

Communication about cancer on Facebook. Organizations of Argentina, Chile, Colombia and Spain¹

Comunicación sobre el cáncer en Facebook. Las asociaciones de Argentina, Chile, Colombia y España

Comunicação sobre o câncer no Facebook. As associações de Argentina, Chile, Colômbia e Espanha

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ABSTRACT

This paper presents the communication strategies on Facebook of non-profit organizations from four Hispanic speaking countries where cancer is the second cause of death. The content analysis of the messages posted during three months shows how these organizations are more active when they are celebrating cancer days or when a campaign is taking place. Most of the messages address the disease in general instead of a specific type of cancer. They aim to inform and create awareness among their followers and they use images as their main resource. Followers prefer to use the “like” button or to share posts instead of making comments.

Keywords: Cancer, Facebook, health communication, non-profit organizations, information and awareness.

RESUMEN

Este artículo aborda la estrategia de comunicación en Facebook de asociaciones sin ánimo de lucro pertenecientes a cuatro países de habla hispana donde el cáncer es la segunda causa de mortalidad. El análisis de contenido de los mensajes publicados durante tres meses revela una mayor actividad durante periodos de celebración de lucha contra el cáncer o diferentes campañas. La mayoría de los mensajes se refieren al cáncer de forma general sin abordar uno específico; informan a los seguidores y crean conciencia en ellos, empleando como recurso principal la imagen. Los seguidores prefieren darle a “Me gusta” o “Compartir” antes que comentar.

Palabras clave: Cáncer, Facebook, comunicación sobre salud, asociaciones sin fines de lucro, información y concienciación.

RESUMO

Este artigo discute a estratégia de comunicação no Facebook de associações sem fins lucrativos pertencentes a quatro países de língua espanhola onde o câncer é a segunda principal causa de mortalidade. A análise do conteúdo das mensagens publicadas por três meses revela aumento da atividade durante os períodos de combate ao câncer ou campanhas diferentes. A maioria das mensagens se refere de forma geral ao câncer sem abordar um específico; informam os seguidores e os conscientizam, usando a imagem como recurso principal. Seguidores preferem clicar “curti” ou “compartilhar” que comentar.

Palavras-chave: Câncer, Facebook, comunicação, saúde, associações sem fins lucrativos, informação e sensibilização.

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INTRODUCTION

The emergence of the Internet and Web 2.0 has substantially changed the way individuals communicate, enabling inter alia greater involvement by the user, who can now have a much more active role in the creation of content (Jarrett, 2008). The emergence of different devices and multiple applications that enable such interaction is another key in which this new reality is based.

Among the most characteristic tools of Web 2.0 are social networks which, according to Kaplan and Haenlein (2010), can be defined as “a group of Internet-based applications built on the ideological and technological foundations of Web 2.0 that allow the creation and sharing of content generated by users” (p. 61).

Within the increasing role that social networks are gaining in all areas, Facebook remains the most widely used, with almost one and a half billion of users worldwide according to data from 2015. This figure is endorsed by the fact that in the last year 180 million new users joined Facebook, equivalent to a daily increase of nearly half a million and a percentage increase of 13.7% (Social Media Today, 2015).

Health communication is no exception to this trend and the use of social networks in this sector is growing (Dawson, 2010; Giustini, 2006; Green & Hope, 2010). But, as with Web 2.0, the transformation is not only quantitative but also has a qualitative component with a much more active role of users (Parikh & Huniewicz, 2015).

To contextualize these data and, in particular, the increased role of the user, we should consider the digital divide, which makes a distinction between those who have integrated information and communication technologies (ICTs) in their lives and those who have not. As stated by Godoy Etcheverry and Gálvez Johnson (2011), social isolation is often one of the factors behind the reduced use of ICTs.

This study adds another component of interest in studying the field of cancer associations that bring together patients, families and affected by the disease. They have also been impacted by the rise of Web 2.0 and the new tools that, among other things, have changed the access and use they can make of information relating to health (Armayones, Requena, Gómez-Zúñiga, Pousada & Bañón 2015; Hawn, 2009).

As noted by recent studies, one of the main objectives sought by members of these associations is precisely social support (Antheunis, Tates & Nieboer, 2013; Lefebvre & Bornkessel, 2013); the nature of these new media can promote the interaction between the areas involved (Smith & Christakis, 2008), and even health professionals highlight that social networks help informing and stimulating the debate on health issues (Casajuana Kögel, Cofiño & López, 2014).

Finally, this research focuses on a specific disease, cancer, which continues to constitute one of the leading causes of death worldwide, according to the World Health Organization (OMS, 2015), which calculates 8, 2 million deaths and 14 million new cases in 2012. This organization also forecasts an increase of approximately 70% over the next twenty years. At the same time, it identifies the most frequently diagnosed cancers: lung, prostate, colon and rectum in men; and breast, colon and rectum, lung and cervix in women. On the other hand, it identifies five behavioral risk factors that cause about 30% of cancer deaths: high body mass index, reduced intake of fruits and vegetables, lack of physical activity, consumption of tobacco and alcohol. We must consider, however, that certain types of cancer have a special impact in a specific country. For example, the case of gallbladder cancer in Chile has been largely studied: the country has the third highest prevalence in the Americas of this type of cancer, with women being the main affected (Navarro & Durán, 2016).

THEORETICAL FRAMEWORK

Works on social networks and health published in recent years are numerous. Moorhead et al. (2013) mention 98 investigations, while Veneroni, Ferrari, Massimino and Clerici (2015) located 59 works that deal with those matters. In its conclusions, the authors of both works agree in emphasizing the potentials offered by these tools in multiple facets of health communication and, in particular, in the relationship between professionals and patients. But they also warn of the risk of such practices if they are not monitored or subjected to some kind of protocol, and recommend that the interaction through social networks do not replace, but rather complements, the interpersonal relationship.

Meanwhile, Koteyko, Hunt and Gunter (2015) detected four major trends in the academic literature on social networks and health: their use to promote health policies by public institutions of the health sector; as a communication tool of doctors with their patients; as a space for the relationship and the empowerment of non-professional users, and as a way to spread information and illegal or unhealthy practices, the most dangerous use of all.

Regarding Facebook, in its theoretical review on health and social networks works, Moorhead et al. (2013) located 13 works related to this social network. Farmer, Holt, Cook and Hearing (2009) note its potential in two dimensions: as space for patients and professionals to share experiences and as a tool for research, education and fundraising. Palencia-Lefler (2011, p. 415) defines the latter term as a set of techniques related exclusively to the non-profit entities and their strategies in fundraising.

Also, Hale, Pathipati, Zan and Jethwani (2014) note that within the growing importance of the Internet as a tool to search for health information, Facebook is one of the most used spaces to meet this demand. Ahmed, Sullivan, Schneiders and McCrory (2010) believe that in the field of health communication, Facebook plays a more important role through peer-to-peer interaction than by the information shared.

Jent et al. (2011) delve into the potential of this interaction but insist, as did the studies mentioned on social networks in general, on the need to establish guidelines or criteria to articulate it. In fact, a very common extension of this interaction is the creation of groups of patients, family caregivers, professionals or several of these groups simultaneously (Al Mamun, Ibrahim & Turin, 2015; Frimming, Polsgrove & Bower, 2011; Gajaria, Yeung, Goodale & Charach, 2011; Leis et al 2013; Zhang, He & Sang, 2013).

Also, several of these studies focus on a particular area, such as dermatology (García-Romero, Prado, Domínguez-Cherit, Hojyo-Tomomka & Arenas, 2011); urology (Sajadi & Goldman, 2011); diabetes (Greene, Choudhry, Kilabuk & Shrank, 2011; Hunt, 2015), rare diseases (Armayones et al., 2015); stress and depression (Egan & Moreno, 2011a), sex education (Veale et al, 2015); the consumption of alcohol (Egan & Moreno, 2011b; Lyons, Goodwin, McCreanor &

Griffin, 2015; Moreno & Whitehill, 2014), of tobacco (Jacobs, Cobb, Abroms & Graham, 2014), of opium (Lord, Brevard & Budman, 2011); organ donation (Peña, 2013), AIDS (Menacho, Galea & Young, 2015) or the pharmaceutical sector (Kukreja, Sheehan & Riggins, 2011).

In the case of cancer, existing research focus on one specific: breast. Bender, Jiménez-Marroquín and Jadad (2011) analyzed the functioning of Facebook groups composed by the persons directly or indirectly affected with breast cancer and classified messages into four main categories:

1. *Fundraising*. Messages pursuing to raise money and offer to purchase products or even tickets to events.
2. *Awareness*. Messages seeking to draw attention – create consciousness– about the importance of breast cancer in general or promoting an organization or event related to breast cancer.
3. *Promoting a website*. Messages that promote an external website, i.e., outside the organization or group of the Facebook group, but that is also aimed at raising funds and awareness for breast cancer.
4. *Support*. Messages that try to meet the needs –of information or emotional– of patients or relatives.

Among the above, the authors highlight their usefulness for fundraising. Abramson, Keefe and Chou (2015) conducted a content analysis of a page whose main objective is to create awareness about this type of cancer and conclude that, along with the more educational and training conversations, there is other kind of talks, of a nature more difficult to predict.

As is evident, although there are numerous studies on social networks and health issues, so far there are few studies relating specifically to cancer.

RESEARCH OBJECTIVES AND QUESTIONS

The overall objective of the research is to analyze what are the communication strategies followed by the associations against cancer through their Facebook profiles. For this, we pose the following research questions:

- Q1. Is the activity of associations against cancer in Facebook constant or determined by the celebration of events or other specific facts?
- Q2. Do the messages of associations against cancer refer to cancer in general or they give special importance to some types of cancer in particular?
- Q3. What is the main objective pursued by the associations against cancer with communication through Facebook? Information and awareness, provide support, fundraising or another?
- Q4. What are the formal characteristics of messages published by associations against cancer? To what extent they use resources such as images, videos or links?
- Q5. What degree of interaction do cancer associations establish with their followers?

METHODOLOGY

The methodology is based on the content analysis of the Facebook profiles of four non-profit associations fighting cancer, mainly composed of patients and relatives of patients. The most representative associations in four Spanish-speaking countries where cancer has a special incidence and is the second leading cause of death: Argentina, Colombia, Chile² and Spain (OMS, 2014) have been selected.

The percentages of Argentina and Spain are similar: the main factor of mortality in these two countries are cardiovascular diseases (31% and 35%, respectively), and cancer is in second place (28% and 21%). In the case of Chile, the cardiovascular factor is also the main trigger of 27% of deaths and cancer, of 26%. Finally, in Colombia, cardiovascular diseases account for 28% of deaths and cancer, for 17%.

Table 1 shows the associations against cancer that form the sample: the Argentinian League Against Cancer (LALCEC), the Association of Cancer Patients (APACAN) integrated in the *Fundación Oncológica Cáncer Chile*, the Colombian League Against Cancer (LCCC) and the Spanish Association Against Cancer (AECC)³. They all share a mission to educate, prevent, treat and support the fight against cancer. Only the AECC outs among its objectives to promote cancer research.

Fieldwork took place over three months, from November 4, 2015 until February 4, 2016. Thus, some differences have been established among the months under review, considering that the World Cancer Day is commemorated on February 4. This was considered sufficient time to draw conclusions, as previous studies have been developed in a single month, for example, in October to raise awareness of breast cancer (Abramson et al., 2015).

To conduct the analysis it has been used a methodological codesheet based on previous analysis work on social networks (Díaz-Campo & Segado, 2013, González-Molina & Ramos del Cano, 2014) and specific

Table 1. Analyzed cancer associations

Name of the association	Country	URL	"Like"/Friends ⁴
Argentinian League to Fight Cancer (LALCEC)	Argentina	https://www.facebook.com/LALCECARGENTINA	240.652
Association of Cancer Patients (APACAN)	Chile	https://www.facebook.com/cancerchile	2.068
Liga Colombiana Contra el Cáncer (LCCC)	Colombia	https://www.facebook.com/Liga-Colombiana-Contra-el-C%C3%A1ncer-105237086251745/	3.579
Spanish Association Against Cancer (AECC)	Spain	https://www.facebook.com/unidoscontraelcancer/	284.636

Source: Own elaboration.

work on communication about cancer on Facebook (Bender et al., 2011).

To check the adequacy of the codesheet, before conducting the content analysis we consulted on its preparation with a specialist in research methodology. A pretest on 40 messages posted during the studied period (ten for each one of the associations) has been conducted, chosen randomly. The results confirmed that the codesheet was suitable for the content and the characteristics of the messages posted by the associations, and therefore relevant to carry out the proposed analysis.

The codesheet consists of eight variables, which have various categories.

1. Formal criteria: full text and publication date.
2. Message: initial (published by the association to start a conversation) or response (message answering a follower).
3. Type of cancer: variable that considers the type of cancer mentioned in the message. In the event that the disease was not directly mentioned, we used the category "other messages".
4. Objective of the messages: this variable initially contemplated the four categories collected by Bender et al. (2011) and mentioned above: information and awareness; support and assistance; fundraising and external promotion. After analyzing the websites of the associations against cancer, we considered appropriate to add a fifth objective, research, identified in several of them as a primary goal in order to increase knowledge in this field.
5. Finally, after making the pretest, we created the category "other purpose" to locate messages that do not match any of these functions, such as Christmas greetings.
6. Resources: we collected if the message includes a link to an online space of the organization, such as its website, YouTube channel or Twitter profile; link to an external website; images; videos; hashtags; emoticons or other resources.

7. Popularity: number of times the post was marked as "like", "love", "haha" (it amazes me), "Sad," "Angry", "Wow" (I am amazed) or "Happy".
8. Participation: number of times the post was commented.
9. Virality: number of times that the post has been shared.

All the messages published by the four associations against cancer in their Facebook profiles between November 4, 2015 and February 4, 2016 were analyzed. All data were extracted and entered into a database by one of the authors.

Finally, for the correct interpretation of the data, it must be considered that, sometimes, we have considered more than one category belonging to the same variable. For example, there are messages that seek to inform while they support or accompany. In the case of resources, more than one image may have been used in a single message, thanks to the option to share photos.

RESULTS

ACTIVITY OF THE ASSOCIATIONS AGAINST CANCER

The analyzed sample is composed of 484 messages that the associations against cancer published during the three months studied. As seen in table 2, only 14% of the messages (69) correspond to answers of the associations to comments from their followers.

LALCEC, from Argentina, was the most active of the four groups, with 166 messages posted, 34% of the contents published by the four groups studied. The less messages were posted by APACAN, from Chile, with 89 entries (18% of content). Cancer associations of Spain and Colombia published a similar number of messages during this period: 115 and 114 posts, representing 24% of the publications. However, the Colombian League Against Cancer was the only one who did not respond to the comments made by its followers. LALCEC was the one that answered its community the most.

From November 4, 2015 to February 4, 2016 we collected the posts of the four associations against cancer over 14 weeks. As seen in figure 1, the associations

Table 2. Number of messages posted by associations against cancer

	Number of messages (total)	Number of messages (percentage)	Initial message	Answer
LALCEC (Argentina)	166	34%	132	34
AECC (Spain)	115	24%	85	30
LCCC (Colombia)	114	24%	114	0
APACAN (Chile)	89	18%	84	5
TOTAL	484	100%	415	69

Source: Own elaboration.

that remained more constant were the Chilean and the Spanish.

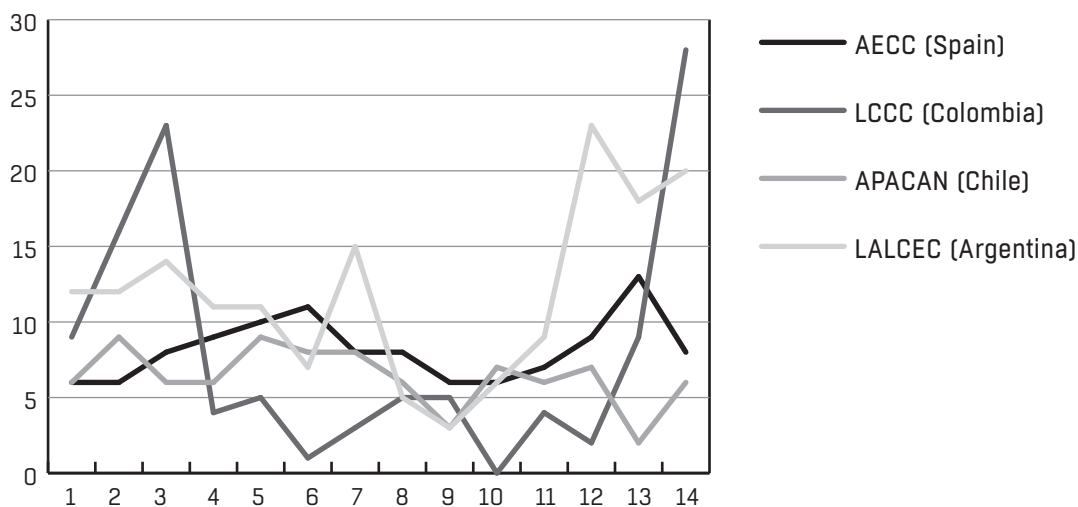
The average of publications of LALCEC (Argentina) was 12 messages per week; LCCC (Colombia) and AECC (Spain) made 8 posts per week and APACAN (Chile) made 6 publications every 7 days.

In the case of the Colombian entity, two peaks of activity were recorded: on the third week of study (16 to 22 November) and on the fourteenth and last week (1 to 4 February), which coincided with two specific campaigns. First, the anti-prostate cancer

campaign held in that country on November 19 and second, the special program on the occasion of World Cancer Day, held in different countries on February 4.

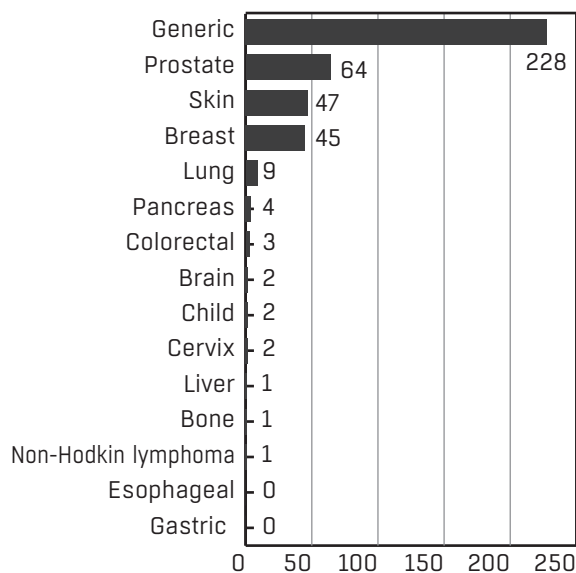
In the case of the Argentinean entity, the first peak was at the seventh week of the study (14 to 20 December) and coincided with a campaign to promote preventive examinations of breast cancer, while the second was held the twelfth week (18 to 24 January), and coincided with a campaign of free skin exams to prevent this type of cancer.

Figure 1. Evolution of the number of weekly messages



Source: Own elaboration

Figure 2. Number of posts dedicated to each type of cancer



Fuente: Elaboración propia.

It highlights how the Spanish association recorded a higher number of messages the week prior to the celebration of the World Cancer Day (week 13), although this peak was not as pronounced as that of Colombia, the only one that registered the highest number of entries compared to previous periods in the fourteenth week of study.

MESSAGES ABOUT CANCER

Posts by associations against cancer referred to this disease generically (228 posts, 56% of the time). As seen in figure 2, 14 different types of cancer were recorded. While prostate (64 posts, 16%), skin (47 posts, 12%) and breast (45 posts, 11%) were the ones that receive the most attention by the analyzed entities, they represent smaller percentages in relation to the weight of generic posts.

The other most common types of cancer were mentioned on fewer occasions. For instance, lung cancer was mentioned 9 times, pancreatic cancer, 4. In the case of gastric and esophageal, they were not considered in any occasion.

All associations treated cancer generally in the social network (Argentina, 68 messages; Chile, 83; Colombia, 40, and Spain, 37). However, in the case of the Colombian League, the largest number of posts referred to prostate cancer (50 posts). We must consider that on November 19, the Prostate Cancer Day was held in Colombia, which resulted in a greater number of references to this type of tumor during the month of November.

After addressing cancer generically, Argentina referred in second place to skin cancer, with 42 posts. In the case of Chile, the largest number of messages after speaking generically was about lung cancer, with 4 inputs, a feature it shares with the Spanish entity AECC. Thus, both associations (Chilean and Spanish) treated cancer generically, to the detriment of a specific type of cancer.

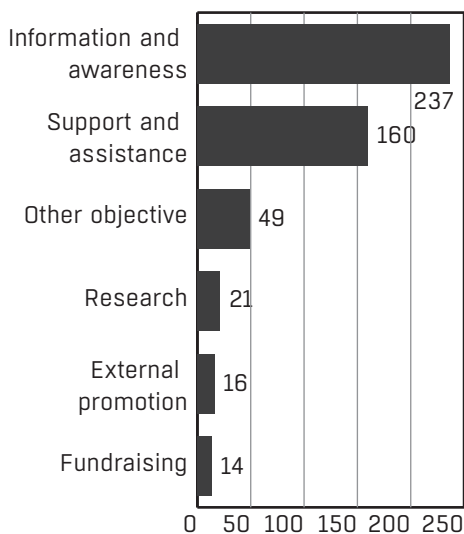
Finally, on this section should be noted that not all messages posted by associations always refer to cancer: 87 entries dealt with other content. The largest number corresponds to the Spanish entity, with 66 cases. For example, on January 16 the AECC replied to a user to help her quit smoking, a publication that, although it is related to cancer prevention, does not refer explicitly to it. "Ana, call us at 900 100 036 (free) and ask for our courses to stop smoking. With professional help, it is easier. Cheer up!"

OBJECTIVES OF ASSOCIATIONS AGAINST CANCER IN FACEBOOK

The main objective that associations against cancer pursue on their profiles on social networks is to inform and sensitize their community. As seen in figure 3, 48% of the messages had that role (237 posts). Second, 32% of the messages served as support and assistance to the followers (160 messages). Third, 10% –49 messages– had another purpose (for example, holidays congratulations). Posts on research accounted for 4% of the messages (16 publications) and external promotion, for 3% (14 entries). Thus, the ultimate purpose for which such entities communicate on Facebook is to raise funds (fundraising actions).

The objective of information and awareness is present in the four entities (Argentina, 82 messages, Chile, 15; Colombia, 86, and Spain, 54). In the case

Figure 3. Role of associations against cancer on Facebook



Source: Own elaboration.

of the Chilean association, its primary objective is to serve as support and assistance, with 51 such messages versus 15 to inform. It should be noted how research is mainly present in Spain, with 15 messages, while Argentina has 5, Chile, 1, and Colombia, none. The aim of raising funds was only present in the Spanish Association Against Cancer.

Prevention is one of the objectives of information and awareness. To do this, the associations against cancer published content related to healthy lifestyles through diet and exercise. For example, on November 12, 2015, AECC (Spain) shared a video on “Nutrition tips for cancer patients conducted with volunteers from RTVE” or “How to elaborate a healthy menu.” On December 11, LALCEC (Argentina) reminded its followers why it is important to maintain healthy habits: “Find out why it is important to drink water! Healthy habits reduce up to 40% the chances of getting cancer. “

Also LCCC (Colombia) encouraged its followers to follow a healthy lifestyle, as in the message posted on February 13, 2016: “#WorldCancerDay Choosing a healthy lifestyle to reduce #CancerRisks #WeCanICan Remember to share your posts on Facebook. Colombian League Against Cancer”. In this message, we find

another feature present in some associations against cancer, like Colombia: in addition to information and awareness, they invite their followers to participate in their social network.

Finally, regarding the second purpose for which the associations against cancer published in this social network, we should mention the role of volunteers, family and friends for support and awareness. Thus, February 2, 2016 the Colombian entity posted this message on the importance of loved ones to overcome this disease, “#WeCanICan overcome many things with the help of family and God. Thanks @superaelcancer”.

The Spanish association highlighted the role of volunteers who collaborate with it. On December 5, they posted: “Today is #InternationalVolunteerDay. If this is your day, it means that you are a caring, selfless, committed, generous and very, very necessary person. Congratulations and thank you! Our special recognition, if also are volunteer of AECC, you know you’re very important part of our association. <http://ow.ly/VtrCR>”.

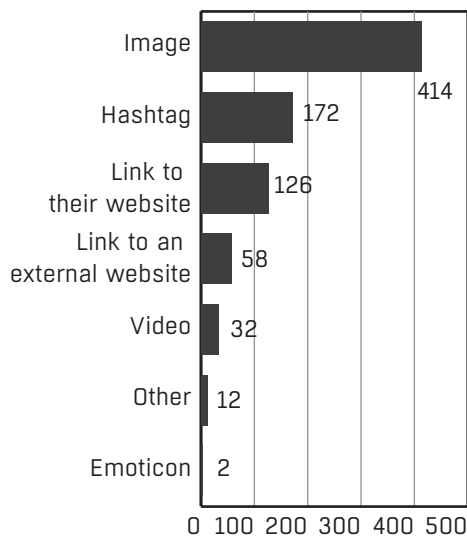
RESOURCES USED

As seen in figure 4, the image was the main resource used by the associations against cancer in publishing of their messages (51% of cases, 414 cases). Second, with a lower percentage, labels or hashtags were used 172 times, 21%. Links to the websites of the associations were present in 15% of cases (126). The rest of the resources was used to a lesser extent (external link, 7%; video, 4%; other –magazines and @ to organize contents–, 2%, etc.)

It should be noted that the calculation of the percentage represented by each of the resources refers to the total resources used and not to the 484 total messages posted by the four associations against cancer. As explained in the methodology, there are messages employing more than one resource.

The four associations used as a primary resource a photograph or image (Argentina, 121 messages, Chile, 72; Colombia, 143 and Spain, 78). There were differences in the case of the second most used resource: in Argentina (66) and Colombia (79) it was a hashtag; Chile used in as many times (13) videos and external links; and in Spain it was the link to their own website (71).

Figure 4. Resources used by the associations against cancer



Source: Own elaboration.

Table 3. Popularity, participation and virality of messages

	Likes	Comments	Share
AECC (Spain)	212.736	3.875	55.639
LALCEC (Argentina)	37.065	596	29.853
APACAN (Chile)	1.236	67	631
LCCC (Colombia)	703	13	253
TOTAL	251.740	4.551	86.376

Source: Own elaboration.

Table 4. Reactions of followers through the new Facebook options

	Love	Haha (I am amused)	Happy	Wow (I am amazed)	Sad	Angry
AECC (Spain)	5.281	61	362	153	973	34
LALCEC (Argentina)	6	0	0	0	1	0
APACAN (Chile)	39	0	0	0	3	0
LCCC (Colombia)	13	0	0	0	0	0
TOTAL	5.339	61	362	153	977	34

Source: Own elaboration.

FOLLOWERS' ACTIVITY

Finally, regarding the participation of the followers of these entities, the favorite option is to make popular a message through the well-known "Like" (table 3). Despite the new modes of interaction introduced by Facebook, this is still the favorite (table 4). On the other hand, it stands out that users prefer to share content than commenting it.

In disaggregation by associations, followers of the AECC were the most active in participating expressing what each publication suggested to them (like, love, sad, etc.). They also commented the most and shared the most amounts of posts, even though the Argentinean association released more messages in the period studied.

Table 4 shows that, after "Like", the second option is "Love", characterized by the image of a heart. The third emoticon that reflects the feelings and reactions of the fans is "Sad" by the type of content published by associations against cancer.

THE MOST POPULAR, MOST COMMENTED AND MOST SHARED MESSAGE

While the message with more "Like" of the Spanish association got 10,000 likes, Argentina had 1896, Chile, 42, and Colombia, 35. In the case of comments, AECC had a message commented 650 times, and Argentina, 59. The figures of Chile and Colombia were much lower, 5 and 3, respectively. Finally, in the case of sharing the message, one from Argentina was the one that had greater virality: 5885 people shared it; while 5217 people shared one of the Spanish association; 80, one of the Chilean; and 63, one of the Colombian.

Table 5 shows how three of the most popular messages addressed the disease generically. Two of them have in common the goal of providing support and assistance to users. Finally, they all share the use of an image as a visual resource. It highlights the fact that the most popular message of the four associations studied, published by the AECC, was a message not explicitly related with cancer, but wishing a good new year to its followers.

Table 6 shows that two of the most commented messages share, as in the case of the most popular, addressing cancer generically. The goal in this case is different and the resource is also the image in the case of the four associations against cancer. The message most commented of the Argentinean association is, like the most popular of the Spanish, a message of Christmas good wishes for its followers.

Finally, regarding the characteristics of the shared messages, once again is noteworthy that two of them addressed cancer generically. In this case, the goals of informing and supporting prevail, and once again the image is predominant. Also, it is significant that the

viral message from the Argentinean association is the most commented picture.

As seen in the previous three tables, none of the most popular, commented or viral posts was published on World Cancer Day, although in the case of the Argentinean association, the most shared message was published the day before.

DISCUSSION AND CONCLUSIONS

Regarding research question Q1, the activity of associations against cancer is variable and increases significantly with the celebrations of events like the World Cancer Day or Day Against Prostate Cancer, and with the development of campaigns. In these cases, the associations against cancer leverage on social networks as broadcast channels. This is, for example, the case of LALCEC and skin or breast cancer.

Responding to the research question Q2, cancer, generically, is the most mentioned and to what more importance is provided from the various associations. However, there are certain cancers that are also quite

Table 5. Characteristics of the most popular message of each association against cancer

	Message	Characteristics
AECC (Spain)	"We wish you a new year full of health and hope!" (12/31/2015)	<ul style="list-style-type: none"> • Cancer: other-not mentioned. • Objective: other. • Resource: image.
LALCEC (Argentina)	No introductory text message. Is a moving picture (gif) which reads: "I can love and be loved" and the reference to World Cancer Day 2016 (3/2/2016)	<ul style="list-style-type: none"> • Cancer: Generic. • Objective: information and awareness. • Resource: image.
APACAN (Chile)	No introductory text message, consisting solely of an image which reads: "The best teacher is time, without the need for you to ask questions ... it gives you the best answers" (1/3/2016)	<ul style="list-style-type: none"> • Cancer: Generic. • Objective: support and assistance. • Resource: image.
LCCC (Colombia)	Colombian League Against Cancer has added 2 new photos. "I'm Luz Alejandra Silva. High performance athlete in treatment #NosotrospodemosYopuedo (#wecanIcan) thanks Colombian League Against Cancer" (2/2/2016)	<ul style="list-style-type: none"> • Cancer: Generic. • Objective: support and assistance. • Resources: 2 images. 1 hashtag.

Source: Own elaboration.

Table 6. Characteristics of the most commented message

	Message	Characteristics
AECC (Spain)	"AECC volunteering is present in the different venues of 163 hospitals, in our 34 residences and welfare houses and in the households of sick people. In 2014, more than 360,000 people were treated. Would you join us? http://ow.ly/VnKbQ " (12/6/2015)	<ul style="list-style-type: none"> • Cancer: other-not mentioned. • Objective: fundraising. • Resources: image and link to their website.
LALCEC (Argentina)	" LALCEC wishes you a Happy 2016" (12/30/2015)	<ul style="list-style-type: none"> • Cancer: Generic. • Objective: other. • Resources: image.
APACAN (Chile)	"I want to share this with you, little thoughts that come to my mind [...]" (11/25/2015)	<ul style="list-style-type: none"> • Cancer: Generic. • Objective: support and assistance. • Resources: image.
LCCC (Colombia)	"The invitation you were expecting ..." (11/04/2015)	<ul style="list-style-type: none"> • Cancer: Breast. • Objective: information and awareness. • Resource: image.

Source: Own elaboration.

Table 7. Characteristics of the more shared message

	Shared	Characteristics
AECC (Spain)	No introductory text message. Is a moving picture (gif) which reads "I can love and be loved" and the reference to World Cancer Day 2016 (2/3/2016)	<ul style="list-style-type: none"> • Cancer: Generic. • Objective: information and awareness. • Resource: image.
LALCEC (Argentina)	"Do you have to receive treatment in a city that is not yours and you need accommodation? We provide you one totally for free. http://bit.ly/PisosyResid " (12/16/2015)	<ul style="list-style-type: none"> • Cancer: other-not mentioned. • Objective: support and assistance. • Resource: link to their website and 2 videos.
APACAN (Chile)	No introductory text. This is an image with a message of encouragement, the header reads: "Everyone should look over in five directions over its life." (05/11/2015)	<ul style="list-style-type: none"> • Cancer: Generic. • Objective: support and assistance. • Resource: image.
LCCC (Colombia)	"IMPORTANT: During this week and until 25 January we will experience the largest solar radiation presented to date. We recommend sharing this message of urgency. Protect yourself from sun exposure with barrier elements such as caps, hats, umbrellas, comfortable clothing. Also use sunscreen. www.ligacancercolombia.org " (01/19/2016)	<ul style="list-style-type: none"> • Cancer: skin. • Objective: information and awareness. • Resources: image and own web link.

Source: Own elaboration.

mentioned, although this increased presence seems clearly linked to the previous question, i.e., campaigns or events related to these cancers or seasonal factors, that determine the greatest number of mentions, as evidenced by the fact that prostate, skin and breast cancer were those who had a greater role in the analyzed period.

By contrast, the largest number of deaths caused by other cancers, such as lung, liver or stomach (OMS, 2015), does not imply a greater number of mentions.

As for the research question Q3, information and awareness, on the one hand, and support and accompaniment, on the other, they are the two objectives most persecuted by the analyzed associations. This contrasts with those obtained in investigations such as Farmer et al. (2009) or Bender et al. (2011), who agreed to grant a much larger importance to fundraising, precisely the goal less important in this research. On the contrary, this work seems to corroborate the findings of Hale et al. (2014), which aimed at finding information on health and Facebook as the most recurrent spaces. In that sense, cancer associations provide information to users.

Also regarding this research question, we observe that one of the fundamental characteristics in social networks is “listening” to the audience. This is one of the fundamental functions of a social networks manager, as Cobos (2011) explains. In Spain there have been initiatives requesting that a portion of taxes is used in research against cancer (Ramírez, 2016), so this may be the reason why the Spanish association made a greater number of posts related to research, thus responding to the current clamor of this population.

With regard to the research question Q4, images were the resources more used by the associations. This is a strategy that seems correct, if it is considered to be a resource present on the most popular messages between followers and even that in two of the cases, LALCEC and APACAN, the message that more activity generated in the analyzed period lacks an introductory text and consists only of an image.

In this regard, we should do a parallel between cancer communication in social networks and its use as a broadcast channel. Thus, the use of social networks by associations against cancer reflects a Facebook use that does not differ from the rest of the strategies employed in other sectors. In the ICT society,

the power of the image is explained by Zarco (2016) through a transcendental fact, that marked the global consciousness on September 2015. A Syrian child was found drowned on a beach in Greece. While the number in words “2500” and referred to “dead children” did not mobilize anyone, the image of only one of them achieved international impact, occupying the cover of major newspapers and becoming a topic of discussion in social networks. Also, the taste for audiovisual culture is what explains the rise of new social networks like Instagram, which works primarily through images. As Pure Marketing (2015) explains, although the content accompanying it is in another language, the image is universal. Thus, the image becomes the best way to get public engagement in social media, and is processed faster than texts; therefore, there is a possibility that in the future there is a migration of this kind of Facebook profiles to other applications with greater power of communication through the image.

As for research question Q5, the activity generated among followers is very uneven. There is a great difference between the number of likes a publication receives and how many contents are shared or commented on. This data follows the same line as the results found by Moorhead et al. (2013), when they point out that the public uses social networks to obtain and share information on health issues. Despite the bidirectionality that Facebook offers, comment is the action less performed by followers of the studied associations. Finally, those associations against cancer that have more followers (table 1), i.e., Spain and Argentina, are getting more popularity, virality and participation of the community.

It can be seen that the followers of associations against cancer prefer to share or give “Like” instead of commenting. There is an interest to investigate whether the fact of commenting may be related to a common situation in social networks, privacy. By commenting on these types of profiles, a person’s publications are seen by a much wider network than only its friends. Also, as explained by Merino-Bobillo, Lloves-Sobrado and Pérez-Guerrero (2013), commenting involves a greater degree of commitment, since the user is involved with the publication providing its opinion and taking responsibility for it. It also requires more effort and time than simply pressing “Like”.

It has also been found that good news, such as New Year congratulations, have a good reception. In general, users often use the social network as a way to share good news. At the time, the creator of Facebook, Mark Zuckerberg, decided not to include the button "Dislike" because of the risk involved in telling a friend that one does not like its publications, and seeking to foster empathy (Griffin, 2016).

The Chilean association studied was the less active and that showed fewer resources to address its followers. There is less professionalization, since they opted for an individual profile rather than a corporate site. This study also shows the importance of differentiating

between the two possibilities that Facebook offers to communicate with stakeholders.

To conclude, one of the study's limitations is the fact that the sample is limited to four countries only allows extrapolating the results to these countries and to the associations against cancer selected. Therefore, this research leaves open the possibility of conducting a similar study with associations against cancer in other geographical areas and associations of people affected by other diseases, something that would allow comparing and detecting common elements in different areas and their own singularities.

FOOTNOTES

1. This research was partly funded by UNIR Research (<http://research.unir.net>), Universidad Internacional de la Rioja (UNIR, <http://www.unir.net>) within its Research, Development and Innovation Plan [2015-2017].
2. APACAN was chosen instead of the Arturo López Pérez Foundation, as the first is similar to the other analyzed associations, i.e., an association whose fundamental nucleus are the patients and their families. Arturo López Pérez Foundation is active on Facebook, but is an entity in which the core is the medical-professional side, starting with its technological institute, its clinic, etc.
3. Although all entities are non-profit, LALCEC is defined as an organization of civil society; APACAN is an association belonging to the *Fundación Oncológica Cáncer Chile*; LCCC is a non-governmental organization and AECC is a non-profit organization.
4. Total number of followers to February 19, 2016.

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