



FREE COMMUNICATION

## EPIDEMIOLOGICAL INFORMATION ON COVID-19: INFLUENCE OF CYBERCULTURE ON POPULAR ENGAGEMENT TO CONTROL MEASURES

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### ABSTRACT

**Objective:** To analyze the communication of epidemiological information for the population's adherence to control measures, from the perspective of Pierre Levy and Littlejohn.

**Development:** Reflection contextualizes the influence of online information, social media, and television in the construction of the Brazilian cyberculture. The importance of detailed epidemiological information was analyzed for effective community engagement, including deficiencies in tracking contacts and expanding test coverage.

**Conclusion:** Mass communication contributes effectively to new collective intelligence in cyberspaces that characterize the Brazilian cyberculture. The more transparent the official information, the greater the adherence and support of the populations in controlling the pandemic.

**DESCRIPTORS:** Covid-19; Epidemiological Surveillance; Communication; Nursing; Public Health.

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## **INFORMAÇÕES EPIDEMIOLÓGICAS SOBRE A COVID-19: INFLUÊNCIA DA CIBERCULTURA NO ENGAJAMENTO POPULAR ÀS MEDIDAS DE CONTROLE**

### **RESUMO**

*Objetivo: analisar a comunicação de informações epidemiológicas para a adesão da população às medidas de controle, na perspectiva de Pierre Levy e Littlejohn.*

*Desenvolvimento: a reflexão contextualiza a influência das informações online, mídias sociais e televisão na construção da cibercultura brasileira. Foi analisada a importância de informações epidemiológicas detalhadas, incluindo deficiências no rastreamento de contatos e na expansão da cobertura dos testes, para o efetivo engajamento comunitário.*

*Conclusão: a comunicação em massa contribui efetivamente para nova inteligência coletiva em ciberespaços que caracterizam a cibercultura brasileira. Quanto mais transparentes forem as informações oficiais, maior adesão e apoio das populações no controle da pandemia.*

**DESCRITORES:** Covid-19; Vigilância Epidemiológica; Comunicação; Enfermagem; Saúde Pública.

## **INFORMACIONES EPIDEMIOLÓGICAS SOBRE COVID-19: INFLUENCIA DE LA CIBERCULTURA EN EL ACATAMIENTO DE LA POBLACION A LAS MEDIDAS DE CONTROL**

### **RESUMEN:**

*Objetivo: analizar la comunicación de las informaciones epidemiológicas para el acatamiento de la población a las medidas de control, desde la perspectiva de Pierre Levy y Littlejohn.*

*Desarrollo: la reflexión contextualiza la influencia que ejercen las informaciones en línea, en los medios sociales, y en la televisión en la construcción de la cibercultura brasileña. Se analizó la importancia de informaciones epidemiológicas detalladas, incluidas deficiencias en el rastreo de contactos y en la expansión de la cobertura de las pruebas, a fin de lograr un efectivo acatamiento comunitario.*

*Conclusión: la comunicación masiva contribuye de manera eficaz a desarrollar una nueva inteligencia colectiva en los ciberespacios que caracterizan a la cibercultura brasileña. Cuanto más transparente sea la información oficial, mayor será el acatamiento y el apoyo de las poblaciones en cuanto al control de la pandemia.*

**DESCRIPTORES:** Covid-19; Vigilancia Epidemiológica; Comunicación; Enfermería; Salud Pública.

## INTRODUCTION

Epidemics related to Severe Acute Respiratory Syndrome (SARS) have had a global focus since 2002. Covid-19, caused by the SARS-CoV-2 coronavirus, has currently been reliving socio-economic-cultural impacts experienced by the Spanish flu of 1918 and concerns about morbidity and mortality<sup>(1)</sup>. In January 2020, the World Health Organization (WHO) declared the Covid-19 outbreak as a Public Health Emergency of International Interest. At least 216 of the countries in the world have made efforts to control the pandemic<sup>(2)</sup>.

Effective epidemiological surveillance for the control of SARS-CoV-2 includes early detection, diagnosis, treatment, quarantine, and rigorous contact tracking to block exponential transmission of the virus<sup>(3-4)</sup>. More than 90 international research teams are being conducted in the development of vaccines, and at least six groups have already begun to inject formulations into volunteers at the level of safety trials<sup>(5-6)</sup>.

The WHO updates the recommendations to the general public based on scientific evidence. The main measures involve social distancing, and hand, face, and respiratory hygiene<sup>(2)</sup>.

Epidemiological surveillance in the age of mass and digital communication has faced challenges, especially in the communication processes, aiming at actions to control the pandemic in different countries<sup>(7-8)</sup>. The public messages resulting from mass communication and emitted through the media, represented in this study by television and printed material on one side and by the Internet, divided into general online and social media on the other, involve the collective intelligence of humanity, based on the globalization and interconnection of the space for an exponential number of receivers<sup>(7)</sup>.

The mechanism of action of Covid-19 has been known and updated in the daily professional practice of coping with the disease, generating plural opinions from specialists and preliminary scientific evidence. Considering the absence of a specific treatment and of an effective vaccine, interrupting transmission remains the best defense against the disease<sup>(2)</sup>.

In fact, the control of transmission speed comes up against the economic-structural conditions of each country, together with the management of public health systems, epidemiological measures, social and behavioral conditions, which impair a single approach<sup>(2)</sup>. Thus, the effective communication of reliable data is essential for the adherence to the social responsibility measures in the communities.

In Brazil, the complexity and reach of media communication has been worrying. A number of surveys reveal that the Brazilians (62%) are the people who most believe in fake news; are predisposed to participate in public WhatsApp groups with strangers, including political supporters; and 58% of the respondents usually share news they believe in<sup>(9-11)</sup>. This scenario is favorable to interference and to some behavioral manipulation, which certainly affect communication in times of pandemic.

This reflection aims to analyze the communication of diverse epidemiological information about the Covid-19 pandemic in Brazil, in order to favor the necessary bases for the population's adherence to the control measures.

## DEVELOPMENT

A reflexive approach was adopted to contextualize the influence of online information, social media, and television in the construction of the Brazilian cyberculture<sup>(9-11)</sup>. Epidemiological information that favors the community's understanding of the collective

measures to confront Covid-19 was highlighted. The analysis consists of conceptions about communication by Pierre Levy and Littlejohn<sup>(7-8)</sup>.

The digital information technologies in cyberspaces have surpassed mass communication on television and in print<sup>(7-8,10)</sup>. A comparative panorama of the cyberspace in Brazil between 2013 and 2019 showed that the search for information through online media remained stable (90%/87%); although it showed an ample growth from 47% to 64% through social media. Television declined slightly (75%/73%), while printed media reduced consumption by 50% in 2019<sup>(10)</sup>.

Thus, social media, online media, and television are the most responsible for the consumption of news/information in Brazil. The level of trust of the Brazilians in the news consumed in general is 48%. Of the news they read, their trust is 59% and, of those they research, 47%. However, in the news read on social media, trust decreases to 31%<sup>(9,10)</sup>.

The data presented may characterize the cyberculture of the Brazilian population in the various spheres of collective life, especially in conjunction with the 62% who believe in the news before verifying its veracity and the 58% who share it in the social media. This scenario is reflected in facing the Covid-19 health crisis in Brazil, in the midst of a pre-existing political and economic crisis<sup>(9)</sup>.

Among the Brazilians interviewed, 58% are concerned with omission of information/misinformation, as they refer that a mean Brazilian citizen would not identify fake news<sup>(10)</sup>. This concern increased by 11 percentage points between 2013 and 2019, due to the use of the social media in the 2018 presidential elections, especially by means of WhatsApp, which represents 53% of the news source and 84% of the general information source of the Brazilian interviewed<sup>(10)</sup>. This data can reflect the population's adherence to Covid-19's epidemiological control, due to the credibility of the competent authorities.

A search in the database of the Ministry of Health (*Ministério da Saúde, MS*) between January 29<sup>th</sup> and March 31<sup>st</sup>, 2020 identified 70 fake news items about Covid-19, 40 of which were related to speeches of health authorities, 17 to therapy, nine to measures of prevention, two related to the prognosis of the disease, and two about vaccination<sup>(12)</sup>.

Communication integrates numerous elements inserted in the processes of meaning, codification, thinking, information, and persuasion in societies<sup>(8)</sup>. All the contexts and processes of communication have been required to deal with the pandemic. However, the context of mass communication, especially the culture installed in the cyberspace, when fed by unreliable information, can generate an exponential and chaotic reach<sup>(4,7)</sup>, even comparable to the transmission process of Covid-19.

The confrontation of Covid-19 in Brazil has been turbulent among the political and health authorities, with constant divergences in official information, evidencing and even conditioning the population to resort to mass and digital media in the process of understanding, controlling, and monitoring events related to the pandemic.

The MS reports daily official data on confirmed, recovered, new, and death cases provided by the Brazilian Health Secretariats. The limitations of the information point to the diversity of Brazilian municipalities and to the scarcity of the gold standard test for Covid-19, RT-PCR (polymerase chain reaction) and related supplies<sup>(13)</sup>. Apparently, the focus of the epidemiological research occurs due to the hospitalizations and complications for SARS and severe respiratory diseases.

In fact, effective communication comes up against the capacity of the surveillance systems, which must be geographically comprehensive and include all people and communities at risk to break Covid-19's transmission chains. Contact tracking is a rigorous surveillance stage to identify, assess, and manage people who have been exposed to confirmed cases, requiring daily monitoring of contact for 14 days, starting from the last exposure point. Thus, it is essential to ensure teams of trained trackers and contact supervisors, logistic support for contact, and a management system for the collected data,

considering careful planning for effective community engagement above all<sup>(14)</sup>.

The recommended tracking of contacts makes it possible to evaluate the restriction measures and even to implement digital control solutions, such as Singapore, which availed TraceTogether and SafeEntry. The first identifies via Bluetooth a contact up to 2 meters apart between two users and supports trackers in the fast identification of contacts. SafeEntry is a national digital check-in system that records the entry and exit of individuals at a location. The system captures details using a QR code, which allows it to locate contacts close to infected cases, speeding up the tracking and preventing the formation of new clusters in that location. TraceTogether is installed on mobile phones and SafeEntry has been deployed in places with a higher risk of non-transitory contact, such as shopping malls and supermarkets, since April 2020<sup>(15)</sup>.

Another aspect that needs to be highlighted in this analysis is the discharge assessment of recovered Covid-19 cases, in which at least two negative test-results for Covid-19 are recommended with a minimum interval of 24h and, for mild cases, suspension of measures of isolation based on the following criteria: disappearance of fever in the absence of antipyretics, gradual improvement of clinical signs and symptoms, and negative results for molecular tests<sup>(16,17)</sup>. In Brazil, the recovered cases have been estimated by a composite calculation based on the official case and death records with confirmation for Covid-19<sup>(13)</sup>.

Any disturbance in the direction of the message in the source-channel-receiver process during the transmission of information generates interference<sup>(8)</sup>. Doubtful facts in the official Brazilian epidemiological information occurred on June 4th, 2020, when the layout of the Corona Virus Panel was temporarily interrupted and subsequently modified. This change did not succeed. The intention was to provide information on deaths only of the current day, with the claim that the cumulative information provided by the State Secretariats needed to be checked. These facts generate a barrier for effective communication in all the contexts and communication processes, from intrapersonal, interpersonal, groups, and mass media to the digital realm.

In a global analysis, Asian countries like Singapore offer accessible information on the number of new cases (including imported ones, in the community and in hospitals), tracking of contacts including the pending ones, fatalities, total hospital discharges, total daily discharges, and total confirmed and active cases. In order to avoid misrepresentation of the information, the MS daily clarifies any news with wrong content regarding the epidemic<sup>(15)</sup>. The Government has also ensured packages from the national reserves to combat the economic impact of the pandemic, aiming at maintaining jobs and companies, among others<sup>(18)</sup>.

Comparing data from May 20<sup>th</sup>, 2020 between Brazil and Singapore, in which the two tropical countries had a similar number of total cases, Singapore recorded 23 fatalities, while Brazil recorded 18,859<sup>(13,15)</sup>.

Brazil has an Internet penetration rate of up to 71% for mass and digital communication<sup>(10)</sup>. In times of fierce political polarization, the effects of reliable official communication would be especially valid for increasing community support and discernment. The enlightened society can demand measures from the competent authorities to support surveillance and health services, and still claim viable economic packages.

The cyberspace in the digital age prepares the sender who visualizes the information and reacts to it, often immediately, so that the stages of combining knowledge and skills can be disregarded, including in technical matters, generating attitudes that are sometimes hasty in face of information, resulting in the interaction of knowledge in a new social intelligence<sup>(7,19)</sup>. This mechanism happens whether by a reliable source or not.

The continental dimensions of Brazil and the differences among states, capitals, and municipalities require an analysis of the constitutional, climatic, environmental, structural, and infrastructural resources, as well as very diverse leaderships. It is in the engagement of the communities that the degree of collective sense of their people may emerge,

even independent of the degrees of education and of regional diversity. In this way, the official sources of reliable information favor the collective synergy needed in the current confrontation of a disease that does not negotiate with the omission of information, as long as there is an ample democratic cyberspace.

## CONCLUSION

Effective communication of epidemiological information about the Covid-19 pandemic in a polarized Brazil generates new collective intelligence in the cyberspaces, thus characterizing the Brazilian cyberculture. The entire population is susceptible to SARS-Cov2. Thus, the more transparent the official information is in details, the greater the population's adherence and support to the control conditions, and the greater awareness of the duties of the competent authorities and of the collective and individual rights for effective pandemic management.

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