

HEALTH EMERGENCIES IN MEDIA CONTEXT. BIBLIOMETRIC REVIEW IN SCOPUS (2002-2022)¹

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ABSTRACT

Within the framework of the research project "Information coverage of the Coronavirus in the Colombian digital press", this work was developed to know the state of the art on health emergencies, such as COVID-19, in the context of the media (traditional and digital). This work was developed to know state of the art on health emergencies, such as COVID-19, in the context of the media (both traditional and digital). The search for information was carried out in the Scopus database, using a search strategy through the title or title/abstract. Keywords were obtained from the literature already published on "Health emergencies in media context", using search strings with Boolean AND/OR operators (health AND emergencies AND media). Information retrieval was performed on August 22, 2022. A total of 5,967 studies met the referral criteria for "Health emergencies in media context". Data were also exported in RIS format for analysis in VOSviewer 1.6.8 software. Although media coverage of health emergencies has been taken as a starting point, this research has gone further, not only because relationships have been found between health emergencies and other platforms, such as social networks, but also because scientific evidence has been detected on the potential that the media can have to curb and even prevent diseases. It was found that scientific production on health emergencies in the context of the media has evolved in the last ten years (2002-2022), with a peak in 2020. It is concluded that the scientific approach to health emergencies in the context of the media demands multidisciplinary work. When the authors' keyword co-occurrence analysis was carried out, four clusters were identified in which the term "human" stood out with close relationships with the words "emergency room", "masculine", "feminine", "elderly", cohort analysis, and hospitalization.

Keywords: health; media; communication; bibliometrics; covid-19

Situações de emergência sanitária no contexto dos meios de comunicação social. Revisão bibliométrica em scopus (2002-2022)

RESUMO

No âmbito do projeto de investigação "Cobertura informativa del Coronavirus en la prensa digital colombiana" ("Cobertura informativa do Coronavírus na imprensa digital colombiana") foi realizado este trabalho com o objetivo de conhecer o estado da arte em matéria de emergências médicas, como a COVID-19, no contexto dos meios de comunicação social (tanto tradicionais como digitais). A pesquisa de informação foi realizada na base de dados Scopus, utilizando uma estratégia de pesquisa por título ou título/abstract. Foram obtidas palavras-chave da literatura já publicada sobre "Emergências de saúde no contexto dos meios de comunicação social", utilizando cadeias de pesquisa com operadores booleanos E/OU (saúde e emergências e meios de comunicação social). A recuperação de informação foi realizada a 22 de agosto de 2022. Um total de 5.967 estudos cumpriu os critérios de apresentação para "emergências de saúde no contexto dos meios de comunicação social". Os dados também foram exportados em formato RIS para análise no software VOSviewer 1.6.8. Embora a cobertura mediática das emergências sanitárias tenha sido tomada como ponto de partida, esta investigação foi mais longe, não só porque foram encontradas relações entre as

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emergências sanitárias e outras plataformas, como as redes sociais, mas também porque foram detetadas provas científicas sobre o potencial que os meios de comunicação social podem ter para refrear e mesmo prevenir doenças. Verificou-se que a produção científica sobre emergências sanitárias no contexto dos meios de comunicação social evoluiu nos últimos dez anos (2002-2022), com um pico em 2020. Conclui-se que a abordagem científica das emergências sanitárias no contexto dos meios de comunicação social requer um trabalho multidisciplinar. Quando se realizou a análise de coocorrência das palavras-chave dos autores, foram encontrados quatro grupos em que o termo "humano" se destacava com estreitas relações com as palavras "sala de emergência", "masculino", "feminino", "idoso", análise de coorte e hospitalização.

Palavras-chave: saúde; meios de comunicação; comunicação; bibliometria; covid 19.

Emergencias sanitarias en el contexto mediático. Revisión bibliométrica en scopus (2002-2022)

RESUMEN

En el marco del proyecto de investigación "Cobertura informativa del Coronavirus en la prensa digital colombiana", se desarrolló este trabajo para conocer el estado del arte sobre las emergencias médicas sanitarias, como la del COVID-19, en el contexto de los medios (tanto tradicionales como digitales). La búsqueda de información se realizó en la base de datos Scopus, utilizando una estrategia de búsqueda a través del título o del título/abstract. Las palabras clave se obtuvieron de la literatura ya publicada sobre "Health emergencies in media context", utilizando cadenas de búsqueda con operadores booleanos AND/OR (health and emergencies and media). La recuperación de la información se realizó el 22 de Agosto de 2022. Un total de 5.967 estudios cumplieron con los criterios de remisión para "Health emergencies in media context". También se exportaron los datos en formato RIS para su análisis en el software VOSviewer 1.6.8. Aunque se ha tomado como punto de partida la cobertura que hacen los medios sobre las emergencias médicas sanitarias, esta investigación ha ido más allá, no solo porque se han encontrado relaciones entre emergencia sanitaria y otras plataformas, como las redes sociales, sino porque se han detectado evidencias científicas sobre el potencial que pueden tener los medios para frenar y hasta prevenir enfermedades. Se encontró que la producción científica sobre las emergencias sanitarias en el contexto de los medios, ha evolucionado en los últimos diez años (2002-2022), observándose un pico en el año 2020. Se concluye que el abordaje científico de las emergencias sanitarias en el contexto de los medios, demanda un trabajo multidisciplinario. Cuando se efectuó el análisis de co-ocurrencia de palabras clave de los autores, se evidenciaron cuatro agrupaciones (clusters) en los que destaca el término "humano" con estrechas relaciones con las palabras "sala de urgencias", "masculine", "femenino", "anciano", análisis de cohortes y hospitalización.

Palabras clave: salud; medios; comunicación; bibliometría; covid 19.

Introduction

Pandemics, from their origins in society, have represented collective imaginaries of panic, sudden fear that obscures reason, produce terror, flight or mass displacement of communities, and even curiosity or morbidity of governments and institutions that try to take advantage of the situation to exercise cultural and sociopolitical domain. It should be noted that, in the early Christian era, pandemics were associated with divine punishment when people didn't accept the existence of a God.

The medical historian Laín Entralgo mentions some pandemic diseases that have hit humanity, proof of this is the Black Death: this had three important consequences, in addition to the political ones (it ended with the Hundred Years War), which led to a great recession in Europe, not only demographic, but economic; also an exaltation of certain vicious religious practices, such as flagellant processions, with a clear social content: death levels rich and poor. The flagellants spread the word that the Jews were the cause of the plague, with the consequent murder of thousands of them (Entralgo, 1978).

Pandemics are constituted in stories embodied in a specific context, which exerts a socio-political role. Therefore, in order to achieve recognition and the category of 'universal plague' in societies, the intervention of state institutions and other active forces that surround governments or public administrations is necessary. This allows us to understand the logic of the media intervention exercised by powerful news networks at the time of starting the circulation of messages about epidemics, some take advantage of the pandemic situation to promote a common good, others only seek their own benefits.

The foregoing is corroborated by Hallin, Briggs, Briggs, Spinelli & Sy (2020), along with other authors, who highlight that pandemics imply health problems that are perceived as a danger not only for specific groups but also for entire populations. This produces enormous mobilizations, both from government institutions –seen as the last ones responsible for the protection of the population– and from the mass media, which give it a central place in their news coverage (p. 2). Hallin, Briggs, Briggs, Spinelli & Sy (2020), maintain that "epidemics often become the object of public/media knowledge before consolidating as the object of medical/scientific knowledge", this leads to increased levels of paranoia in the communities, as a result of the different discourses and messages exposed by communication systems.

Mediatization "implies the transformation of the meanings of the media products disseminated by the media" (Thompson, 2007, pp. 116-117), it also refers to the "construction of a public representation of something, such as the pandemic". Hjarvard (2013) defines mediatization as:

The process by which the media obtain greater authority to define social reality and to condition patterns of interaction; they become an integral part of the functioning of other institutions while they have reached a level of self-determination and autonomy that forces other institutions to submit to their logic (as cited in Hallin, et al., 2020, pp. 2-3).

Now, focusing on the Coronavirus, a pandemic that is currently plaguing the world, we find an almost 'extreme' media game that journalistic houses involve daily, these through their editorial teams, coordinate objectively and subjectively in terms of mass circulation of messages, converted into 'persuasive' communicative pieces, loaded with panic, fear or morbidity generated largely by the information system.

This media game manages to be interpreted in communicology studies as 'news coverage on health and medicine', which, for specialists in studies linked to the area, pay little attention to the media and journalism. Much of the existing research has its roots in the field of health communication. Within and outside this field, research tends to be organized implicitly in what can be called a 'linear transmission model', which presupposes that medical knowledge about health is produced within the scientific field of biomedicine and is then transmitted to audiences (Hallin, et al., 2020, p. 3).

Olga Serrano Villalobos maintains that the media coverage of health issues is related not only to the growing interest in new pathologies such as COVID-19 but also to scientific advances in medical treatments or healthy lifestyles. In this way, health emerges as a topic of public interest in the 21st century media agenda (as cited in Manrique, 2020, p. 143).

In this sense, information as a fundamental right plays a major role in the various fields of social interaction. However, regarding the thematic agenda in health, it appears represented in the communicative work or scientific journalism. In other words, such a job becomes an "essential service", and journalists as "essential workers", with permission to continue their informative work, reporting and exempt from movement restrictions. In some places, journalism has even been classified as an emergency service" (Organization of the United Nations for Education, Science, and Culture, 2020, p. 10)

This makes it possible to assess the profession that communicologists and journalists, specializing in dealing with health issues, have been developing. According to Flores (2014), journalists must be well-trained professionals, with the knowledge of the profession and honest, trustworthy. He emphasizes that journalism requires intelligent people who dedicate their lives to this profession, which the author refers to as noble and very necessary for social development. Silva (2012), for his part, specifies that the media have great potential to contribute to the purposes of public health; moreover, he refers that the mass media of information (television, radio, and written press) can more easily move to the action of people in concrete actions to take care of their health. In a similar approach, Romero (2016, p. 129) mentions that "everything that is issued to the public in terms of health influences their perceptions, ideas, and attitudes regarding the subject, as risky, urgent or alarming (as cited in Velázquez & Serna, 2020, page 188).

Finally, in the research carried out on thirteen academic works, it is found that the scientific production on the media coverage of COVID-19 in Colombia is practically nil in terms of texts that highlight the informative behavior of traditional media and digital channels during the pandemic. Literature focused on specialized articles in the field of health is beginning to be visualized, but from the interdisciplinary the works are unknown, there is a variety of opinion columns and editorials that circulate in national newspapers (physical or digital format) and web portals, they lack constituent elements of the scientific method, there is only a record of statistical data from public bodies. The low or almost null production of health emergencies in the context of the Colombian media is what has motivated this research in which a global information search was carried out in the Scopus database, using a search strategy through the title or title/abstract.

Materials and methods

The information search was carried out in the Scopus database, using a search strategy through the title or the title/abstract. The keywords were obtained from the already published literature on "Health emergencies in media context", using search strings with Boolean operators AND/OR (health AND emergencies AND media). It should be noted that no restrictions by type of document, year, or language were used. However, the title, abstract, and keywords had to have at least one English translation.

The search and retrieval of information were carried out on August 22nd, 2022. A total of 5,967 studies met the referral criteria for "Health emergencies in media context". The data was also exported in RIS format for analysis in the VOSviewer 1.6.8 software. The software generated figures and data that were used to create displayed tables, which will be interpreted in the discussion of this research.

Table 1 presents a summary of the information collected in the database, where most of the articles on the subject (2,652) are open access; 1,261 documents were found that are in journals that only publish in open access (open gold), 202 documents that are in journals that offer authors the possibility of publishing in open access (hybrid gold), 710 documents in the published version of the registration or manuscript accepted for publication in which the editor has chosen to provide temporary or permanent free access (Bronze), and 2,084 documents in published version or manuscript accepted for publication, available in the repository (Green).

Table 1. Synthesis of the Information Collected in the Scopus Database

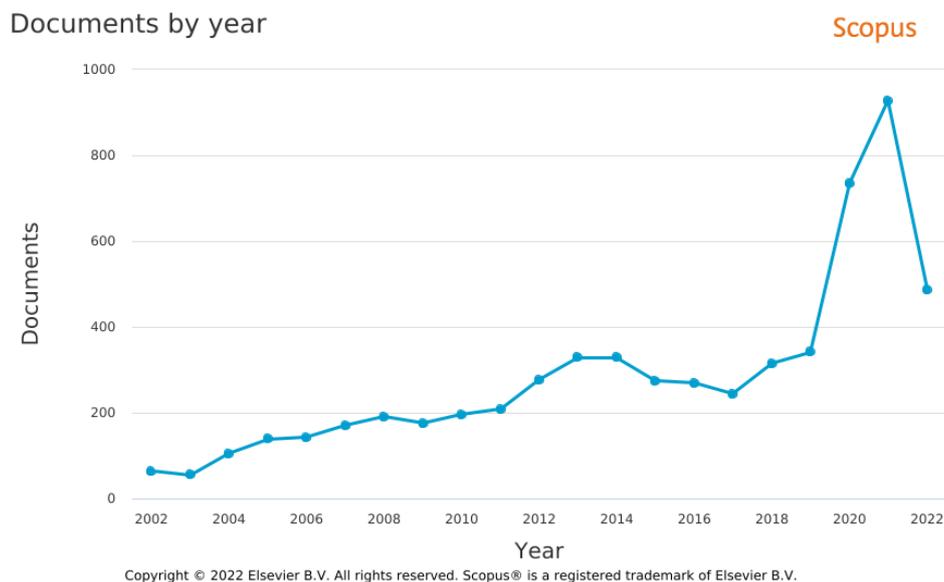
Description of the data collected	Results
Time	2002:2022
Sources (magazines, books, etc.)	5.967
All open Access	2.652
Gold open Documents that are in journals that only publish open access	1.261
Hybrid Gold Documents that are in journals that provide authors the choice of publishing open access.	202
Bronze Published version of record or manuscript accepted for publication. The publisher has chosen to provide temporary or permanent free access.	710
Green Published version or manuscript accepted for publication, available at the repository.	2.084

The data analysis was carried out taking into account the following categories of analysis: documents by year, types of documents, documents by year according to the source, documents by institutional affiliation, documents by author, documents by country, documents by the sponsor, and by discipline.

Results

A total of 5,967 articles were identified that explored "Health emergencies in media context" between 2002 and 2022. The scientific production per year was as follows: 2022 (8.16%), 2021 (15.53%), 2020 (12.31%), 2019 (5.71%), 2018 (5.26%), 2017 (4.08%), 2016 (4.50%), 2015 (4.59%), 2014 (5.49%), 2013 (5.49%), 2012 (4.62%), 2011 (3.48%), 2010 (3.26%), 2009 (2.93%), 2008 (3.20%), 2007 (2.84%), 2006 (2.37%), 2005 (2.32%), 2004 (1.75%), 2003 (0.92%), 2002 (1.07%). The data reveal that the bulk of the production is located in the last 3 years (2020-2022), with 36% of published works (graph 1).

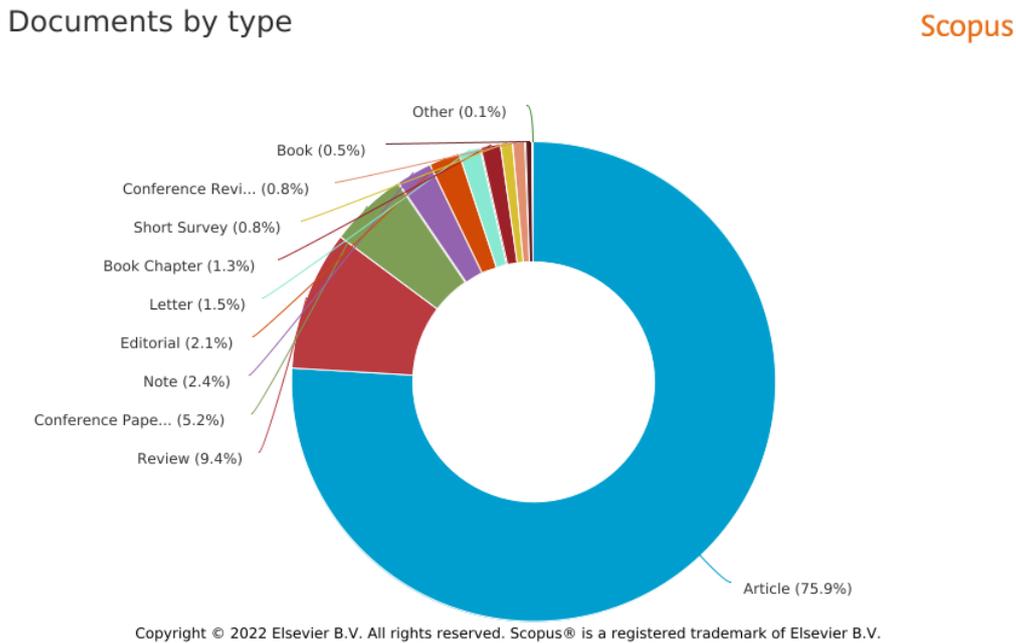
Graph 1 Documents per year on "Health emergencies in media context."



Source: based on Scopus.

Regarding the types of documents, the following were found: Articles (75.9%), Reviews (9.4%), Conferences (5.2%), Notes (2.4%), Editorials (2.1%), Letters (1.5%), Book Chapters (1.35%), Surveys (0.8%), Lecture Reviews (0.8%) and Books (0.5%). The fact that the highest percentage (90.5%) is concentrated in articles, reviews, and conferences, reveals the interest of the scientific community in reporting and socializing data on "Health emergencies in media context" (graph 2).

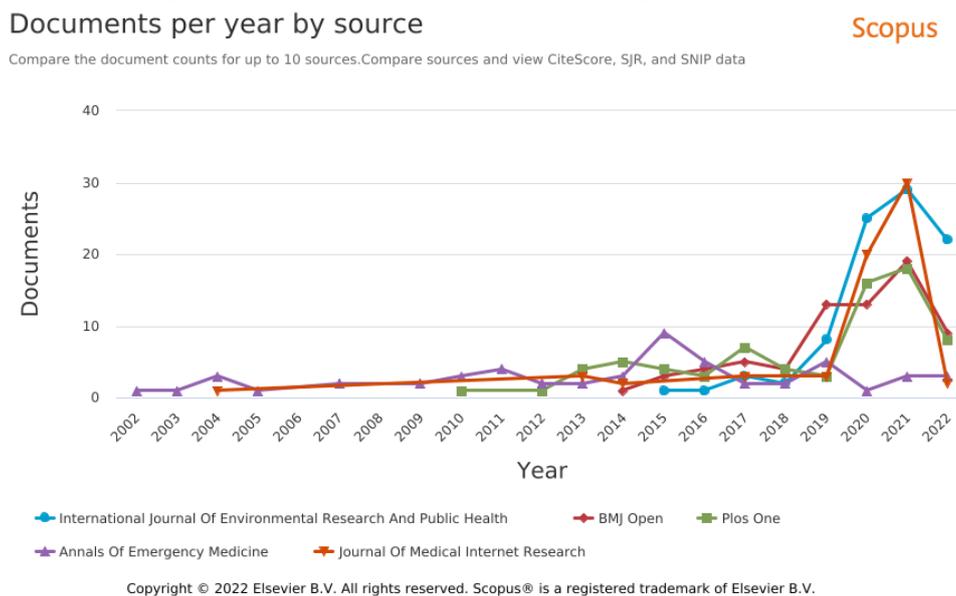
Graph 2 Types of documents on "Health emergencies in media context."



Source: based on Scopus.

In the period 2002-2022, the scientific production "Health emergencies in media context" has intensified as of 2018, with the highest peak observed in 2020. International Journal of Environmental Research and Public Health (graph 3) groups the highest number of papers (91), followed by Plos One (74), BMJ Open (71), Journal of Medical Internet Research (64), and Annals of Emergency Medicine with 54 papers.

Graph 3 Documents by year and by source on "Health emergencies in media context"



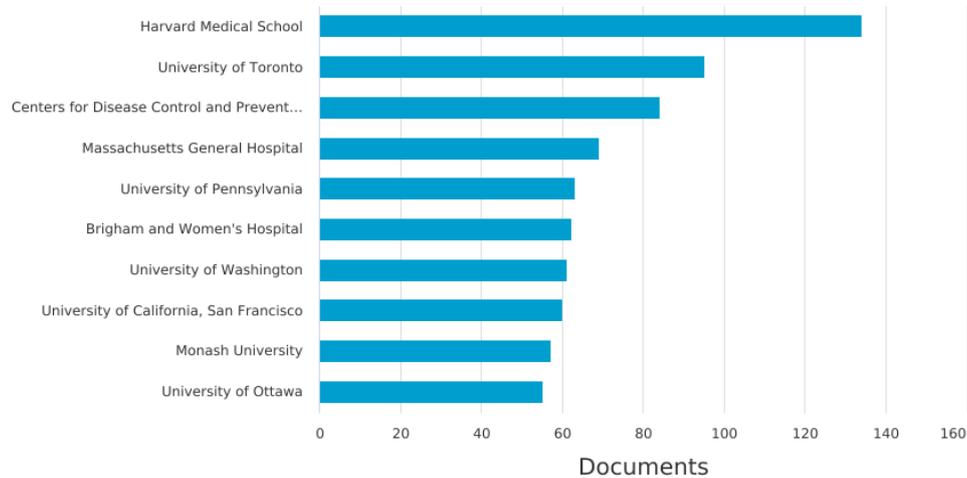
Source: based on Scopus.

Graph 4 Documents by institutional affiliation on "Health emergencies in media context"

Documents by affiliation

Scopus

Compare the document counts for up to 15 affiliations.



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Source: based on Scopus.

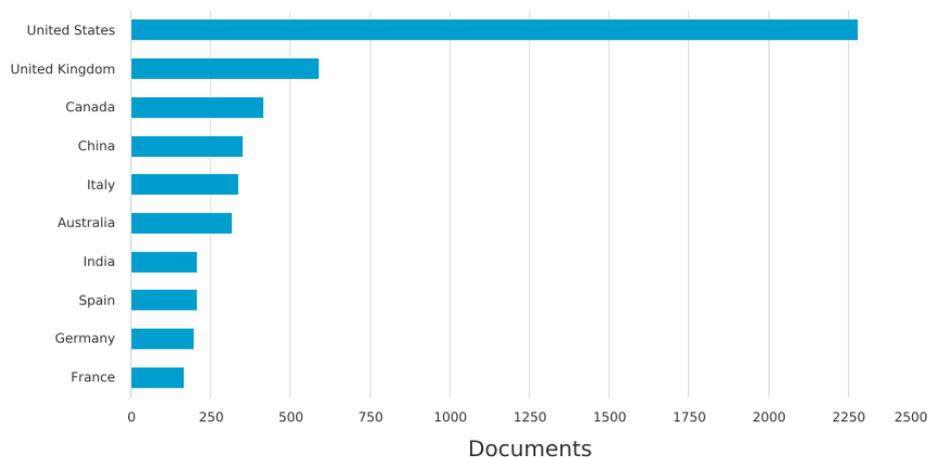
As for the countries with the greatest production on "Health emergencies in media context" (figure 5), it is not surprising that the United States heads the list with 2,279 documents, given the power and influence of its universities and institutions in the world. It is followed by the United Kingdom (588), Canada (414), China (349), Italy (333), Australia (314), India (206), Spain (205), Germany (194), and France (163).

Graph 5 Documents by country on "Health emergencies in media context"

Documents by country or territory

Scopus

Compare the document counts for up to 15 countries/territories.



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Source: based on Scopus.

The multidisciplinary or transdisciplinary nature of the "Health emergencies in media context" phenomenon is evident in the areas or disciplines that address its study (graph 6). The list is headed by Medicine (53%); followed by Social Sciences (8%), Computer Science (4.7%), Nursing (4.4%),

Source: based on Scopus.

In order to delve into the state of the art on the advances "Health emergencies in media context", the authors with the most citations are presented (table 2, graph 7). The most cited authors are Merchant, Elmer & Lurie (2011), and their research has a total of 264 citations; Thoma, Chan, Paterson, Milne, Kennethg, Sanders & Lin (2015) are the second most cited authors, with 50 citations. The research by Lecouturier, Rodgers, Murtagh, White, Ford & Thomson (2010), obtained 104 citations. The work of Eichstaedt, Smith, Merchant, Ungar, Crutchley, Preoțiu-Pietro, Asch & Schwartz (2018), obtained 195 citations. And the work of Bray, Stub, Ngu, Cartledge, Straney, Stewart, Keech, Patsamanis, Shaw & Finn (2015), obtained 42 citations.

Table 2 Most Cited Works

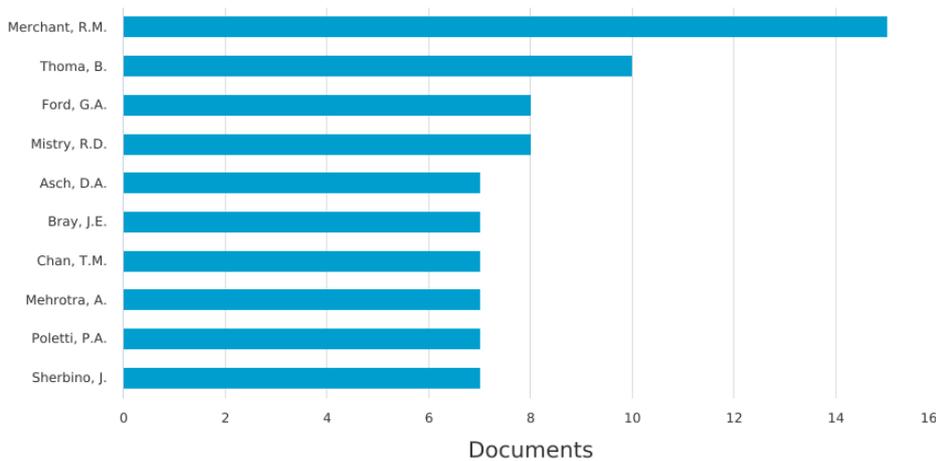
N°	References	Number of citations
1	Merchant, Raina M.a, b; Elmer, Stacy; Lurie, Nicole (2011). Integrating social media into emergency-preparedness efforts. <i>New England Journal of Medicine</i> Volume 365, Issue 4, Pages 289 - 291 28 July 2011. DOI 10.1056/NEJMp1103591	264
2	Thoma, Brenta; Chan, Teresa M.e, f; Paterson, Quinten S.d; Milne, W. Kennethg; Sanders, Jason L.b, e; & Lin, Michelle (2015). Emergency Medicine and Critical Care Blogs and Podcasts: Establishing an International Consensus on Quality. <i>Annals of Emergency Medicine Open Access</i> Volume 66, Issue 4, Pages 396 - 402. e41 October 2015. DOI 10.1016/j.annemergmed.2015.03.002	50
3	Lecouturier, Jana Send; Rodgers, Helen b; Murtagh, Madeleine; White, Martina; Ford, Gary; Thomson, Richard (2010). Systematic review of mass media interventions designed to improve public recognition of stroke symptoms, emergency response and early treatment. <i>BMC Public Health Open Access</i> Volume 10 2010 Article number 784. DOI: 10.1186/1471-2458-10-784	104
4	Eichstaedt, Johannes C.; Smith, Robert J.; Merchant, Raina M.; Ungar, Lyle H.; Crutchley, Patricia; Preoțiu-Pietro, Daniela; Asch, David A. & Schwartz, H. Andrew (2018). Facebook language predicts depression in medical records. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , Volume 115, Issue 44, Pages 11203 - 11208 30 October 2018. DOI: 10.1073/pnas.1802331115	195
5	Bray, Janet E.; Stub, Dion; Ngu, Philip; Cartledge, Susie; Straney, Lahn; Stewart, Michelle; Keech, Wendy; Patsamanis, Harry; Shaw, James & Finn, Judith (2015). Mass Media Campaigns' Influence on Prehospital Behavior for Acute Coronary Syndromes: An Evaluation of the Australian Heart Foundation's Warning Signs Campaign. <i>Journal of the American Heart Association</i> Volume 4, Issue 76 July 2015. DOI: 10.1161/JAHA.115.001927	42

Source: based on Scopus.

Graph 7 Documents on "Health emergencies in media context" by author
Documents by author

Scopus

Compare the document counts for up to 15 authors.



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Source: based on Scopus.

Discussion

Although media coverage of health emergencies has been taken as a starting point, this research has gone further, not only because relationships have been found between health issues and other platforms, such as social networks, but also because they have detected scientific evidence on the potential that the media can have to stop and even prevent diseases.

It was found that scientific production on health emergencies in the context of the media has evolved in the last ten years (2002-2022), with a peak observed in 2020. Most of the documents are articles, reviews, and conferences, which reveal the scientific community's interest in reporting and socializing data on "Health emergencies in media context".

In the period 2002-2022, the scientific production "Health emergencies in media context" has intensified as of 2018, with the highest peak observed in 2020. The International Journal of Environmental Research and Public Health groups the largest number of works. Regarding the institutions, Harvard Medical School is the one that has published the most works on "Health emergencies in media context", which coincides with the leadership of the United States in the matter.

The scientific approach to health emergencies in the context of the media demands multidisciplinary work, which is evident in the intervention of disciplines such as Medicine, social sciences, computer science, nursing, engineering, environmental sciences, health professions, biochemistry, genetics, and molecular biology, among others.

When the co-occurrence analysis of the authors' keywords was carried out, four clusters were evidenced in which the term human stands out with close relationships with the words emergency room, male, female, elderly, priority newspaper, cohort analysis, and hospitalization. The second cluster is headed by the keyword covid 19, closely related to the words social media, pandemic, coronavirus disease, public health, internet, Twitter, and government. The third cluster is headed by the keyword questionnaire, closely related to the words cross-sectional study, human, and covid 19. The fourth cluster is headed by the keyword mental health, closely related to the words anxiety and depression. Then we observe that, as it is a health emergency, the term covid 19 prevails, with a strong association with mental health problems such as anxiety and depression.

To delve into the state of the art on advances "Health emergencies in media context", the findings of the authors with the most citations were analyzed. The most cited authors are Merchant, Elmer

& Lurie (2011), and their work points out that despite the blocking of the Internet service, new social media such as "talk to tweet" (which allows to send short Twitter messages through a connection voice) were used to improve health and safety communication in the early days of the 2011 Egypt crisis.

Thoma, Chan, Paterson, Milne, Kennethg, Sanders & Lin (2015) are the second most cited authors; they were in charge of identifying the most important quality indicators for online educational resources, such as blogs and podcasts; highlight the relative importance of quality indicators for emergency medicine blogs and podcasts. This will be helpful to resource producers trying to improve their blogs or podcasts, and students, educators, and academic leaders evaluating their quality. These results will inform larger validation studies and attempts to develop user-friendly evaluation instruments for these resources.

In research by Lecouturier, Rodgers, Murtagh, White, Ford, & Thomson (2010), media interventions were implemented to improve the emergency response to stroke given the emergence of effective acute treatments. Ten studies (six aimed at the public, four both public and professional) published between 1992 and 2010 were included. Only three were controlled before and after studies, and only one reported how the intervention was delivered. Public-only campaigns reported a significant increase in awareness of symptoms/signs but little impact on awareness of the need for an emergency response. Of the two controlled before-and-after studies, one reported no impact on those over 65 years, the age group most at risk of stroke and most likely to witness a stroke, and the other found a significant increase in awareness of two or more warning signs. A campaign aimed at the public and professionals didn't reduce hospital presentation time to two hours but increased and maintained thrombolysis rates. This suggests that the campaign had a major impact on practitioners and improved the way stroke services were organized. Public-targeted campaigns can raise awareness of stroke symptoms/signs, but have a limited behavioral impact. Campaigns aimed at both the public and professionals can have more impact on professionals than on the public.

The work of Eichstaedt, Smith, Merchant, Ungar, Crutchley, Preotȃuc-Pietro, Asch & Schwartz (2018), indicates that depression, the most prevalent mental illness, is underdiagnosed and undertreated, which highlights the need to expand the scope of current detection methods. Language from Facebook posts from consenting people was used to predict depression recorded in electronic medical records. Significant prediction of future depression status was possible up to 3 months before its first documentation. We found that language predictors of depression include emotional (sadness), interpersonal (loneliness, hostility), and cognitive (self-preoccupation, rumination) processes. Discreet screening for depression via social media of consenting individuals may become feasible as a scalable adjunct to existing screening and monitoring procedures.

The work of Bray, Stub, Ngu, Cartledge, Straney, Stewart, Keech, Patsamanis, Shaw & Finn (2015), set out to examine the awareness of a media campaign and its influence on knowledge and prehospital times, in a cohort of patients with the acute coronary syndrome (ACS) admitted to an Australian hospital. The study showed reasonably high awareness of the warning signs campaign, which was significantly associated with shorter prehospital decision-making and faster hospital presentation.

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