

Permanent education for healthcare professionals in the Covid-19 pandemic: a scope review protocol

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ABSTRACT

Purpose: to investigate, examine and synthesize evidence from studies on permanent education for health professionals aimed at the covid-19 pandemic.

Methods: six national and international indexed sources will be searched. The review will include studies with any methodological approach, addressing permanent education for health professionals during the covid-19 pandemic. The context of health services in any scenario will be considered – national or international primary, specialized, or hospital healthcare.

Final Considerations: research results are expected to reveal the topics approached in permanent health education in various national and international contexts. The review will also list the gains and problems found in various places while applying permanent education as a strategy to fight the covid-19 pandemic.

Keywords: Education, Continuing; Health Personnel; COVID-19

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INTRODUCTION

Covid-19 is a disease initially identified in China in 2019, reaching Europe in that year and then the other continents in 2020. When the World Health Organization (WHO) defined the disease spread as a pandemic, government agencies and nongovernmental organizations began making efforts to contain the worldwide health crisis¹⁻³.

In a few months, in 2020, the SARS-CoV-2 virus (or new coronavirus) had contaminated one million people in the world. China was still the epicenter of the pandemic, although the transmission and mortality rates were even higher in Europe and Asia, especially in countries like Italy and Japan^{1,2,4,5}.

The virus also came to Brazil, and on February 3, 2020, the Ministry of Health declared the human infection with the new coronavirus Public Health Emergency of National Concern (PHENC)⁶. As a result, the virus made 600,000 fatal victims in the country, with striking numbers in the Northeast Region⁷ – even though São Paulo was the state with the greatest concentration of patients hospitalized with severe acute respiratory syndrome⁸.

The coronavirus' capacity to quickly spread among humans is responsible for the widespread contamination. After the pathogen gets in contact with the human body, it affects the respiratory system in a few hours, and in 14 days the person may progress to typical clinical conditions, ranging from mild symptoms (similar to common influenza) to severe, difficult to handle pneumonia^{2,9,10}.

The recommended healthcare for contaminated individuals includes avoiding virus transmission, monitoring symptoms, conducting diagnostic examinations, and/or hospitalization. These measures vary according to the respiratory system impairment caused by the coronavirus⁹⁻¹¹. Many hospitalized patients need high-complexity care and advanced life support, often resulting in the patient's death in a short time¹¹. This reality increased the number of pandemic victims in Brazil.

Thus, the new coronavirus' high transmissibility soon led health systems worldwide to a state of alert, and many countries feared their health systems would collapse. Such uncertainties revealed a wide gap in the knowledge needed to fight the coronavirus^{2,4}.

Such gaps encompass the nature of the virus, its forms of transmission, the means of preventing contamination, and the cure to the disease and complications of influenza syndrome^{2,3,11}. These concerns

are being addressed simultaneously with the development of vaccines, known to be the most effective means of preventing viral pathogens. Previous studies demonstrate the effectiveness of vaccines against viral diseases like H1N1 influenza, poliomyelitis, varicella, rubella, and measles^{12,13}.

Amidst the worrying pandemic scenario, various initiatives were taken to fight the new coronavirus. Strategies included training health professionals (or health personnel) to fight covid-19 in any health context, including research, guidance to identify symptoms, information to the population on where to seek services, and middle and high-complexity clinical management^{2,3}. Meanwhile, health education actions were taken for professionals to carry out these activities, deemed essential to tackle the problem.

Hence, WHO and various international organizations strove to develop public policies to halt the virus spread^{2,3}. Brazil likewise followed guidelines and recommendations to instruct health professionals¹⁴. New public policies were created, and other previously established ones were reapplied with essential elements to cope with the pandemic.

The National Permanent Health Education Policy was created in 2018 and implemented based on permanent health education (PHE) actions in municipal, state, and federal public and private services. PHE aims to improve access to services, their quality, and humanization, and strengthen administration processes in the Unified Health System (SUS)¹⁵.

PHE is recognized as an important strategy for qualifying health professionals to address the new virus and its complications¹⁶⁻¹⁸. It investigates the needs that result from the work process and then provides workers with educational initiatives encompassing healthcare, health system administrations, social participation/control in everyday work, and learning to promote changes in various contexts¹⁵.

Hence, the proposal is to conduct a scope review – i.e., a literature review investigating a certain field of knowledge¹⁹ –, based on the following review question: “What do scientific publications approach regarding permanent education for health professionals aimed at the covid-19 pandemic?”. The Open Science Framework (OSF), International Prospective Register of Systematic Reviews (PROSPERO), Joanna Briggs Institute (JBI), and PubMed were preliminarily searched in English to verify whether conducting a scope review was feasible.

It verified that no study so far had been found with the same or a similar objective. Seven studies each were identified in OSF and PROSPERO, but none of them addressed the topic. In JBI, no study was identified, whereas in PubMed 155 studies were found – 72 were excluded by the title, 25 by the abstract, and 56 answered the review question.

As an example, a study conducted in India aimed to assess the effects of the ECHO telemonitoring model to train 540 physicians and nurses. It found that health professionals had strengthened their knowledge and skills with the training. Results point to a 96% increase in knowledge and a 98% applicability of what they learned¹⁷.

In another research, conducted in the United States of America, a webinar continuing education program reached 2,901 participants between 2020 and 2021, addressing gaps in knowledge about covid-19. The study reports low initial knowledge of disease transmission, diagnosis, and treatment but highlights the importance of the program to increase the health professionals' confidence to identify high-risk patients and advise them regarding prevention and virus transmission¹⁸.

The review question in this protocol was developed based on the PCC mnemonic, as follows: (P) Participants; (C) Concept; and (C) Context. Participants will be health professionals (or health personnel) – i.e., people whose training is centered on health. The Ministry of Health exemplifies health professionals as physicians, nurses, licensed practical nurses, nurse assistants, nutritionists, physical therapists, psychologists, occupational therapists, and so forth²⁰.

Concepts will comprise definitions and terminologies related to PHE and the covid-9 pandemic. PHE is defined as a set of strategic political actions with pedagogical teaching strategies to intervene in problems identified by health workers in their work setting¹⁵. The covid-19 pandemic refers to a disease that quickly became a public health issue that affected the whole world with the dissemination of the pathogen named the new coronavirus. It causes a syndrome in the human organism characterized by the onset of influenza signs and symptoms that can manifest as mild, moderate, or severe, possibly causing death¹.

No exclusion criteria have yet been defined for PCC. The study will analyze both national and international contexts and include studies developed in various scenarios of the healthcare network (primary, specialized, and hospital healthcare). Other questions

were raised, namely: Which areas of health discuss PHE for health professionals aimed at the covid-19 pandemic? What are the existing gaps in studies that used PHE for health professionals aimed at the covid-19 pandemic? What are the characteristics of PHE for health professionals aimed at the covid-19 pandemic? What challenges and benefits have been pointed out in PHE for health professionals aimed at the covid-19 pandemic?

The general objective of this study was to investigate, examine and synthesize evidence from studies on PHE for health professionals aimed at the covid-19 pandemic. The specific objectives were to 1) identify the areas of health that discuss PHE for health professionals aimed at the covid-19 pandemic; 2) identify gaps in studies that used PHE for health professionals aimed at the covid-19 pandemic; 3) describe the characteristics of PHE for health professionals aimed at the covid-19 pandemic; 4) identify challenges and benefits pointed out in PHE for health professionals aimed at the covid-19 pandemic.

METHODS

The purpose of this protocol is to conduct a scope review. This method was chosen because it synthesizes evidence and maps the literature comprehensively, addressing a certain field of interest. Hence, scope reviews examine the extent and nature of productions and/or clarify concepts that underlie a certain area¹⁹.

Protocols are commonly used to construct and develop scope reviews, following JBI recommendations¹⁹. These indicate the following stages for the process: (1) developing the protocol and registering it in OSF: <https://doi.org/10.17605/OSF.IO/P82BQ>; (2) consulting other collaborators interested in the research topic; (3) defining and aligning the review objectives and questions; (4) developing inclusion/exclusion criteria, according to the review objectives and questions; (5) describing the search for and selection of evidence; (6) searching evidence in three stages; (7) selecting studies in three stages (title, abstract, and full text); (8) extracting evidence; and (9) mapping evidence to answer the objectives and questions.

The indexed sources, as recommended by JBI¹⁹, will be searched in September and October 2023. The data sources will comprise scientific texts either published or not in indexed sources, with no restriction on time or language, as recommended¹⁹.

The review will include any type of scientific material, including review articles, reflective articles, research with various methodological approaches,

abstracts, syntheses, and so on. Duplicate articles will be excluded; only one will be considered. Data will be collected from the indexed sources indicated in Chart 1.

Chart 1. Indexed sources to be searched in the proposed scope review. Salvador, Bahia, Brazil, 2022

SOURCE	NAME
Database	PubMed/MEDLINE
Database	Scientific Electronic Library Online (SciELO)
Database	Latin American and Caribbean Health Sciences Literature (LILACS)
Database	Scopus
Database	Web of Science
Database	Thesis and Dissertation Repository

Source: the authors.

Search strategies will be developed with descriptors whose terms were consulted in the Health Sciences

Descriptors (DeCS) and Medical Subject Headings (MeSH), as shown in Chart 2.

Chart 2. Controlled descriptors according to the Health Sciences Descriptors (DeCS) and Medical Subject Headings (MeSH). Salvador, Bahia, Brazil, 2021

CONTROLLED DESCRIPTORS			
	PORTUGUESE (DeCS)	ENGLISH (MeSH)	SPANISH (DeCS)
#1	Educação Continuada	Education, Continuing	Educación Continua
#2	Pessoal da Saúde	Health Personnel	Personal de Salud
#3	Covid-19	Covid-19	Covid-19

Source: DeCS and MeSH, 2022.

Moreover, synonyms of controlled descriptors, also known as alternative terms, will be included in the search strategy. They were chosen because they

correspond to concepts found in DeCS, as shown in Chart 3.

Chart 3. Concepts of descriptors used according to the Health Sciences Descriptors (DeCS). Salvador, Bahia, Brazil, 2022

	CONCEPT IN DeCS
#1	<p>Scope note: Educational programs aimed to inform individuals about recent advances in their specific field of interest. They do not lead to any advanced conventional position.</p> <p>Indexation note: Formal or informal courses to advance or update knowledge: not to be confused with POSTGRADUATE EDUCATION: formal preparation and specialized training or advanced studies to obtain an official certificate or degree; it includes updating courses.</p>
#2	<p>Scope note: People who work in the area of health: not to be confused with HEALTH WORKFORCE, which is the availability of HEALTH PERSONNEL.</p> <p>Indexation note: Individuals whose work is to provide health services as individual physicians or employees of institutions and health programs, either trained or untrained health professionals, subject or not to public regulation.</p>
#3	<p>Scope note: A viral disorder usually characterized by high FEVER, COUGHING, DYSPNEA, CHILLS, PERSISTENT TREMOR, MUSCLE PAIN, HEADACHE, SORE THROAT, a new loss of taste and/or smell (see AGEUSIA and ANOSMIA), and other symptoms of VIRAL PNEUMONIA. Severe cases present a variety of symptoms associated with coagulopathies, often correlated with the severity of COVID-19 (for instance, BLOOD COAGULATION, THROMBOSIS, ACUTE RESPIRATORY DISTRESS SYNDROME, CONVULSIONS, HEART ATTACK, STROKE, multiple CEREBRAL INFARCTIONS, KIDNEY FAILURE, ANTIPHOSPHOLIPID ANTIBODY SYNDROME and/or DISSEMINATED INTRAVASCULAR COAGULATION). In younger patients, rare inflammatory syndromes are sometimes associated with COVID-19 (for instance, atypical KAWASAKI DISEASE, TOXIC SHOCK SYNDROME, multisystem inflammatory syndrome in children, and CYTOKINE RELEASE SYNDROME). The causal agent is a coronavirus, SARS-CoV-2, of the BETACORONAVIRUS genus.</p>

Source: DeCS, 2022

Hence, the search will use “Continuing Education”, “Health Personnel”, and “Covid-19” with the Boolean operators AND and OR, also including alternative terms in English, Portuguese, and Spanish, adequately applied to the search strategies.

The basic search strategy for data collection will be adapted to each database and applied as exemplified in Chart 4.

Chart 4. A demonstration of the complete search strategy applied to the PubMed database. Salvador, Bahia, Brazil, 2022

PUBMED/MEDLINE
<p style="text-align: center;">Search: (Education, Continuing) AND (Health Personnel) AND (COVID-19) Sort by: Most Recent</p> <p>(“education, continuing”[MeSH Terms] OR (“education”[All Fields] AND “continuing”[All Fields]) OR “continuing education”[All Fields] OR (“education”[All Fields] AND “continuing”[All Fields]) OR “education continuing”[All Fields]) AND (“health personnel”[MeSH Terms] OR (“health”[All Fields] AND “personnel”[All Fields]) OR “health personnel”[All Fields]) AND (“covid 19”[All Fields] OR “covid 19”[MeSH Terms] OR “covid 19 vaccines”[All Fields] OR “covid 19 vaccines”[MeSH Terms] OR “covid 19 serotherapy”[All Fields] OR “covid 19 serotherapy”[Supplementary Concept] OR “covid 19 nucleic acid testing”[All Fields] OR “covid 19 nucleic acid testing”[MeSH Terms] OR “covid 19 serological testing”[All Fields] OR “covid 19 serological testing”[MeSH Terms] OR “covid 19 testing”[All Fields] OR “covid 19 testing”[MeSH Terms] OR “sars cov 2”[All Fields] OR “sars cov 2”[MeSH Terms] OR “severe acute respiratory syndrome coronavirus 2”[All Fields] OR “ncov”[All Fields] OR “2019 ncov”[All Fields] OR (“coronavirus”[MeSH Terms] OR “coronavirus”[All Fields] OR “cov”[All Fields]) AND 2019/11/01:3000/12/31[Date - Publication]))</p> <p>Translations</p> <p>Education, Continuing: “education, continuing”[MeSH Terms] OR (“education”[All Fields] AND “continuing”[All Fields]) OR “continuing education”[All Fields] OR (“education”[All Fields] AND “continuing”[All Fields]) OR “education, continuing”[All Fields]</p> <p>Health Personnel: “health personnel”[MeSH Terms] OR (“health”[All Fields] AND “personnel”[All Fields]) OR “health personnel”[All Fields]</p> <p>COVID-19: (“COVID-19” OR “COVID-19”[MeSH Terms] OR “COVID-19 Vaccines” OR “COVID-19 Vaccines”[MeSH Terms] OR “COVID-19 serotherapy” OR “COVID-19 serotherapy”[Supplementary Concept] OR “COVID-19 Nucleic Acid Testing” OR “COVID-19 nucleic acid testing”[MeSH Terms] OR “COVID-19 Serological Testing” OR “COVID-19 serological testing”[MeSH Terms] OR “COVID-19 Testing” OR “COVID-19 testing”[MeSH Terms] OR “SARS-CoV-2” OR “sars-cov-2”[MeSH Terms] OR “Severe Acute Respiratory Syndrome Coronavirus 2” OR “NCOV” OR “2019 NCOV” OR “SARS-CoV-2 variants”[Supplementary Concept]) (“coronavirus”[MeSH Terms] OR “coronavirus” OR “COV”) AND 2019/11/01[PDAT] : 3000/12/31[PDAT]))</p>

Source: the authors.

Two independent authors will select studies based on the inclusion criteria and individually read their titles, abstracts, and full texts, in this order. They will use the Rayyan software, which identifies and excludes duplicates, remaining only one of them. According to JBI¹⁹, authors will not assess the methodological quality of the studies because it is not one of their purposes.

The following data will be extracted: the title; year of publication; authors' field of work/research; the country where the research was carried out or, in the case of other types of text, from which the main author is; research context (primary, specialized, hospital healthcare), keywords/descriptors.

The review will also map the research methodology, study type, objective, and the PHE concept approached in each study. In the case of field research, the following data will be extracted regarding study participants: number of participants; their characteristics (area of health, age, sex, race/color, religion, educational attainment, family income). Author-reported results, gaps, and limitations of the studies, and suggestions/recommendations for further studies will also be collected.

Extracted data will be gathered and analyzed in NVivo software, version 12. They will be afterward presented in percentages, images (mental maps, word clouds, and so on), diagrams, and charts to answer the review question. They will be accompanied by a synthesis that will describe how they answer the scope review objectives and questions. Results will be discussed with updated national and international literature.

Since it will be a literature review, this research is exempted from the Research Ethics Committee's appraisal. Nevertheless, the texts used in it will be cited, ensuring the copyright of those responsible for publishing the study results. The researcher also assures that the information will be published in texts that faithfully represent the original content, thus complying with research ethics and minimizing the risk of plagiarism.

DISCUSSION

The results will be discussed based on current Brazilian public policies that provide healthcare to the population on the three complexity levels at SUS.

Furthermore, international recommendations by the Pan American Health Organization and WHO will be compared with the findings to consolidate the discussion of results.

This paper is relevant for presenting a scientific publication gathering PHE actions conducted during the covid-19 pandemic, considering the importance of PHE to promote the population's health. It may also identify flaws in approaching health topics on all assistance levels.

Lastly, the study has the potential to point out the need for administrators, professionals, and users of services to promote PHE and communicate about health in a pandemic situation. Moreover, this study may be a future source of information for other conditions whose proportion and impact on public health may become as serious as those of covid-19.

FINAL CONSIDERATIONS

The results of this research are expected to reveal topics approached in PHE in various national and international contexts. The review will also list gains and problems identified in various places while applying PHE as a strategy to address the covid-19 pandemic.

Thus, the study is relevant as it will identify PHE during the covid-19 pandemic, as well as its challenges, advances, and important results to develop essential strategies to empower health professionals and, consequently, protect the population. It will also point out gaps in studies addressing both PHE and the covid-19 pandemic.

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MMC: research conceptualization, formal analysis, original draft writing, resources, methodology, project administration, review, and editing;

NPG: formal analysis, original draft writing, methodology, review, and editing;

KSC, LJF: formal analysis, resources, review, and editing;

IARS: formal analysis, resources, methodology, review, and editing;

JFC: research conceptualization, formal analysis, original draft writing, resources, supervision, review, and editing;

MCO: formal analysis, methodology, supervision, review, and editing;

CLC: formal analysis, resources, supervision, review, and editing.