Feature Article

The response of clinical medical librarians to the COVID-19 pandemic: a case study

Amanda Damasceno de Souza (a), Anna Carolina Leite Cota (b)
and Mariana Ribeiro Fernandes (c)
(a) Felicio Rocho Hospital, Belo Horizonte, Minas Gerais, Brazil
(b) Federal University of Minas Gerais (UFMG), Belo Horizonte, Minas Gerais, Brazil
(c) Unimed-BH, Belo Horizonte, Minas Gerais, Brazil

Abstract

The COVID-19 pandemic has changed the world with a large part of the population in lockdown for months. Given the need medical teams have for information, clinical medical librarians have played an important role in searching for the best scientific evidence. The objective of this paper is to describe the role of librarians in Brazil during the pandemic in public and private hospital libraries and in the Health Technology Assessment Service. This is a case study report of the work of clinical medical librarians during the COVID-19 pandemic. The paper is drawing on experience from three clinical medical librarians acting in the private hospital, philanthropic hospital and Health Technology Assessment Service in the city of Belo Horizonte, Minas Gerais, Brazil. The report describes the activities of clinical librarians in providing clinicians with information on how to care for patients with COVID-19. In Brazil clinical medical librarians play an important role in supporting medical teams by identifying reliable sources of information and assisting with research.

Key words: *librarians; libraries, hospital; library services; South America; coronavirus infections; pandemics.*

Introduction

The COVID-19 pandemic has changed the world and has infected millions of people (1). On February 26th 2020, Brazil reported the first case of COVID-19 in São Paulo. On March 19, 2020, the Ministry of Health recorded four deaths and 428 confirmed cases. Social isolation helped to slow down the spread of the virus and the collapse of the health system. However, since then, cases of coronavirus in Brazil have grown exponentially, affecting mainly cities like São Paulo, Rio de Janeiro and Manaus. In September 2020, Brazil recorded more than 3 million cases of COVID-19 (2). In Brazil, hospitals are categorized as philanthropic, public or private, and they may or may not be linked to the Unified Health System (SUS). Created in 1988, The Unified Health System (SUS) is one of the largest complexes of public health systems in the world, and provides universal and free access to health care for the entire Brazilian population. It appreciates health care related activities such as promotion and prevention (3). The SUS is managed by the Ministry of Health of Brazil, which has the responsibility to formulate, regulate, inspect, monitor, evaluate policies and actions related to health (3). According to Noronha *et al.* (4), Brazil had 8,139 hospital establishments and 490,397 beds which corresponds to approximately 2.3 beds per 1,000 inhabitants. National actions to face COVID-19 pandemics are covered by the Ministry of Health of Brazil.

In Brazil it has proved difficult to organize social isolation and the pandemic has proved to be catastrophic (5). Under these circumstances, the provision of health information is essential for infected patients and those making decisions about how to treat COVID-19.

In the southeastern region of Brazil, the introduction of isolation and the construction of field hospitals took place in early March, and both the rate of infection and death rates for COVID-19 were lower than in other Brazilian states. In Minas Gerais up until September 2020 there were 238,515 cases of the disease diagnosed, and 5,935 deaths reported (2). The capital Belo Horizonte has one of the best hospital structures in Brazil; up until the beginning of September 2020, about 35,983 cases of COVID-19 and 1,072 deaths from the disease were diagnosed (6-8).

This paper reflects the expertise of authors in their role as librarians in Brazil, located in Belo Horizonte, Minas Gerais, during the COVID-19 pandemic in the Health Sciences libraries of a public and a private hospital, and in strategic information services such as the Health Technology Assessment Service (HTA or ATS with its Brazilian Portuguese acronym).

Medical library services in Brazil during the COVID-19 pandemic

Although university, school, public and corporate libraries were closed during quarantine, health libraries remained open or continued their services remotely to assist in the fight against COVID-19 (9). Ali and Gatiti (10) maintained that "All librarians (public, specialist, academic and medical) have a responsibility to share evidence-based information about this pandemic". In Brazil as in other countries, the clinical medical librarian faces the challenge of continuing to advise medical teams in hospitals, both private and public, whilst keeping up to date with rapidly changing research findings. Decision makers need access to the best available scientific evidence. During the COVID-19 pandemic, the clinical medical librarian has the important role of searching databases, and other sources of health information, to locate evidence on treatment and how to cope with the disease.

Three key roles of clinical medical librarians in Brazil during the COVID-19 pandemic

The role of clinical medical librarians in medical libraries in private hospitals

Medical libraries ensure that the health team has access to published information that is reliable, relevant and up-to-date so as improve the quality of patient care (11). During the pandemic the remit of the library in private hospitals (to promote teaching, study and research) has been adapted to meet both the demands of the frontline clinical staff who are combating the disease as well as doctors who are in social isolation.

At the beginning of April, the medical library of the private hospital, operated in accordance with the recommendations of the World Health Organization (WHO), the Ministry of Health of Brazil and the International Federation of Library Associations (12). Library employees started to use masks during face-to-face encounters and the library started to be cleaned

daily so that it was safe for use by doctors working at the hospital on the front line of COVID-19 and other diseases. Physicians in social isolation were able to consult with staff remotely (online or by phone). Consequently, during this period, the demand for online service grew rapidly. The main services offered remotely by the library staff were:

a) bibliographic surveys of databases and health information sources (sent by e-mail);
b) renewal of institutional access to evidence-based medicine summaries (by telephone);
c) statistical assistance in the elaboration of a methodological design project, sample calculation and elaboration of a questionnaire for data collection (by videoconference);
d) extension of the loan term for books and online renewal (using the Virtual Library software);
e) a platform for holding clinical meetings (videoconference).

Regarding the return of books, the recommendations of the American Library Association (ALA) regarding the isolation of items were followed. Book covers, library surfaces, including tables, door handles, book holders and computers were cleaned by a specialized professional (13, 14).

Access to Evidence-Based Medicine summaries, which were previously carried out at any computer terminal in the hospital, started to be carried out by the library staff, by telephone or e-mail. The private hospital's medical library subscribed to a videoconference platform to support online clinical meetings and discussions of cases. The videoconferencing service was in great demand during the pandemic. Statistical assistance in the elaboration of a research project also started to be carried out by videoconferencing.

Bibliographic survey requests were made by filling out a form and sending it to the library via e-mail. The demand for database searches was one of the most sought-after services, since doctors in quarantine, or those who were not on the front line of COVID-19 due to the cancellation of elective surgeries, took advantage of this period of isolation to study.

The role of clinical medical librarians in medical libraries in philanthropic hospitals

In the medical library of a philanthropic hospital, the clinical medical librarian who works in a maternity hospital carried out a literature search to find scientific evidence about COVID-19 in pregnant women,

newborns and premature newborns. In addition, the librarian carried out a Selective Dissemination of Information (SDI) service on COVID-19 and participated in the updating of infection control protocols in the hospital, searching for evidence on best practices during the pandemic.

With social isolation and the need to avoid mass gatherings, courses and face-to-face events were suspended, and librarians identified organizations that were offering scientific events online. This highlights a new activity for the clinical medical librarian – to perform surveys and share details of the platforms that offer distance courses, webinars and podcasts that are offered by renowned professionals in the academic and scientific fields of health. It is worth noting that during the pandemic several institutions offered online training free of charge.

The role of clinical medical librarians in the Health Technology Assessment Service (HTA)

The Health Technology Assessment Service (HTA) is a multidisciplinary unit made up of different professionals, including the clinical medical librarian (15, 16). According to the World Health Organization (WHO), HTA is the systematic evaluation of the properties, effects and/or impacts of technology in health. Its main objective is to generate information for decision making, to encourage the adoption of cost-effective technologies and to prevent the adoption of technologies of questionable value to the health system (15).

In Brazil the HTA investigates new technologies, such as new medicines, medical materials, and surgical procedures, and helps to assess which treatments should be performed by the Unified Health System (SUS) National Supplementary Health Agency (ANS), Health Maintenance Organization (HMO) and by other healthcare providers. HTA employs several types of studies, each of which is used to answer a specific question relating to health care. Primary studies (ie original, or secondary studies) can be conducted to help reach a conclusion (15, 16).

Since the beginning of the pandemic HTA activity has kept abreast of all the studies related to COVID-19. Discussion groups were created, organised around 6 sub-themes: pharmacological treatment, social isolation, immunity, pathophysiology, prevention measures. These subjects were discussed weekly

drawing on published studies. The clinical medical librarian, member of HMO, created a virtual library of COVID-19 resources to disseminate, organize and index the articles analyzed in the HTA group. In addition, a survey of national and international health databases and institutional repositories was carried out to find of issues relevant to the pandemic. The search for institutional repositories grew substantially during the pandemic, as it identified studies carried out in the Brazilian context which have not yet been indexed. However, as these studies were not yet peer-reviewed, it was important to verify the authors' affiliated institution as a form of "pre-guarantee" for a reliable study.

During the discussion groups, critical analyses were carried out and statistical modeling was applied to the Brazilian situation, and since the beginning of the year, more than 500 articles have been indexed in the virtual library.

Resources for librarians and medical teams

Open access to health information is an essential resource during this pandemic. In Brazil important initiatives have been undertaken by information providers and institutions that research vaccines for infectious diseases. Three are worth noting: The Virtual Health Library (VHL) (17); SciELO - A Scientific Electronic Library Online (18); and The Oswaldo Cruz Foundation (Fiocruz) (19).

The Virtual Health Library (VHL)

The Virtual Health Library (VHL) was established in 1998 as an operating platform for technical cooperation of the Pan American Health Organization (PAHO) to manage health information and knowledge in the Latin America and Caribbean (LA&C) Region. It is maintained by BIREME (Biblioteca Regional de Medicina), a specialized PAHO center whose mission is to contribute to the development of health in Latin American and Caribbean countries by facilitating access, publishing and the deployment of information, knowledge and scientific evidence (17).

The VHL Regional Portal provides links to scientific and technical health information in Latin America and the Caribbean. It operates in three languages (English, Portuguese and Spanish). The collection of information sources consists of bibliographic databases such as Latin American and Caribbean Center on Health

Sciences Information (LILACS) (20), Medline, open educational resources, websites and scientific events, and other types of information sources (17). The VHL provides content on COVID-19 for each country in

Fig. 1. *Screenshot of VHL Portal: Home / Windows of Knowledge Coronavirus Disease (COVID-19).*

South America, Central America, the Caribbean, North America, and the Iberian Peninsula (*Figure 1*). Virtual Health Library Resources are:

1. Evidence map;
2. COVID-19 geographic spread;
3. Summary of reviews for potential therapeutics;
4. Research on the development of vaccines and therapies;
5. Summary of reviews for potential therapeutics;
6. COVID-19 & health topics;
7. Technology assessment reports;
8. COVID-19 factsheets;
9. Information for research;
10. Countries information;
11. Courses, videos, communication materials and infographics;
12. Ask a librarian.

SciELO - A Scientific Electronic Library Online

SciELO is an electronic library that prepares, stores, disseminates and evaluates scientific literature in electronic format (18). SciELO makes available a selected collection of Brazilian scientific journals. The library is part of a project being developed by FAPESP (Fundação de Amparo à Pesquisa do Estado de São Paulo), in partnership with BIREME. The Project is also supported by CNPq (Conselho Nacional de
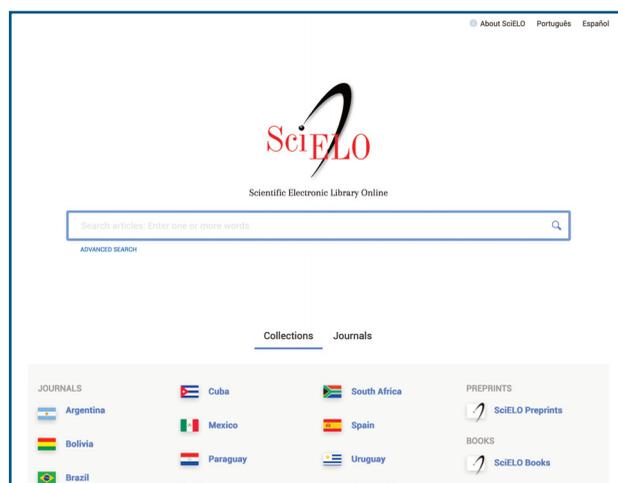
Desenvolvimento Científico e Tecnológico) (21). It is one of the main digital libraries in Latin America and houses a collection of journals in the area of health sciences (18) (*Figure 2*).

Fig. 2. *Screenshot of SciELO Portal*

The Oswaldo Cruz Foundation (Fiocruz)

The Oswaldo Cruz Foundation (Fiocruz), under the Ministry of Health, is the most prominent Latin American institution of science and technology in health. The guiding concepts of Fiocruz are to promote health and social development, generate and disseminate scientific and technological knowledge, and act as an agent of citizenship (19).

The Foundation runs research and technological development projects which generate knowledge for the control of diseases such as AIDS, malaria, Chagas' disease, tuberculosis, hanseniasis, rubella, meningitis and hepatitis, and other topics related to public health, including violence, climate change, and the history of science. Fiocruz is the main non-university institution providing training and qualifications in human resources for the SUS and for science and technology in Brazil. It also provides post-graduate programmes in several areas and a technical school (19).

The Foundation's main areas of research and teaching are: clinical research, development of prophylactic and therapeutic vaccines, diagnostic method development, environment, ecology and health, epidemiology, health assessments, health promotion, health surveillance, immunity and inflammation, infectious agent vector biology, parasitology and virology (19). On its website, information is available about research, tests,

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diagnostics, information sources, and populations vulnerable to COVID-19 (22). The Oswaldo Cruz Foundation (Fiocruz) is part of the WHO project "Solidarity clinical trial" to investigate the efficacy of drugs in the treatment of COVID-19 (22, 23) (*Figure 3*).

Fig. 3. *Screenshot of the Oswaldo Cruz Foundation (Fiocruz) Portal.*

Conclusions

To assist clinical staff during a pandemic, the clinical medical librarian's task is to gather information and share the main sources of information on coronavirus through The Virtual Health Library and the National Institutes of Health. In addition, librarians can respond to clinical staff's information needs whether in hospitals, private, public or through the Health Technology Assessment Service.

In the COVID-19 pandemic governments need to follow the WHO's recommendations, contribute to the development of vaccines, and develop political, economic and health actions to support the population. In Brazil, the COVID-19 pandemic is the most difficult health situation the country has ever faced. Given the growing number of cases and loss of life there is an urgent need for assertive decisions, aligning municipal, state and federal governments in facing the pandemic.

Relevant, high quality information in times of pandemic, is essential both to combat the disease and to develop strategies to alleviate the consequent economic crisis. In conclusion, clinical medical librarians in Brazil play an important role in supporting medical teams in facing the COVID-19 pandemic.

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