analysis

During the 7 days that the sample collection took place (11 hours a day), a total of 77 hours were counted in which a total of 314 advertisements that were directly targeted at children were found. Of these, 73 were food or drink advertisements.

Of the 73 advertisements that were part of the total sample directly related to the object of study, 22 were the total advertisers. Thus, the brands responsible for this advertising were (in order of appearance): 1) Ositos; 2) Babybel; 3) Fanta; 4) Danone; 5) Danonino; 6) La vaca que ríe; 7) Galletas Príncipe; 8) Chips Ahoy; 9) Choco Flakes; 10) Haribo; 11) Coca Cola without caffeine; 12) Danup; 13) Telepizza; 14) Hero baby; 15) McDonalds; 16) Donuts; 17) Burger King; 18) Tosta Rica; 19) Puleva; 20) Oceanix; 21) Dinosaurius; and 22) Sunny Delight.

Evaluating the level of compliance with the PAOS code, and although it is graphically represented in the following table, the summary is very basic: None of these brands complies 100% with the PAOS code. This is shown in Table 1:

Table 1. *Level of compliance with the PAOS Code*

NO	Brand	Level of compliance
1	Teddy Bears	Non-conforming
2	Babybel	Uncertain
3	Fanta	Non-conforming
4	Danone	Uncertain
5	Danonino	Non-conforming
6	The laughing cow	Uncertain
7	Prince Cookies	Non-conforming
8	Chips Ahoy	Non-conforming
9	Choco Flakes	Non-conforming
10	Haribo	Non-conforming
11	Caffeine-free Coca Cola	Non-conforming
12	Danup	Non-conforming
13	Telepizza	Non-conforming
14	Hero baby	Non-conforming
15	McDonalds	Uncertain
16	Donuts	Non-conforming
17	Burger King	Non-conforming
18	Rich toast	Non-conforming
19	Puleva	Uncertain
20	Oceanix	Non-conforming
21	Dinosaurus	Non-conforming
22	Sunny Delight	Non-conforming

Source: *Own elaboration.*

4. 2. Survey results

A brief survey was administered, it recorded the level of recall and recognition (Sanchez, 1999) of brands, products and advertising content in order to analyze the possible effectiveness of advertising. In this sense, the surveyed children were asked if they had accessed any of the referred social networks, applications or portals (Musical.ly, Snapchat, YouTube, Instagram and BabyTV App) in the last 7 days. Of the total of 617 people who responded the survey, 524 had seen some of the marked apps and, consequently, the advertising inserted in them.

The survey was completed by 209 children under 12 years of age (with informed consent from parents and caregivers) and 315 adults, all parents.

Among the most relevant data, the following stand out:

- The 209 minors and the 315 adults recognized the advertising brands perfectly when shown the packaging or when the brand was mentioned to them.
- Of the total number of surveyed, 24.04% remembered the brand or product

without prior external stimulus. Specifically, the breakdown was as follows:

- 73 out of the 209 minors (34.92% of the minors).
- 53 out of 315 adults (17.09% of the adults).
- In relation to purchase intention, 100% of the 209 minors expressed their desire to eat or drink any of the foods or drinks shown in the shown advertisement; however, when the same question is answered by parents, the percentage drops significantly, out of the 315 adults, only 14 (4.44%) had no intention of buying or consuming any of the products shown. This may be logical insofar as the level of academic education is much higher; however, what is striking about the data is that, apart from these 14 surveyed, 198 (62.85%) made some of the categories coded as “uncertain” as their first choice for purchase, consumption or ingestion, as opposed to those coded as “non-conforming”.

The brands that are most highly rated by parents are, in order:

1. Puleva; 2. Danone; 3. Danonino; 4. Danup; 5. La vaca que ríe; 6. Minibabybel.

4. 3. Focus group results

In relation to the amount of time that children spend in front of media, all eight people at the table admitted that children spend too much time in front of technologies; however, when asked to quantify how much time they considered to be appropriate for children to be in front of a smartphone, the answers varied considerably. Thus, compared to “10 minutes a day”, in the case of R. O. J., mother of two girls, aged 7 and 9 years, respectively, we found “2 hours maximum”, which was answered by the father of two minors, a girl aged 5 and a boy aged 6 years. Between these bands, there were intermediate answers that bet more on moderation “without counting the minutes exactly”, and “being aware that exposure to cell phones is there and we cannot avoid it”. Or answers such as “I don't get along very well and I don't like it, but a little time to let me breathe doesn't hurt either of us”.

In any case, one of the central points of importance of all the answers was established in the fact that parents, when referring to the time that minors spend with a device, do so alone, and not accompanied by a parent.

In this sense, and referring to the next block, all the participants in the focus group were aware that minors received advertising impacts, but, in all cases, it was thought that the received impacts were minor. Thus, when it was stated that during one week, an average of more than 300 impacts were received, some of the immediate comments were in line with “from now on I will not leave them my cell phone” or “I had no idea of such an amount”. But, in addition to this, knowing that 73 ads were directly influencing their children's diet, reactions were diverse: Then, 7 of the people in the focus understood that it was normal and that it was not about foods that were particularly harmful to health, with some specific incidence: “Coca Cola is not very good... but without caffeine, drinking it once a week does not seem very bad to me”. Or “Yogurts are very good, it has always been said”. The truth is that only 3 of the participants questioned the ingredients, the amounts of sugars, colorings and preservatives, as well as the concept of

healthy eating as a basis.

As a final result of the approach, 4 of the participants admitted that they bought many food products due to pressures and incitements from their children, even when they did not agree. And even in one case:

Once you say no, next time you say no too. But when the cookie comes with The Canine Patrol, and your kids watch it over and over again in advertising, how do you tell them you're not buying it for breakfast? Plus, they don't even want to see fruit. And then going to school on an empty stomach, or going to school with cookies, then Paw Patrol!

In all 10 cases, they admitted that many of the food products that they bought were made directly through advertising (either the original brand or a substitute private label) or at the express request of their children who, on many occasions, "of course, see it in advertising and then ask you". In this sense, the fourth objective is achieved by approaching the influence of advertising of children's food products on the purchase intention of the interviewees after observing the advertising.

5. CONCLUSIONS

How are the risks, threats and opportunities of the Internet and smart screens currently assessed by using different models and theoretical approaches? What aspects that are not included in traditional educational and communication media designs should be incorporated and are not currently present? Should more work be done on nutrition in the school and family environment? Should food advertising be banned? Does the PAOS Code work?

The content of food advertising aimed at children does not only violate and infringe the provisions of the PAOS code (which leads to the existence of dubious professional ethics in this advertising sector), but also goes unnoticed by the target audience (consumers, minors, buyers, parents). In this way, the levels of recall and recognition are very high, causing an increase in the probability of purchase intention and, consequently, of consumption, despite the fact that these are food products whose ingredients and components are clearly identified as harmful or unhealthy by the World Health Organization.

The scope of this study covers both the economic and health fields. Thus, the fact of breaking the standards of the codes can lead to an increase in the share of sales of children's food products while affecting public health, insofar as it can generate a physical and psychological predisposition that favors the development of diseases and/or situations of fragility in children's health, creating a predisposition base for diseases such as obesity.

The implications can be considered along three lines: At the legal level, it means impunity for the violation of a legislative code focused and designed, precisely, to protect a group of special legal protection since they are susceptible to influence: minors; at a social level, it means that a particularly weak public, susceptible

to become a prescriber, as well as a consumer, is exposed to the mercy of advertising strategies and tactics without reasonable ethics; and, finally, at an ethical level, it exposes an economic sector, the food industry, which despite of being aware of the infringement and breach of the code, decides to violate it to achieve its business objectives.

The projective approaches of the study focus on the visibility of the causes and effects of a situation that, being capable of transformation, must, to do so, undertake evolutions on several fronts: regulatory, social and educational, among others. In this regard, it is worth mentioning, as a derivation of this situation, the news that appeared in the media in October 2020 indicating that the Ministry of Consumer Affairs of the Government of Spain will reform the PAOS Code by prohibiting the advertising of unhealthy foods aimed at children under 15 years of age (Molins, 2020). This development in self-regulation highlights the conclusions reached in the Aladdin Study 2019 (AESAN, 2020), where the conclusions and results provided in this study are backed up by other studies.

In this regard, and in light of the obtained data, it can be affirmed that, despite the existence of a strong code, within a global strategy (NAOS), its application is not proving effective, probably due to the laxity of its practice, as well as the virtually absence of sanctions that penalize the violation of the principles that the PAOS code contemplates. This is why it is necessary to make the situation and the consequences of the ineffectiveness of the current PAOS code visible with data.

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