Review Article

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Continuing education tools in times of Covid-19 pandemic

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Abstract
Introduction: Continuing health education encompasses various training courses aimed at enhancing team capabilities and improving work quality, including ongoing educational initiatives focused on patient care and worker health prevention. **Objective:** This study aimed to identify the strategies employed during the COVID-19 pandemic to implement continuing health education actions. **Method:** An integrative literature review was conducted, utilizing online platforms such as Scielo, Lilacs, and Medline. **Results:** The COVID-19 pandemic brought about significant changes in healthcare delivery dynamics, necessitating the expansion of care in a planned and organized manner. The literature review revealed the adoption of various continuing education strategies, such as leveraging virtual environments for multidisciplinary team training, implementing daily training sessions on hand hygiene at designated locations, developing booklets and informative videos about COVID-19, and emphasizing the proper use and effectiveness of personal protective equipment (PPE) among healthcare professionals. **Considerations**: The COVID-19 pandemic presented significant challenges and the need for adapting to new demands. Therefore, continuing education has become essential, with the utilization of technological and interactive tools being among the most widely employed approaches.
Keywords: continuing education; healthcare professional; technologies

Introduction

Continuing Health Education (CHE) is an integral part of various professional trainings aiming to strengthen healthcare teams and enhance their actions, thus generating higher work quality. It represents the convergence of health and

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education, forming the quadrangle of education that integrates teaching, care, management, and social control[1].

The CHE policy has historically been recognized as a potential driver of change and consolidation within the healthcare delivery model, as its objective is to guide workers in incorporating processes aligned with the principles and guidelines of the Unified Health System (SUS)[2].

The training of healthcare professionals should equip them with diverse and appropriate knowledge about the health-disease process, incorporating skills that enable them to interact with families and identify their needs[3].

Focusing on the daily demands in the work environment, healthcare professionals are constantly seeking improvements in their practices and problem-solving, aiming for high-quality care and striving to bridge any existing gaps in their profession. CHE, embedded within the Ministry of Health through Ordinance No. 198/2004 and No. 1.996/2007, aims to guide the education and qualification of professionals working in public health services, with the intention of transforming professional practices and the organization of work based on the system's needs and difficulties.[4]

Since the outbreak of a disease in China caused by the novel coronavirus strain known as SARS-CoV-2, resulting in COVID-19, there has been alarming concern about the exponential increase in demand for medical-hospital services. In a short period of time, COVID-19 evolved from an outbreak to a pandemic on March 11, 2020. This fact led to changes in the organization of care within SUS, and its overwhelmed workforce faced a new scenario and the need to provide healthcare services in emergency, urgency, and intensive care settings due to the complications caused by COVID-19[5].

Thus, the development of CHE actions during the COVID-19 pandemic aims to establish and strengthen the attributes of Primary Health Care (PHC). In this context, CHE seeks to articulate the integration of education, service, and community, meaning that it should involve the community in its directions. Therefore, it is of utmost importance for PHC to organize and direct care for asymptomatic patients, respiratory symptomatic patients, and confirmed COVID-19 cases; hence, the training of professionals to meet this demand is of extreme relevance[6].

In PHC, it was necessary to reorganize work processes, reducing the number of services offered and recommending the reduction of face-to-face consultations to avoid overcrowding and increase the risk of exposure to the novel virus. In the long run, this led to the reconfiguration of access barriers or further exacerbation of pre-existing health conditions before the pandemic[7].

A study conducted by Sarti et al.[8] showed that approximately 80% of COVID-19 cases are mild, and a significant number of individuals seek primary care as their first point of access for assistance. Due to its high level of decentralization and proximity to people's lives, PHC serves as the preferred entry point for users and acts as the communication hub for the Healthcare Network.

Therefore, this study aims to highlight the strategies used during the COVID-19 pandemic to implement continuing health education actions, as well as their limitations.

Materials and Methods

For the development of this study, an integrative literature review was conducted, consulting online platforms such as Scielo, Lilacs, and Medline, using the scoping review methodology. This type of review method aims to obtain

comprehensive results by mapping the literature on a specific topic [9,10].

The research design involved six steps: 1) identifying the research question; 2) identifying relevant studies; 3) selecting the studies; 4) extracting the data; 5) summarizing and reporting the results; 6) presenting the results for validation of the investigation. A total of 58 articles were found, including 6 in the LILACS platform, 32 in MEDLINE, and 20 in Scielo. After reading the titles and abstracts, articles that did not meet the study objective (30 articles), were duplicated across multiple platforms (6 articles), or did not allow free access (2 articles) were excluded. As a result, 20 articles were included in the present integrative literature review.

Results

The COVID-19 pandemic brought about changes in the dynamics of healthcare provision, requiring the planned and organized expansion of care. In response to these new demands, CHE actions became more complex, focusing on training for this new health context and changing previously established objectives[11].

In this context, in order to manage care and the healthcare team effectively, it is necessary to build extensive theoretical and practical knowledge to ensure the training of team members. How can one share knowledge that has not been constructed? The need for easily accessible CHE actions becomes evident[12].

To synthesize the data found through the literature search, a synthesis table (Table 1) was constructed. It was observed that during the pandemic, various methodologies were used to carry out CHE actions. In general, activities used digital media as a means of disseminating information due to the need for social distancing, transitioning from in-person to online modes.

Table 1: Summary and presentation of the results found through the integrative literature review.

AUTHORS	TITLE	TYPE OF STUDY	CONCLUSION
BIZZARO, J.C.M.S (2022)	Just In Time Education: Educational Technology Proposal for Continuing Health Education of Workers.	Qualitative, exploratory research.	The just-in-time active methodology can support the processes of Continuing Health Education by allowing quick and accurate access to a range of reliable, situation-appropriate, and up-to-date information, positively contributing to a qualified and resolutive work process. It provides consistent and meaningful coping strategies.
BRANCO, A.O., TAVARES, M. M. C, (2020).	Analysis of the implementation process of the service for attending patients with COVID-19. .	Experience report.	It is important to use Work Processes and Continuing Health Education as tools to guide the care of COVID-19 patients.
FERREIRA, C.H.P et al., (2020).	Strategies adopted in the face of COVID-19: Professional experience report.	Descriptive research.	Given the pandemic, the relevance of maintaining continuous technical-scientific updating is

AUTHORS	TITLE	TYPE OF STUDY	CONCLUSION
			emphasized.
GEREMIA, S. D et al., (2020).	200 Years of Florence and the challenges of nursing practice management in the COVID-19 pandemic.	Qualitative research.	The pandemic situation has elevated nursing to a position of practical and scientific prominence due to proactivity and leadership capabilities.
GONÇALVES, S.O. et al., (2020).	Continuing health education program and professional praxis: possibilities and challenges.	Descriptive qualitative research.	The study identified the knowledge of managers and professionals in Primary Care regarding the National Continuing Health Education Program (NCHEP) and Continuing Health Education (CHE).
JUNIOR, A.M. F et al., (2021)	covid-19 in healthcare professionals, experiences and perspectives: an experience report.	Experience report.	A large portion of professionals were exposed to various occupational risks, especially occupational stress, which modified their work routine and even interpersonal relationships outside of hospitals.
MARTINS, A.B et al., (2020).	Multiprofessional care for patients undergoing covid-19 treatment and the minimization of family distancing in an emergency care service in Manaus, Amazonas. .	Experience report.	The measures taken were of great importance in mitigating the impacts of family distancing for patients and in addressing the disease.
MIRANDA et al., (2021)	Integration of continuing education and humanization in health during the covid-19 pandemic: an experience report.	Experience report.	Continuing education can be a powerful tool in the Unified Health System (SUS) for rebuilding health practices, reflecting on the work process, as well as providing moments of relaxation, humanization, listening, and bonding in a participatory, integrative, and revitalizing way.
MOTTA, D. L et al., (2020).	covid-19 evidence for all: development of a learning object for health education.	Experience report.	This resource allows for quick access to the best scientific recommendations.

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NETO, J.B.S.B et al., (2020)	Building educational technologies as a form of health education for the prevention of Covid-19: an experience report.	Experience report.	The developed virtual educational technologies are of utmost importance for combating the Covid-19 pandemic.
NEVEZ, V.N.S, (2021)	Utilization of Live streams as a tool for health education during the Covid-19 pandemic.	Qualitative research.	Live streams are important tools for implementing continuing health education, especially in a pandemic context. However, they exclude users from the public health system who are in greater social vulnerability and do not have access to mobile technology connected to the Internet.
OLIVEIRA, F. F; HONORATO, K. A (2021)	Ludic and educational activity for hand hygiene in times of pandemic: an experience report.	Experience report.	Continuing education is crucial to encourage and perform proper techniques, especially those related to barriers of exposure to the virus.
PIMENTÃO, R. A, et al., (2021)	Clinical simulation for coping with COVID-19: complementary training for nurses. .	Experience report.	Clinical simulation facilitated the development of critical thinking, communication between professionals and patients, and technical and affective skills.
RIOS, M. F. A et al., (2020)	Primary healthcare facing COVID-19 in a healthcare center.	Experience report.	Nursing professionals play a leading role in primary healthcare, from planning to execution and evaluation of implemented actions.
SANTOS, R.L.N et al., (2021)	The potential of Continuing Education in the prevention of COVID-19 infection among healthcare professionals: an experience report.	Experience report.	Believing in the importance of ongoing education is realizing that it is possible to educate in a humanized way.

AUTHORS	TITLE	TYPE OF STUDY	CONCLUSION
SERRAVALLE, L. M. K et al., (2021).	Incorporation of digital technologies in support strategies for RENAST-BA during the COVID-19 pandemic.	Experience report.	It reorganized work processes by replacing face-to-face activities with the use of digital tools to avoid gatherings.
SILVA, G. P. C et al., (2020)	Educational activities for the proper use of personal protective equipment in a federal reference hospital.	Descriptive research.	These activities allowed the institution to care for its employees, nurses, and multidisciplinary team.
SILVA, J.F et al. (2020).	Continuing education in health within the context of a Family Health Unit in the municipality of Rio de Janeiro, Brazil.	Qualitative research.	Although there are guiding policies for Continuing Education in Health, the effectiveness of its potential for generating knowledge in the practice of professionals working in Family Health remains incipient.
ZINGRA, K.N et al., (2020)	Continuing education for healthcare professionals as a strategy to combat the COVID-19 pandemic in the northern region: an experience report.	Experience report.	This process can be a facilitator to improve care strategies and harmoniously integrate frontline teams in the fight against COVID-19.

Among the mentioned methodologies, the Just Time Education method was utilized, employing an online content library as a quick question-answering resource. Additionally, activities such as the development of Standard Operating Procedures (SOPs) for the proper use of personal protective equipment (PPE), realistic simulations of PPE donning and doffing, as well as hand hygiene, virtual discussions, live sessions, the creation of an interactive website for professionals and users, the production of a booklet on COVID-19 and hygiene protocols with dissemination on social media platforms like *Facebook*, *Instagram*, and *WhatsApp*, web training, and web lectures through platforms like Telehealth and Tems were identified.

In face-to-face settings, small groups were organized for actions such as clinical simulations for COVID-19 response and demonstration tents for proper hand hygiene, among others.

Discussion

Coronaviruses belong to a large viral family and have been known for 60 years as the causative agents of respiratory infections in humans and animals. In December 2019, a new coronavirus was identified as the cause of flu-like symptoms

and severe lung complications: COVID-19[13].

COVID-19 has a higher potential for dissemination compared to other viruses of the same species. It has been reported that each person affected by COVID-19 can infect up to two to three others. As a result, the sustained spread of the virus to two or more continents led to the declaration of COVID-19 as a pandemic, which prompted changes in the dynamics of healthcare demand and provision[14].

In this scenario, the planned and organized expansion of care, considering factors such as resources, healthcare professionals, space, and effective communication, became necessary as a strategy to combat the crisis. Therefore, the development of training became an important pillar, involving various actors and enabling the application of interprofessional education, the exchange of knowledge among groups from different areas, promoting collaboration, and improving health outcomes[16].

Given the apprehension about training the multidisciplinary team, some healthcare institutions implemented actions for continuing education, aiming to prevent professionals from getting infected. These actions included conducting training on the preventive measures adopted during the COVID-19 pandemic, aiming to strengthen and empower professionals[17].

Some authors argue that health education should be encouraged by institutions through the adoption of appropriate training tools, incentives for updates, and courses to keep workers updated and prepared for various situations[18].

During a period when travel and in-person meetings were restricted to avoid gatherings and protect workers from exposure to the novel coronavirus, support that previously took place in person, through meetings and discussions in the community, needed to adopt a new online format to ensure social distancing[19].

In this context, the use of virtual environments and digital information and communication technologies emerged as a challenge and an alternative for the operationalization of support and the teaching-learning process during and after the pandemic. In the era of the information society, audiovisual communication establishes new connections between face-to-face and virtual settings, aiming for excellence in the teaching and learning process[19].

The development of booklets and informative videos, along with health education through educational technology, is an effective and valuable tool in alarming situations like the one we are facing[20].

In the situation of the COVID-19 pandemic, as well as considering other infectious diseases, the implementation of occupational contamination prevention and control measures is extremely relevant in healthcare services, especially for the individual protection of professionals who may get infected[21].

As part of the chain of actions to protect workers, minimizing prolonged contact with infected patients is a fundamental method of workplace safety. However, in the case of COVID-19, the effectiveness of personal protective equipment (PPE) is related to the provision of equipment with sufficient protection against SARS-CoV-2 and proper and consistent training of the workforce for its correct use[22].

Education on the topic of COVID-19 is essential for both healthcare professionals and the general population, especially in a time where controlling the spread of the virus is necessary. Health education strategies are methods that should be used to inform and influence individual and collective decisions, promoting preventive measures. The accelerated process of knowledge updates regarding

COVID-19 requires frontline professionals to continuously update their knowledge to provide comprehensive and safe care to patients and society as a whole[23].

A study by Ferreira et al.[24], shows that the implementation of a daily hand hygiene training station at a predefined location and fixed schedule provides an opportunity for practice under the guidance and careful observation of the responsible facilitators during a specific shift or department.

According to the study by Santos et al.[25], during a pandemic, the execution of training sessions strengthened Continuing Education within healthcare institutions, making it more visible to all areas and not just the nursing field. There was a demand for training from other areas, which previously occurred only on an occasional basis.

Implementing a Continuing Education Program brings benefits to the healthcare team by promoting discussion among the workgroup. Therefore, it is important to highlight that the structure of a program enabling team training requires the awakening of professionals and, most importantly, management support. This empowers the team and allows for better quality of care[25].

Based on the above, it is understood that Continuing Education in Health Services promotes reflection on phenomena and their context, problematizing health education practices to make them meaningful. The authors consider Continuing Education actions as the foundation of the user's care process. Only through the training of updated, skilled, empowered, and valued professionals can a comprehensive and effective healthcare system be created and strengthened.

It is important to encourage Continuing Education within institutions by adopting appropriate training tools, incentivizing updates and courses, thereby keeping workers updated and prepared for various situations.

Furthermore, the training actions developed during the pandemic, along with their dissemination methods and methodologies, should remain active regardless of the epidemiological or health period, emphasizing the need for continuous and strengthened education.

Conclusion

The Covid-19 pandemic has brought significant challenges to the healthcare scenario in terms of capacity to respond to new demands without compromising the resolution of existing diseases. Thus, continuing education has become more important than ever, with the goal of training and equipping healthcare professionals.

It became necessary to use new tools for their implementation, as the initial uncertainties caused by the new virus, COVID-19, imposed social distancing and isolation.

The need for social distancing and isolation due to the uncertainties caused by the new virus, Covid-19, led to the suspension of in-person continuing education activities. This necessitated the use of technological strategies to maintain the process of continuing education. The study allowed for a better understanding and reflection on the implementation of continuing education practices in healthcare municipalities in the context of Covid-19.

Technological and interactive tools in education align with the contemporary educational language, aiming to meet the current social behavior of professionals who use Remote Education as an alternative to enhance their professional skills while maintaining the quality of the teaching and learning process. This enables them to be equipped to address the challenges posed by Covid-19 and other educational demands proposed by continuing education in healthcare, without compromising the final outcome, which is patient care

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