

Preferences of Young People in the Use of Facebook as a Health Education Tool for HPV

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Abstract

The accessibility and popularity of social networks makes them appropriate tools for promotion and prevention interventions in health, reaching a large audience with greater efficiency. One of its most attractive features is *interaction*, which not only allows great diffusion of the messages, but also supplies them with greater interest and credibility. Platforms such as Facebook are very popular among young people, a high risk group for Human papilloma virus (HPV) infection due to ignorance, prejudice and sexual behavior that is risked and active. The objective of this research is to know the preferences and attitudes of young people towards (1) interaction and (2) type of information about HPV on Facebook. Increasing our knowledge in this area will help to make interventions in this field more useful. Through a questionnaire validated in previous research, was made a cross-sectional descriptive study of the preferences of 120 young universities in the use of facebook as a tool for health promotion about HPV. More than half of the participants would follow a page on the HPV to be informed and share information on prevention, vaccines and campaigns. The preferred resources were: multimedia, testimonials and articles by specialists. They prefer to "share" to "create themselves" messages. A group of subjects who reject the use of the tool is detected, arguing that they would not do it for (1) a lack of

interest, (2) because people can relate them personally to the sickness or (3) for possible bugs and criticisms.

Keywords: Preferences, Young People, Facebook, Health Education Tool, \ HPV

Introduction

The convergence of media has led to the integration of tools, spaces and languages previously disintegrated, such as that used in social networks, where the integration of text, images and sound is produced by interacting from multiple points, in a global network, with open access and affordable (Castells, 2005). This capacity has changed the scheme of traditional communication to one with a more active receiver, which interacts with the media, with the content and with others through social networks (McQuail, 2002; Cabrera, Casquero, Fernández & Jiménez, 2007) which implies a change in existing dissemination models and in the role of the receiver (Jenkins & Jenkins, 2008).

Previous research on content in social networks (Moorhead, Kota, Schoons & Whitehill, 2013) emphasize interactivity as the most attractive of these platforms. In spaces such as Facebook, this is carried out through the creation of content, sending messages, sharing photos and videos, updating itself with its network of friends and creating groups. In addition, the user becomes involved in the social network and can create communities where they can share interests and identify themselves (Hale, Pathipati, Zanand & Jethwani, 2014). This interactivity, simple and direct, allows great social distribution and motivational as it can be shared from one contact to another through recommendations, valuing the publication or sharing it; in addition to a rapid and massive dissemination when involving the network of friends. In this way, social networks become as tools of communication and persuasion that allow the change of attitudes and behaviors on a massive scale (Fogg, 2008; Junco, 2011).

But also to promoting the dissemination of information and behavior to a diverse audience, in health interventions, this interactive communication offers real feedback, allowing dialogue between users and specialists in which the two parties collaborate to conduct issues related to the health and well-being of the audience (Heldman, Schindelar & Weaver, 2013; Chen, Koh, Ritter, Lorig, Bantum & Saria, 2015). And it allows us to adapt the messages to the needs of our target audience and to test the different intervention strategies, helping to make communication more effective (United States Center for Prevention & Control of Diseases, 2011; Park, Rodgers & Stemmler, 2011; Warren, Sulaiman & Jaafar, 2015). At the same time, the synchronous communication and collaboration among numerous participants (*interactivity*) facilitates the creation of commitment or *engagement*. This engagement with the theme and with the source, helps to maintain and increase trust and credibility among the users (Heldman et al., 2013; Rus & Cameron, 2016). In the

research carried out by Turcotte et al. (2015) on the influence of opinion leaders and friends on Facebook, founded that the recommendation of friends perceived as opinion leaders was associated with an increase in the desire to adopt information search behaviors and that the information shared by a friend was perceived as more trustworthy than the one received directly from the media. In his study of audiences and how university students construct ideas about sexually transmitted diseases, de Oca (2013) founded that students preferred direct relationships through interaction with others and dialogue in social networks.

On the other hand, the Internet and social networks have become spaces for the search of information, opinions and testimonies on sexual health issues, as well as support for those affected by certain complains (Martinez-Martinez & Cuesta Díaz, 2017; McRee, Reiter & Brewer, 2012) influencing the attitudes taken and in the decision making and behaviors as, for example, in the case of the HPV vaccine (Stephens & Thomas, 2014; Dunn, Leask, Zhou, Mandl & Coiera, 2015) or the test for chlamydia (Syred, Naidoo, Woodhall & Baraitser, 2014). Thanks to its accessibility, platforms such as Facebook have become very popular among young people who have integrated it into their daily lives, of the 2 billion active users per month that Facebook has, 47% correspond to young people and adolescents (16-34 years old) (Facebook, 2017). This group of young people is also the one that reflects the highest incidence of human papillomavirus infections (Castellsaque, Iftner, Roura, Vidart & Kjaer, 2012), where unknowledge, prejudice and an active sexual life make them a group of high risk in the infection of the disease and its possible development in a future cancer of cervix, penis, throat and mouth (OMS, 2015; Han, Beltran, Song, Klaric & Choi, 2017; Moyer-Gusé, 2008; Murphy, Frank, Chatterjee & Baezconde-Garbanati, 2013). Therefore, the development of strategies that help understanding, prevention and detection are crucial (Chan, Cheung & Chung, 2009).

In this sense, social networks like Facebook, offer health specialists the opportunity to create interventions about sexual education, that reaches young people, attracts them and helps with the normalization and knowledge of HPV (Martinez-Martinez, Cuesta Cambra, Serrano Villalobos & Niño González, 2018). Zhang, Tsark, Campo and Teti (2015) investigated the intention and point of view of young students about sharing information of the HPV vaccine on Facebook, proving that Facebook seemed to be a good knowledge tool for them and that they would follow a page about HPV to be informed, Participants also recommended personalizing the messages by sharing the information to make them more attractive to their circle of friends. In another study conducted by Evers and his team (2013) on young people, social networks and sexual health issues, the participants suggested the creation of initiatives where they could participate and be involved in the subject. It has to be considered that when dealing with sexual health and STD issues, many users will not visibly interact with the page because they do not feel comfortable with others seeing them linked to the disease (Merchant et al., 2014; Sullivan et al., 2012). However, this

non-visible way of interacting does not mean that they do not benefit from being part of the social network (Ballantine & Stephenson, 2011; Newman, Lauterbach, Munson, Resnick & Morris, 2011).

Therefore, interactivity is an important factor in interventions since facilitates the understanding of health information (Nutbeam, 2000), increases mouth-to-mouth between interpersonal networks and the self-management of user behavior promoting the dissemination of healthy behaviors (Merchant et al., 2014; Kalichman, Weinhardt, Benotsch, DiFonzo, Luke & Austin, 2002; Kucukemiroglu & Kara, 2015). Whether this interactivity is made by evaluating, commenting or sharing the information, it will increase the visibility of the page, this action will be reflected in the biography of each user which at the same time will be seen by their contacts, increasing the social capital and its diffusion (Penney, 2015; Nahapiet & Ghoshal, 1998; Ellison, Vitak, Gray & Lampe, 2014).

Method

Objectives and Research questions

For this interaction to take place, our actions must be adapted to the preferences, needs and behaviors of our target audience (Zhang et al., 2015; Patel & Berenson, 2014). That will allow us to be attractive and relevant, facilitating participation and diffusion. To this end, the objective of this research was to analyze the preferences and attitudes of young people towards the interaction and publication of information about HPV on Facebook, which will help making our interventions more dynamic, relevant and useful. The following research questions (RQ) were formulated:

RQ 1: Do young people find it interesting to follow a Facebook page about HPV?

RQ2: What kind of content and resources about HPV would they share?

RQ2: Would they post information about sex education or HPV on Facebook?

RQ3: What do they think about talking about HPV in their Facebook walls?

Procedure and Sample

A cross-sectional descriptive study of the *insights* of young people was made with a sample of 120 undergraduate students of the Faculty of Information Sciences of the Complutense University of Madrid (UCM) between 19 and 27 years ($M = 20.85$, $DS = 1.370$). Of which 65% are women and 35% are men. Based on the data obtained in the questionnaire, a description of the results has been carried out using the Student's T-test and an ANOVA. The goal was to study possible differences by sex. We also did and a factor analysis to establish personality traits that allow us to know the users preferences. In the case of open questions, the data has been recorded and grouped into more concrete concepts to be analyzed.

Measuring instrument

A questionnaire of 12 questions based on previous research was used to obtain data (Evers et al., 2013; Byron, Albury & Evers, 2013; Veale, Sacks-Davis, Weaver, Pedrana, Stoové & Hellard, 2015; Moreno, Kota, Schoohs & Whitehill, 2013; Zhang et al., 2015; Newman, Lauterbach, Munson, Resnick & Morris, 2011), with questions on a 7-point Likert scale and also in open format, which would allow evaluating aspects

such as attitude, subjective norm, perception of behavior control and intention to speak or follow HPV information on Facebook. Some examples of questions used are "How likely are you to share information about HPV on Facebook?" or "What do you think your Facebook friends would think if they see HPV information on your wall?"

To check the validity of the questionnaire, we tested a first design in a *focus group* with a group of university students. Subsequently, the results and conclusions were analyzed with the DELPHIN system by a group of specialists in the field of communication and health of the UCM.

Results

Following a VPH page on Facebook

The data shows that 50% of the participants would follow it because they think it is important to be informed and because it can affect us all, compared to 48% that they would not because they are vaccinated, because It did not affect him because he was a boy, he does not think it's interesting or because social networks are not to become bitter. 2% answered that it would depend on whether it is private so that their contacts did not know it or if the content was interesting.

Attitude and preferences of young people to share information about HPV on Facebook

Almost half of the participants will share information about HPV on Facebook (47%) to raise awareness and disclose, the other half would not share it (46%) for shame, for not boring their contacts or because it may cause rejection. 7% answered that it would depend on the information. Regarding the type of information or resources they would share, young people showed preference for information about HPV related to prevention ($M = 4.08$), dissemination campaigns ($M = 4.07$) and links to articles ($M = 4.06$). However, what they would less share would be informational texts about HPV ($M = 3.37$), debates ($M = 3.23$) and photographs of symptoms and complains ($M = 3.18$). Significant differences by sex ($p > .05$) were not found. Factor analysis shows two trends in the type of user based on their preferences (Table 1). It can be observed the presence of two profiles: (1) a profile interested in sharing information about HPV on treatments (.844), prevention (.815) and vaccination (.792) and (2) a second one interested on helping rapid diffusion with supportive graphics (.864), dissemination campaigns (.851) and debates (.594). Data also indicated that the two components explain a high percentage of the total variance (71.226%), being factor 1 the one that more percentage of the variance explains (47.740%).

Finally, participants were asked to write three types of resources they would like to share. A total of 175 suggestions were registered, the most mentioned were the explanatory videos (17%), the real testimonies (16%) and the images (9%). With less

than 1% we find suggestions such as: information on checkpoints, debates, surveys or forums.

Attitude and preferences of young people to publish information on sexual education or HPV on their walls

In the case of young people intention of publishing information about sexual education in their walls, 61% of the participants answered negatively because of shame, for lack of knowledge, the possibility of arousing suspicion or possible comments; 31% answered that they would do it because there is little information and they should be informed or to help someone they know; and 8% answered that it would depend on the type of content. There are no significant differences by sex ($p = .689$).

Something similar happens when publishing information about HPV, where 61% of participants answered that they would not do it because they consider it a private and personal issue, due to shame, lack of knowledge or possible criticism; 32% would do it to help and inform with maximum diffusion and 7% said that it would depend on the type of content and its relevance. Again, significant differences by sex were not found ($p = .595$). Participants were also asked about the type of information they would publish. Data show a greater interest for information in general as “*interesting contents*” (G3 / 09), “*all types of information*” (G3 / 11), “*simple content and that comes with clarity*” (G1 / 32), “*articles, news, debates, testimonies...*” (G1 / 17) or “*a documentary or informative article*” (G1 / 34). 26% specified that they would publish prevention information (G3 / 02; G3 / 18; G2 / 22; G2 / 57) as a “*preventive explanation*” (G3 / 19) or “*prevention and treatments*” (G1 / 01). 15% would publish campaigns (G1 / 06, G1 / 22, G1 / 33, G2 / 15, G2 / 49), 9% indicated that they would share real testimonies (G1 / 14; G2 / 64) and some “*success stories*” (G1 / 08). Also 9% said that they would publish information in the form of images and videos (G1 / 30; G2 / 44; G2 / 47) as “*some impacting videos*” (G1 / 25) and 3% said they would publish about “*HPV vaccines*” (G2 / 16). (Figure 1)

Participants were also asked if they would create and post messages about HPV on their walls. Most of them (90%) would not create messages because of lack of knowledge or shame, only 9% answered that they will create and publish them to raise awareness and because there is little knowledge about the matter. Significant differences between groups were not found ($p = .322$).

Opinion on talking about HPV on its Facebook walls

In relation to young people’s opinion by talking about HPV in their walls, 44% of the participants answered it was good or positive since it can help to inform about the importance of the disease and raise awareness, the rest (56%) answered that it was not a good idea because it is not an appropriate place, it is a taboo subject, it would provoke comments or it would seem strange.

"It is useful, valuable and important" (G3 / 11)

"Positive to promote information to the rest of people" (G2 / 40)

"I'm a boy, I'm not interested" (G2 / 32)

"That people would later say a lot of nonsense" (G1 / 11)

"Maybe if people see this type of information they may think something strange about me, a totally incoherent thing" (G1 / 37)

Due to the fact that the opinion of friends is an important factor that can determine whether an individual interacts or not, participants were asked about the opinions of their friends if they saw HPV information on their walls. 31% of the participants indicated that their friends would think that the information is interesting, it would draw their attention and that they will read it or share it. 26% answered that *"they would think they or someone close to them is suffering it"*, 22% that they would be indifferent, 18% that they would think is strange or rare and a 3% that they would laugh or think that they had the profile stolen.

"I do well sharing it" (G3 / 03)

"They would thank for informing them" (G2 / 06)

"Indifference in most cases" (G2 / 56)

"They would be surprised and not credible" (G1 / 07)

"I'm crazy" (G1 / 22)

"That I have been hacked" (G2 / 53)

In relation to how safe they feel to talk about HPV on Facebook, slightly more than half (52%) feels insecure or totally insecure compared to 30% that were considered safe. Although there are no significant differences between sexes ($p = .430$), in the frequency analysis it is striking that in the group of men there is a large part feeling "totally safe" to talk about HPV while the majority of women feel clearly insecure. (Figure 2)

Discussion

It is important to know how our target audience would help in the dissemination of information about HPV on Facebook and how they would react to the information. The analysis shows that many young people would follow a Facebook page about HPV to be informed and discuss with their friends. Among those who would not follow it, highlight the fact that many argued their lack of interest, that they do not think it will affect them or that no family member or themselves were currently suffering from it. This may be due to the feeling of false vulnerability pointed out by other authors (Moyer-Gusé, 2008; Murphy et al., 2013) that makes individuals not

perceive certain risky behaviors as dangerous because they do not think than can be affected and do not take the appropriate prevention measures.

We can see that a large number of participants would share information about HPV on Facebook in order to raise awareness and disclose, highlighting two types of users, some more interested in sharing information about HPV, prevention and vaccines; and others in graphics, campaigns and debates. Regarding the type of content about HPV that young people would share, they prefer prevention, dissemination campaigns and articles from specialized sources. They would share explanatory videos, since there are an easy and quick way to consume information, real testimonies because they help to approach the disease, links to articles of specialists that provide credibility, and tables, graphs or informative posters that offer information in a clear and simple way. However, there are certain prejudices related to HPV that make many people not sharing this information and feel insecure about creating messages about HPV or publishing them on their walls because of shame to criticism, rejection or the possibility of their friends thinking they have the disease. These results are similar to those obtained in other research (Zhang et al., 2015; Evers et al., 2013) revealing the need to motivate and educate for the dialogue about sex education and sexually transmitted diseases among young people.

Research on the effects of interaction and *engagement* in social networks have shown how user interactions are evaluated by the rest of users (Turcotte et al., 2005; Warren et al., 2015), for this reason many people decide not to visibly interact with the page or the content so that others cannot relate them to the disease (Evers et al., 2013; Merchant et al., 2014), however, these interactions have a motivating role (Ballantine & Stephenson, 2011; Newman et al., 2011). In this sense, young people's beliefs about what their friends on Facebook may think about interacting with content about HPV will influence their decision to carry out such interaction (Sullivan et al., 2012). Although many participants believe that their friends would find the information interesting, we notice a large number who believe that they would think that themselves or someone in their family is suffering from it, that it would seem strange to them or that they would laugh at them. The analysis shows that this type of beliefs makes participants feel insecure talking about HPV on Facebook because it can be seen by many people, makes them seem vulnerable and they would feel criticized, highlighting the need of interventions that help the understanding of HPV and its normalization among young people, and where users can feel secure of expressing their doubts freely without fear of criticism or prejudice.

Study limitations and future research directions

The present research shows some limitations to be taken into consideration in future research. It would be advisable to use a larger and more diversified sample, not only with university students, to obtain general conclusions about the attitude of young people in the dissemination of information about HPV on Facebook. This research offers important information about the preferences of young

people and valuable recommendations for specialists that should be taken into account for future interventions on health in social networks.

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Tables

Table 1

Matrix of components rotated ^a content preferences to share		
	Component	
	1	2
Informative text about HPV	.719	.325
Graphic photographs of symptoms and complains	.746	.237
Real testimonies	.743	.450
Links to articles	.715	.496
Explanatory videos	.703	.490
Explanatory images	.713	.487
Specialist interventions	.699	.500
Outreach campaigns	.262	.851
Support graphics	.205	.864
Debates	.510	.594

Prevention of HPV	.815	.191
Treatment	.844	.200
Reminder tests and check	.768	.286
Vaccine information	.792	.293
Information about physical information points	.755	.343
Extraction method: Analysis of main components. Rotation method: Varimax standardization with Kaiser.		
a. The rotation has converged in 3 iterations.		

Figures

Figure 1

Type of information about HPV that participants would post on their Facebook wall

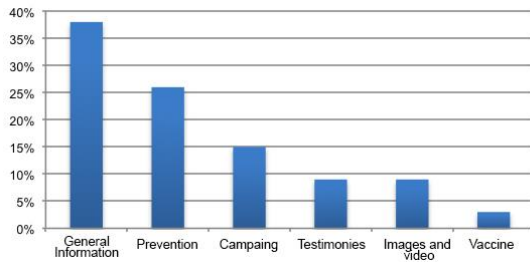


Figure 2

Frequency descriptive *How safe would you feel to talk about the HPV on your wall on Facebook?* by sex

