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Methodological letter

Social media: What is its contribution to surgical research?☆

Redes sociales. ¿Qué aportan a la investigación quirúrgica?

Víctor Turrado-Rodríguez,^{a,*} Roser Termes Serra^b

^a Servicio de Cirugía Gastrointestinal, Hospital Clínic de Barcelona, Barcelona, Spain

^b Servicio de Cirugía General y del Aparato Digestivo, Hospital Clínic de Barcelona, Barcelona, Spain

Introduction

In less than twenty years, social media (SM) have become popular around the world, which has had a great impact on scientific dissemination, the exchange of ideas, and discussions on articles and scientific development. SM, or more specifically internet-based applications that facilitate real-time social interaction, allow individuals separated by great distances to become informed about the most up-to-date knowledge when it is made public. The great potential of this technology is that it allows global collective knowledge to be applied to real problems, thereby providing solutions that enrich clinical practice and benefit patients.

Social media

SM can be divided into several types, according to their objective¹:

- 1 *Social* – connects people with similar interests (Facebook and Instagram).
- 2 *Business* – connects people and companies with common professional interests (LinkedIn).

- 3 *Scientific and research* – allows researchers to share publications and other scientific work (ResearchGate and Mendeley).
- 4 *Blogging* – allows users to publish articles in various formats (Tumblr and WordPress).
- 5 *Microblogging* – allows users to share information, multimedia or links in communications with a limited number of characters (Twitter).
- 6 *Video* – allows users to share live and recorded videos (YouTube, AIS Channel, Web Surg).
- 7 *Messaging group* – allows you to instantly share messages directly with a contact or in a channel (WhatsApp, Signal, Telegram).

The potential of SM in surgical research

The diffusion of SM and their ability to connect surgeons from different parts of the world favor the creation of research networks that allow research projects to be conceived, developed, written and shared on SM. One of the advantages of SM is the ability to collaborate with surgeons from distant countries with whom it would have been difficult to contact without SM. Likewise, SM provide access for young surgeons to experienced surgeons, creating an overall climate of collaboration and stimulated research.

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* Corresponding author.

Correo electrónico: victorturradorodriguez@gmail.com (V. Turrado-Rodríguez).

SM can influence various moments of the creation of a scientific manuscript, from the conception of the idea to its diffusion and dissemination².

Conception of the idea

Ideas for research topics can come from online conversations, tweet chats, comments, or shared articles. SM can also be used to assess the needs of patients and develop research towards those needs.

Working groups

Many interest groups have been created in which ideas are discussed or surgical research is promoted, including social media groups or groups that form spontaneously around an idea, tweet, or chat.

Collaboration

Collaborative studies, both prospective and retrospective, are an increasingly present reality in the surgical literature. During the COVID-19 pandemic, collaborative studies have been promoted by initiatives such as COVIDSurg, although previous initiatives also existed, such as LiverGroup.org, PancreasGroup.org, or GlobalSurg.

This collaborative strategy has been carried out by the @COVIDSurg group during the COVID pandemic, achieving the participation of 122 countries, 1677 hospitals and 142 815 patients³. These data, which would have been unthinkable years ago, demonstrate the impact that multinational collaborative studies can have when organized through social networks.

Recruiting

It has been suggested that social networks can significantly impact patient recruitment, increasing it both substantially and cost-effectively. Despite little experience in this regard, platforms such as Twitter could facilitate recruitment and increase the involvement of researchers⁴. These studies have shown that tweets using images and mentioning other users increase researcher involvement and maintain it throughout the study. In addition, periodic updates on SM with reminders about the inclusion criteria, news about patient inclusion, links to articles related to the project, and the presentation of study results are useful to keep the researchers informed and involved.

SM can also help involve and recruit patients. The www.mbcproject.org registers patients with metastatic breast cancer through social networks, blogs and patient associations, having managed to recruit thousands of patients.

Direct participation

Direct surveys on SM can be used to collect data for a study or as a generator of ideas.

Dissemination of information

A fundamental advantage of SM is the ability to share knowledge, which maximizes the impact of a publication. The distribution of information by SM affects the impact of articles, with faster influence than the traditional presentation of a bibliographic citation. In this context, Almetrics (created in 2010) can be used to support traditional bibliometrics. It assesses multiple media options, such as Twitter, Facebook, blogs, Wikipedia, etc., to evaluate the use of the article, captures, mentions and citations on SM. Subsequently, it measures the impact through an algorithm and provides an Almetric numerical value. Some studies have shown a positive correlation between the Almetric score and the bibliographic citations of articles⁵.

Another recent innovation is the incorporation of visual abstracts to disseminate surgical research, as studies have shown that interaction with articles increases with the use of visual abstracts versus traditional abstracts⁶.

The important impact of SM in the dissemination of knowledge during scientific conferences, both in-person and online, has also been demonstrated.

Ethics and use of SM for surgical research

Some authors have raised ethical questions about the use of SM for research and dissemination of surgical information, considering that SM tend to favor the most sensationalist content to capture the attention of users. Thus, technical innovations can spread quickly on SM without having been thoroughly studied beforehand. Furthermore, patient recruitment on SM can lead to a clear selection bias, since access to social networks varies among age and patient groups. Likewise, the increasingly exclusive publication on SM can limit access to the study of patients who do not have access to these technologies⁷.

Conclusions

The ability of social networks to connect surgeons from all over the world in real time has led to the development of global collaborative projects, such as COVIDSurg, which have recruited a large number of patients. Although the experience in this regard is limited, the results are promising and open a new horizon for surgical research.

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