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### EDITORIAL

## YouTube® as a source of information for patients with gastrointestinal disease

## YouTube® como fuente de información para pacientes con enfermedad gastrointestinal

An article by Lombo-Moreno et al.<sup>1</sup> on YouTube® in Spanish as a source of information for patients with inflammatory bowel disease (IBD) is published in the present issue of the *Revista de Gastroenterología de México*. In this Colombian study, 100 videos on IBD were reviewed; 12% of the videos were created by patients and 88% by healthcare professionals. The authors concluded that the majority of videos presented reliable information and had good technical quality. The most reliable ones, unsurprisingly, came from professional organizations, and those with the best quality, were produced by for-profit agencies and healthcare information sites.

We live in the era of social media networks and are consequently experiencing an “infodemic”. This overabundance of information includes much that is accurate and useful, as well as much that is false or misleading. This should be a cause of concern for all healthcare professionals because it can have serious repercussions on patient health, causing damage to credibility and distrust of treatments.

Social media networks will continue to exist and grow. Due to their easy access, they are increasingly becoming information sources for the general population and the information is shared among users. YouTube® alone receives more than 2 billion views daily and 8 out of every 10 Internet users seek healthcare information there. Patients with chronic diseases are the ones that search for information on the Internet about their specific disease the most, and the information they find has an impact on the management and follow-up of their conditions. The problem is that much of the information is anecdotal and there are no regulatory mechanisms or monitoring guidelines for content, leading to the danger of information being false or misleading. Although the article published in this issue highlights the point for IBD, other references indicate that there is very little difference between the frequency of visits to sites with misleading information and those with true information, and they corroborate the fact that reliable information

generally comes from professional and governmental organizations. Another serious problem with YouTube® is that it is also utilized to promote nonscientific therapeutics or those in the process of approval, having the potential to change the user’s mind regarding controversial topics. In addition, pharmaceutical companies and for-profit institutions use YouTube® as a source of advertising. At the same time, YouTube® can be a very effective site for accurate information.<sup>2</sup>

The clearest example of YouTube® as a double-edged sword was during the COVID-19 pandemic. The pandemic has been the greatest public health emergency of the century and a large part of its management was highly dependent on information, much of it diffused on social media platforms, including YouTube®.

The advantage of YouTube® is that it allows access to both auditory and visual information, making it accessible to all types of users, regardless of their demographics. In their article, Lombo-Moreno et al. found that more than 25% of the videos in English showed information that was not evidence-based or that was misleading. Again, governmental and professional information was more accurate. In contrast, misleading information consisted mainly of conspiracy theories, inconsistent and inappropriate information, and even discriminatory information against healthcare agencies. This is a very serious problem that must be taken into account, given the huge number of persons the platform reaches. The use of YouTube® should be more widely considered a public health strategy and implemented as such.<sup>3</sup>

Another severe problem regarding the platform was the controversy caused by the COVID-19 vaccines that appeared in December 2020 and were given emergency authorization use by the FDA. Despite that emergency use approval, by November 2021, only 58.3% of individuals in the United States had been vaccinated. The distrust toward vaccinations directly impacted pandemic morbidity and mortality,

and because of its very large number of users, YouTube® use had serious public health consequences. A study conducted on this vaccination problem found that 10.7% of the videos contained nonevidence-based information and 89.3% had reliable information, concluding that approximately 11% of the videos seen contradicted the scientific reality, reaching 18 million visits. Those numbers are lower than the figures in previous studies that reported misleading information at 27.5 to 45%, most likely due to the fact that in May 2020 YouTube® implemented a medical misinformation policy. Governments realized the potential of the platform and increased its use. Nevertheless, it is very important to point out that videos coming from government agencies had 3-times more *dislikes*, compared with entertainment videos, signifying the presence of a large number of skeptics, regarding the vaccine and videos from official sources. Those data again suggest the need to establish policies and guidelines for healthcare videos, especially to prevent misinformation.<sup>4</sup>

To write the present editorial, I carried out a search for articles in PubMed that analyzed the relation of the information on YouTube® and gastrointestinal health information. There is a limited number of those types of analyses. Studies have been conducted on other entities, as well as on specific gastrointestinal situations.

Conducting such studies is very time-consuming, given that authors and their teams have to spend many hours watching and analyzing videos. In one article on endoscopic retrograde cholangiopancreatography, 26 videos were analyzed, and those authors concluded that the information was insufficient to be considered a reliable source, despite the fact that the majority of the videos were produced by physicians and hospitals. The technical quality of the videos was low, and those authors suggested that all healthcare professionals must be vigilant and promote the production of high-quality videos, with reliable medical information. They recognized the limitations of their study, due to the specific characteristics of endoscopic retrograde cholangiopancreatography, and stated that YouTube® is a dynamic platform, in which videos change over time.<sup>5</sup>

I also found colonoscopy information on YouTube®. Colonoscopy is a widely known procedure with recognized effectiveness, especially in colorectal cancer prevention, but patients continue to have much doubt, skepticism, and fear, regarding the procedure. We know that YouTube® is widely used to search for information, and this theme is not alien to the platform. For example, the article by Radadiya et al. included 255 videos that were compared with an educational video on colonoscopy from the American Society for Gastrointestinal Endoscopy, and the results, once more, showed that videos coming from professional societies were better than those from alternative sources. Nevertheless, those authors concluded that YouTube® is a poor source of information on the procedure and they urge the entire medical community to create and enrich the platform with videos of better quality and more accurate information.<sup>6</sup>

Another article on food poisoning that evaluated 160 videos, with more than 8 million views, found that symptomatology, prevention, and treatment were the topics most discussed, with epidemiology and diagnosis taking a back seat. Sixty percent of the videos were considered useful

and 23.7% mildly useful, demonstrating anew the power of YouTube® as a source of information. A total of 29.3% of the videos were based on personal opinions and testimonials, supporting the theory that individuals use the Internet, to become a source of information, themselves. The conclusion, once again, was that there is much credible information on the Internet, and therefore, users should be guided toward highly trustworthy videos on health.<sup>7</sup>

But the problem with YouTube®, or its potential problem, goes beyond the platform itself, given that social media networks, in general, are currently the most widely used source of information by the general population. From the negative perspective, spreading erroneous information on health can have devastating consequences. In fact, a review article that defined false or misleading information overall, as that based on anecdotal evidence, that lacking scientific evidence, or information that is undeniably erroneous, found a greater prevalence of that type of information on Twitter. But false information on vaccination and public health problems was also predominant on other platforms. Once more, the conclusion was that there was an urgent need to control and combat misinformation. The magnitude of the problem and its consequences are not yet known. Said article reviewed 69 studies and divided them into 6 main categories: vaccines (32%), drugs and smoking (22%), non-infectious diseases (19%), pandemic (10%), eating disorders (9%), and medical treatments (7%). The majority of misinformation was associated with smoking and drugs (opioids and marijuana). Vaccines were also a very common topic, at 43%.<sup>8</sup>

Returning to the subject of IBD, a previous article published in 2013 that analyzed the information on YouTube® showed that a decade ago, more than half of patients searched for information related to IBD on the platform and concluded that, in general, videos with patient education content was poor and that many of them had to do with patient choices and alternative treatments, albeit educational videos had more views. Since then, the demand has been for us health professionals to focus more on producing educational material to counteract misleading information and educate our patients.<sup>9</sup>

I believe this is why it is always important to know who is producing the video content and what experience they have with the subject being discussed, starting with knowing whether the individual is a healthcare professional and then being very wary if the person does not have the credentials to speak on the topic. Definitely, the most reliable videos are those coming from medical institutions, whether from hospitals, healthcare professionals, or health professional associations, because their information is based on scientific evidence. Videos should be accurate and verifiable with other sources. In addition, they should be up-to-date, given that medical information undergoes constant change; knowing the publication date of the videos is also important. It is highly recommendable to compare videos and search for those that are the most scientific. When the information reviewed is consistent with that from other reliable sources, its veracity is more likely. Recommendations seen on YouTube® must always be followed with caution, due to the danger of misinformation. Ideally, videos should specify, in writing or within the video content itself, that all

information should be discussed with the patient's treating physician.

Much care should be taken with fraudulent products, previously called miracle products, that seem too good to be true. Viewers must use their judgement, when watching such videos, something not easy to rely on, given that they reach people in all parts of the world, regardless of demographics. Thus, I believe it is a fundamental truth that information from a video can *never* substitute the in-person medical consultation, at which an adequate anamnesis and physical examination of the patient, as well as the individualized management of cases based on treatments that follow evidence-based guidelines, are carried out.

I am definitely of the opinion that the different medical organizations, such as professional associations and regulatory bodies, must demand there be guidelines for producing healthcare videos, or an approval system for them. We healthcare professionals must fight against the infodemic, insisting on the medical education of the patient, and see YouTube® as an ally, but also realize that it can be a double-edged sword, as stated above.

The technical quality of the video is also an aspect of certain relevance. Even though there are agencies in charge of improving video quality, through lighting, animation, color, etc., the information should always be reliable. A good quality video can sometimes leave the content in second place. Ideally, videos should have both high scientific quality and the high technical quality that makes the video more attractive to the viewer.

Social media networks are out there, and it is our decision to utilize them as allies or make them our enemies. It is a very new field, but one that will continue to grow, and one with which I believe doctors and healthcare personnel, in general, must become more involved.

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The author declares that there is no conflict of interest.

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