REVIEW

Innovations in the practice of Brazilian community health nursing during the pandemic: a rapid review

Inovação na prática da Enfermagem em saúde comunitária brasileira durante a pandemia: uma revisão rápida

Innovación en la práctica de la enfermería en salud comunitaria brasileña durante la pandemia: una revisión rápida

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Abstract

Objective: to describe the innovations introduced in Brazilian community health nursing during the COVID-19 pandemic. **Method:** rapid literature review with a conceptual framework of innovation in organizations and ideas underlying the method of appreciative inquiry. The databases were limited to Google Scholar (English) and SciELO (Portuguese) (November–December 2022). A total of 52 articles were identified in Portuguese, 11 of which met the eligibility criteria. **Results:** the majority (n=10; 91%) addressed the "discovery" factor, highlighting the favorable conditions for innovation. Contents about "imagining what could be" (n=6; 55%) projected innovation as a permanent practice. In relation to "co-constructing the ideal condition" 55% (n=6), innovation was reported as a joint action and in practice. Regarding the "sustainability of innovation," only five interventions (45%) indicated paths for continuity. **Conclusions and implication to the practice:** the connection between primary health care, academia, and organizations produced simple solutions to unknown, complex, and unpredictable situations. However, the idea of innovation as something unprecedented, untested, and structurally revolutionary, was not extensively identified by this rapid review, due to the conceptual and theoretical fragility of the interventions and projects reported.

Keywords: Primary Health Care; Brazil; Nursing; Diffusion of Innovation; Pandemic.

Resumo

Objetivo: descrever as inovações introduzidas na Enfermagem em saúde comunitária brasileira durante a pandemia da COVID-19. **Método:** revisão rápida de literatura com marco conceitual da inovação nas organizações e ideias subjacentes à investigação apreciativa. As bases de dados limitaram-se ao Google Scholar (Inglês) e SciELO (Português) (Novembro a Dezembro de 2022). Foram identificados 52 artigos em Português, sendo que 11 responderam aos critérios de elegibilidade. **Resultados:** a maioria (n=10; 91%) abordou o fator "descoberta", destacando as condições favoráveis à inovação. Sobre "imaginar o que poderia ser" (n=6; 55%) projetaram a inovação como uma prática permanente. Em relação ao "co-construir a condição ideal" 55% (n=6), reportaram inovação como ação conjunta e na prática. Em relação à "sustentação da inovação", apenas cinco intervenções (45%) indicaram caminhos para a continuidade. **Conclusões e implicações para a prática:** a conexão entre atenção primária à saúde, academia, e organizações produziu soluções simples para situações desconhecidas, complexas e imprevisíveis. Entretanto a ideia de inovação como algo sem precedente, outrora não testada e estruturalmente revolucionária, não foi identificada extensivamente por esta revisão rápida, em razão da fragilidade conceitual e teórica das intervenções e dos projetos reportados.

Palavras-chave: Atenção Primária à Saúde; Brasil; Enfermagem; Difusão da Inovação; Pandemia.

Resumen

Objetivo: describir las innovaciones introducidas en Enfermería en salud comunitaria brasileña durante la pandemia de COVID-19. **Método:** revisión rápida de literatura con marco conceptual de la innovación en las organizaciones e ideas subyacentes a la investigación apreciativa Las bases de datos se limitaron a Google Scholar (Inglés) y SciELO (Portugués) (Noviembre a Diciembre de 2022) Se identificaron 52 artículos en Portugués, de los cuales 11 cumplieron con los criterios de elegibilidad. Resultados: la mayoría (n=6; 91%) abordó el factor descubrimiento, destacando las condiciones favorables a la innovación. Sobre "imaginar lo que podría ser" (n=6; 55%) proyectaron la innovación como una práctica permanente En relación al "co-construir la condición ideal" 55% (n=6), se reportó la innovación como acción conjunta y en la práctica. En relación a la "sustentación de la innovación", solo 5 intervenciones (45%) indicaron caminos para la continuidad. **Conclusión e implicaciones para la práctica:** la conexión entre atención primaria de salud, academia y organizaciones produjo soluciones simples para situaciones desconocidas, complejas e imprevisibles. Sin embargo, la idea de innovación como algo sin precedentes, no probado y estructuralmente revolucionario, no fue identificada extensivamente por esta revisión rápida, debido a la fragilidad conceptual y teórica de las intervenciones y proyectos reportados.

Palabras clave: Atención Primaria de Salud; Brasil; Enfermería; Difusión de la Innovación; Pandemia.

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INTRODUCTION

Globally, the practice of community health nursing is configured to expand professional awareness to recognize and incorporate the particularities of the social determinants of population health to promote equity in health.[1] Special attention is focused on nurse' efforts in low- and middle-income countries to change the landscape of the reduced number of professionals and compromised quality of professional skills, undervaluation of the profession, and insufficient leadership.[2]

Unquestionably, the pandemic required inventiveness to identify and solve problems, and in doing so also revealed the importance of innovation aimed at raising the profile of community health literacy, especially scientific and vaccine literacy. Recent challenges to achieving the Sustainable Development Goals[3] – particularly those related to health,[4] which associate health literacy[5] as a social determinant of health – were crucially important in primary health care (PHC) during the COVID-19 pandemic, in which knowledge and safe decision-making meant protecting and saving lives.

In this context, the complexity of health communication is also recognized, as well as the need for more effective approaches to helping health professionals overcome linguistic, sociopolitical, economic, and cultural barriers, under time constraints to act effectively.[5] It is also recommended that professionals consider health literacy from a socio-ecological perspective,[6] which encompasses broader human experiences and the impacts resulting from them, as well as each person's ability to act all of life's various contexts and environments, whether study, work or leisure.[7]

The global experience of the COVID-19 pandemic reinforced arguments that the provision of assistance through multidimensional actions to address health literacy issues can be referred to as a "social vaccine." Such a vaccine would help strengthen health systems by updating people's health knowledge, critical judgment, decision-making in matters of personal health management, and appropriate action in response to concrete health needs.[8] Among the various actions proposed,[8] it is recommended that health literacy actions be extended to all areas of civil society and that professionals present easily accessible, understandable, and applicable health information free of barriers and limits. In addition, health messaging must be relevant to individuals and social groups, sensitive and responsive to their peculiarities and languages, and preferences,[8] considering the enormous circulation of false information today.

During the COVID-19 pandemic health educators and promoters, including nurses, faced large amounts of false and biased information and viewpoints both in their physical workspaces and digital environments (referred to by the WHO as an "infodemic").[9] Such false information reached enormous proportions due to the prominence of social media and other digital platforms.[10] The dissemination of false information (e.g., related to conspiracies, political influence, religious practices, etc.)[11] challenged health systems' capacities to deal with the rapid spread of such misinformation, interfering with the effective work of community health literacy.

International researchers have been studying the health contexts in several countries whose performance managing the pandemic was admittedly questionable. Among them Brazil, whose incidence (36,824,580 cases) and mortality (697,074 deaths) statistics place it as the second most affected by the infection globally.[12] Beyond Brazil, the scientific, social, and epidemiological relevance of the binomial "health literacy/COVID-19" during the pandemic has been extensively documented in the international literature.[13,14] Among several issues, coronavirus literacy was correlated with trust in and use of health information sources (health professionals being the most commonly cited reliable sources, although less used), with television and internet being the most commonly cited.[15] Populations' trust or lack thereof in their health systems was linked to their relative willingness or hesitancy to get vaccinated, a relationship mediated by health literacy, which extends to literacy in vaccine matters.[16]

In Brazil, internet searches of "coronavirus" reached its peak in the second week of the pandemic, declared by the government declined two weeks later and, in early April 2020, continued to decrease before searches gradually ceased.[10] Another study analyzing the circulation of false information on social media networks in Brazil[17] identified that in 2021 alone, a total of 10,285 news items (from both the official press and social media consumers) influenced popular understandings of themes such as: domestic recipes for the preparation of alcohol gel, contaminated masks, coffins without bodies, vaccines causing deaths and physical damage, and so on. To counterbalance such misinformation, Brazilian consumers (with a university education) of a particular social communication platform actively reacted to clarify them.[18]

Questions arise about what effective strategies Brazilian nurses may have found that innovated the practice of health promotion during the pandemic. With the support of educational practices in community health during the health crisis, and grounded in a scientific curiosity, these health professionals adapted, created, developed, innovated, and implemented services and supports to provide Brazilians with answers to the challenges of self-care, self-protection and self-management during this challenging time. To contextualize the responses of Brazilian nurses in this context, seven skills for multiprofessional practice that supports health literacy in Brazil have been identified for the fields of Physical Education, Nursing, Physical Therapy, Speech Therapy, Medicine, Nutrition, Dentistry and Psychology.[19] These skills include: (a) responding to clientele's social support needs; (b) an educational attitude that make the clientele co-responsible for their own educational process; (c) an ability and willingness to adapt internationally adopted health literacy practices; and (d) an ability to apply or use strategies based on the theoretical foundations of health literacy.[19] Thus, this rapid literature review[20,21] offers a synthesis of knowledge, which is itself a stage in knowledge production reflecting the initial phase

of the knowledge translation process,[22] as well as seeks to characterize the state of knowledge among Brazilian nurses about this phenomenon of interest.

Conceptually, this review defines innovation as the implementation of technologically new products and/or mechanisms in relation to those commonly available and the achievement of significant technological improvements in products and processes.[23] The introduction of innovation in organizations involves four fundamental areas: (a) conditions - environment open to change, availability of financial resources, organizational policy, educational level of employees, and social factors that may promote, impede, or discourage innovation; (b) scientific and engineering basis – intellectual context of the process, knowledge acquired by scientific research and development of new technologies and skills necessary to foster and support innovation; (c) transfer factors – human, social, and cultural characteristics that determine the organizational ability to adopt innovation, the social context and the ease of dissemination of information among individuals able to acquire knowledge of the scientific and engineering basis to propel the organization towards innovation; and (d) information dynamics - organizational capacity to proactively identify and seize technological and skill-improvement opportunities to create and/or improve a product or process.[24]

This review was also based on principles underlying the design of appreciative inquiry, which brings together methodological principles of action research, organizational learning, and organizational change.[25] This perspective emphasizes the collective vision and action to generate knowledge or ideas within social systems as well as to promote the use of knowledge and dialogue to achieve congruence between values and practices. This can be understood as a cycle of Discovery, Dream, Project Design, and Destiny.[26] Discovery refers to appreciating the best ideas; the dream, imagining what could be; the design of the project, - construct with other stakeholders the ideal conditions; and destiny, sustaining life and recognizing the importance of empowering, learning, or improvising. Such theoretical-methodological assumptions present a synthesis of knowledge reflecting potential and strength, "maintaining a multitude of potential benefits for individuals, communities, and macrosystems to build resilience and promote growth during and after COVID-19."[27:100038]

The Patient, Exposure, Outcome (PEO) framework[28] helped formulate the qualitative question to ensure that its scope was adequately defined and provided details about the purpose of the review:[29] How did Brazilian community health nursing innovate in their professional practice during the COVID-19 pandemic? The objective of this review is thus to identify and describe the innovations introduced in Brazilian community health nursing during the pandemic due to organizational conditions open to innovation and its transfer, incorporation of new knowledge and execution skills, as well as the optimization of opportunities.

METHOD

Design: Rapid reviews are a type of synthesis in which the steps of the systematic review are simplified or accelerated to produce evidence in a shorter period of time.[20] In our case, we seek to formulate an answer focusing on the clinical question and not on providing an analysis of methodological gaps or weaknesses in published studies. The rapid review provides empirical evidence to public managers, helping them to plan and strengthen health policies and systems. In addition, it supports decision-making by these professionals regarding time-sensitive issues related to coverage, quality, efficiency, and equity in health systems.[20,21] The choice of this method was based on our aim to answer a specific research question under time and resource constraints, with few articles available on this specific health issue, and which required a quick and effective response from health services.

Search strategy: Due to difficulties identifying key articles and/or national references directly produced by Brazilian nursing regarding the COVID-19 pandemic, our search was limited to Google Scholar (English) and SciELO (Portuguese). The search took place from November to December 2022 using keywords and search terms and not restricted to generic "Boolean" search descriptors. In Portuguese "e" was used, while "and" was used in English with the combination of the following words and terms: innovation and COVID-19 and primary health care; innovation and COVID-19 and Community Health Nursing and Brazil; innovation and COVID-19 and Public Health Nursing and Brazil; innovation and COVID-19 and changes in the practice of health promotion and Brazil; innovation and COVID-19 and pandemic and Brazil; innovation and COVID-19 and community health and Brazil; innovation and COVID-19 and public health and Brazil.

Inclusion and exclusion criteria: The PEO framework served as a starting point for our list of selection criteria.[29] In the pre-selection, the following inclusion criteria were considered: (a) scientific articles of various designs, including experience reports, empirical research, theoretical-reflective studies, pilot studies, multiple and mixed methods studies, and literature reviews of articles solely by Brazilian authors; (b) publications focused on both the clientele and nursing professionals; (c) publications related to the practice of community health nursing; (d) published in Portuguese or English; (e) in Brazilian and international journals; and (f) published in the period 2021–2022. The exclusion criteria were: (a) articles published in 2020 (period of non-implementation of preventive measures in Brazil on a large scale); (b) literature reviews containing international articles focused on other countries than Brazil; (c) studies conducted with non-Brazilian sampling; (d) literature reviews containing non-scientific literature; (e) abstracts without presentation of the full text; and (f) protocols, supplements, abstracts and texts of papers presented at conferences whose double-blind peer review could not be verified.

Two reviewers collaborated in the sequential extraction of data through: (a) data extraction and evaluation of article quality by the first reviewer (the second author); (b) verification

of the quality of the data by the second reviewer; (c) discussion about the relevance of identified articles among the reviewers guided by the conceptual framework; and, (d) verification, by the second reviewer, of data extracted from a sample of 5% of the articles. The justification for not using a guide for rapid reviews is that it is still under development, according to the portal of the EQUATOR Network (Enhancing the Quality and Transparency of Health Research), and also to the inadequacy of the vast majority of the selected articles not being scientific studies.

Analysis: Analysis of the articles was guided by our conceptual frameworks according to eight areas (see Chart 1), and was inspired by the procedures of thematic analysis, following the following steps: (a) reading to verify and confirm the presence of pertinent conceptual elements; (b) narrative description of the elements, factors, and structure underlying organizational innovation; (c) search for evidence of the incorporation, contextualization, and occurrence of innovation; and, (d) qualitative assessment of the characterization of the reported innovation.

RESULTS

The Figure 1 presents the flow for search and selection of articles

In compliance with the above-mentioned inclusion criteria, no article published solely in English was identified. The synthesis that follows is presented in the form of a descriptive narrative,[20,21] highlighting trends and gaps in the evidence extracted from the included articles, according to the two dimensions of the conceptual framework: (a) areas for the introduction of innovation in organizations, and (b) innovative, collaborative practices with the potential to be incorporated at the organizational level, highlighting an appreciation of each specific situation. Among the selected articles are eight experience reports and three research reports that emphasize information on the conditions, scientific basis, transfer factors, and innovation dynamics.

The results are described according to the conceptual dimensions; therefore, they were not organized into analytical-thematic contents. The majority (n=10) (91%) addressed the "discovery" factor, highlighting the favorable conditions and the scientific basis for innovation. Regarding the "dream" factor – imagining what could be – (n=8) 72% of the articles describe innovations that could be a possible permanent practice. Regarding the "design of the project," which is to co-construct the ideal condition, (n=6) 55% reported innovation as an action built together in practice. Regarding the "destiny" referring to the longer-term sustenance of innovation, only four projects (36%) indicated paths for continuity. Chart 1 provides a content review matrix showing how each of our selected articles performed considering our conceptual framework for understanding innovations in the context of community health nursing in Brazil. The following paragraphs describe the findings regarding innovation factors, trends in innovation, as well as less identified factors that require greater attention (Chart 1).

Organizational conditions for innovation: Among the favorable conditions for proposing and employing innovation are social factors and an organizational environment and culture open to change. The COVID-19 pandemic led to considerable changes to the operationalization of Brazil's Unified Health System (SUS), which required health care providers to find new strategies and tools to comply with its guidelines and principles.[22] The objective of mitigating mass community transmission[30-38] of the virus required adjustments to support long-term virtual and remote (non-face-to-face) services in PHC[30,33,36-38] as reported in the state of Bahia (free translation):

Chart 1. Matrix for review of conceptual review for understanding innovation.

Reference number	Conditions	Engineering and scientific basis	Transfer factors	Information dynamics	Discovery	Dream	Project design	Destiny
30	x	x	x	-	x	-	-	-
31	x	-	x	-	x	-	-	-
32	x	x	x	x	x	x	-	
33	x	x	x	x	x	x	x	-
34	x	x	x	-	x	x	x	-
35	x	x	-	-	x	x	x	x
36	x	x	x	-	-	x	x	x
37	x	x	x	-	x	x	x	x
38	x	x	x	-	x	x	-	-
39	-	x	-	-	x	-	-	-
40	x	x	x	x	x	x	x	x

Source: The authors
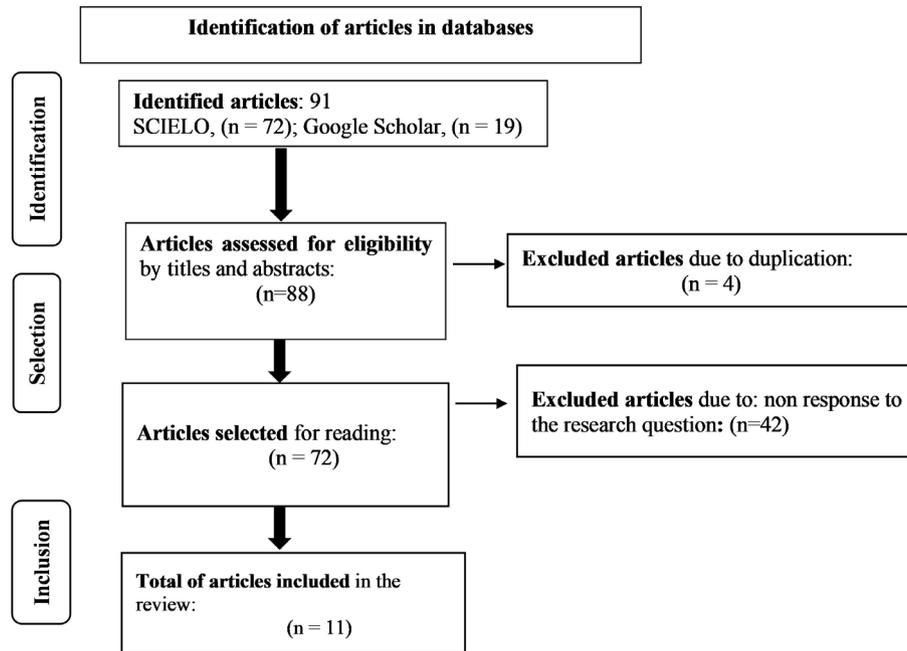
Figure 1. Flowchart for search and selection of articles.

This UFH [unit of family health] did not use any method of telehealth care for clients […]. [36:3]

Challenges such as these meant that to promote essential conditions for innovation, in addition to the nursing team, the participation of non-governmental organizations (NGOs),[32] health departments,[32] the integration of teaching-learning,[34,35] nurses in residency programs[33] and frontline professionals, such as educators, social workers,[31] physiotherapists, physical educators,[37] computer technicians,[34] and management of health units was essential.[37]

Scientific and Engineering basis for innovation: The scientific basis for the implemented innovation was mentioned by 90% of the articles, mainly proposals by the Brazil Ministry of Health. The Active Ageing Policy Framework and the Baseline Report for the Decade of Healthy Ageing, both proposed by the World Health Organization (WHO) served as the basis for the creation of an online manual and a virtual platform with supports for maintaining the functional capacity of the elderly.[34] The University of Brasilia and the State University of Santa Cruz (adicionar referencia 35 aqui) jointly used the approach of Integrative community therapy, which is regulated by the Ministry of Health, as the basis for the creation of a virtual platform for teachers and students in the management of fear and anguish. In addition, a nursing teleconsultation (NTC) form was created for use by undergraduate nursing students, which followed the guidelines of the Brazilian Telehealth Project launched by the Ministry of Health, in accordance with the recent regulation of NTC by the Federal Council of Nursing.[38]

The WHO initiative "Safe care for all is in your hands," was endorsed by Brazil's National Health Surveillance Agency, who supported a project that looked at the effect of luminosity and properties of the ultraviolet spectrum and its potential, composed the scientific basis of the project testing the effectiveness for hand hygiene.[39] In Rio de Janeiro, an innovation was made in a teaching laboratory with NTC protocol with teacher-student collaboration in a university outreach project, as explained below (free translation):

> […] elaborated based on scientific evidence, manuals, technical standards and clinical guidelines of the Ministry of Health, Brazilian scientific associations and international agencies specialized in health [...] ethical-legal aspects of the professional practice of nurses [...].[40:800]

In addition, again in the state of Rio de Janeiro, nurses in residency programs used the decision-making tree methodology to create infographics used in NTC with puerperal women, and the Google Forms platform for assessing psychological well-being and reproductive planning.[37] In the state of Bahia, a project to create telemonitoring spreadsheets for professionals applied principles related to the management of health organizations proposed by Chiavenato, and include responsibilities, forms of communication, and decision-making.[37] The engineering theme of innovation refers fundamentally to a re-structuring of the practice through virtual platforms and tools, such as surveillance spreadsheets, smartphones,[32,34] text messaging applications, and voice calls.[33]

In the state of Pernambuco, mapping the epidemiological situation in the catchment area aimed to identify priority demands

and detect the most vulnerable clients, using cross-referencing data from Google Earth, geomaps[33] and global positioning system programs. The organization of information in digital spreadsheets stimulated a new approach and continuous usage by the team.[36] In the state of Bahia, an action plan was created to support continuity of care in the catchment area in the atypical context brought about by the restrictive measures.[30] In a nursing consulting room, which functioned as a teaching laboratory for students, instruments for the systematization of nursing care were adapted and combined with emerging Information and Communication Technologies to carry out remote nursing consultations.[40] In the state of Paraná, elderly individuals were taught to use internet resources, such as virtual manuals accessible using Instagram, WhatsApp, or Facebook.[34]

To foster the development of new professional skills necessary for the implementation innovation towards more effective hand hygiene, one project used phosphorescent paint under direct light to identify uncleaned areas.[39] To assist in the early diagnosis of puerperal psychiatric disorders and to ensure reproductive planning care, a virtual form adapted from the Edinburgh Postnatal Depression Scale and an infographic to guide the assessment and creation of a plan of nursing care were created.[37] As for the development of undergraduate nursing students skills in the state of Rio Grande do Sul, for the first time, telehealth services were used in the internship field. It was reported that the use of a protocol in this situation standardized care, optimized services, and increased access by clients, in addition to expanding remote interprofessional dialogue, better integrating public services, and reducing the burden on professionals.[38] Lastly, in the state of Paraná, skills were stimulated by teaching elderly people how to use the internet to access helpful information as virtual manuals, thus ensuring reciprocity in the management of the system.[34]

Innovation transfer factors: The trust and adherence by teachers, students and the community to the implementation of innovation in virtual health initiatives was possible due to virtual platforms that enabled participation through chats guiding the service to be received. A team from the State University of Tocantins (UNITINS) used a podcast to inform the community about the project, and students published videos to promote mental health on a YouTube channel:[31] (free translation)

> The outreach project 'Virtual health: Prevention at home' was a strategy adopted by UNITINS in the face of a public health emergency scenario, which developed continuous educational, social, scientific and technological actions, covering different thematic areas within the same context.[31:328]

The sustainability of the innovation, due to its social, human and cultural characteristics related to the continuity of care and adherence to treatment for people living with HIV, was made possible through a support network of NGOs so that clientele had uninterrupted access to drug treatment, home delivery or delivery by the PHC unit, and easy access to the results from rapid testing centres.[32] The innovation's ease of information transfer was also successfully met (free translation):

> One thing we did was to help withdraw from ART [antiretroviral treatment], which became impossible for some people when there was no public transportation. So, I took three NGOs leaders, had a meeting with them and said, 'Guys, you're going to have to help get the names and we'll help with the distribution'.[32:5]

To help disseminate information on prevention and health promotion to low-literate seniors navigating on virtual social networks, videos and booklets with audiovisual resources were made available to guide the use of smartphones and social media.[34] Although frequent, the introduction of virtual forms for the dissemination of health information to SUS clientele constitutes an element of collective empowerment related to the provision of nursing PHC. Such innovation in the form of a working tool was the subject of reflection, such as (free translation):

> […] lack of understanding by professionals about how to develop technologies based on this perspective, new ways of constructing the nursing work process and navigating previously invisible possibilities, make it possible to optimize and qualify the use of health technologies.[33:7]

For an academic organization in Rio das Ostras, in the state of Rio de Janeiro, the transfer took place in with respect to practice and the incorporation of NTC protocols as pedagogical support material for the teaching of disciplines in the professional component of the nursing curriculum, including those related to women's health, sexual and reproductive health, and practice in communicable and non-communicable diseases.[40] To facilitate the transfer of innovation through the dissemination of information among professionals able to acquire knowledge and use it in PHC, in the city of Itabuna, in the state of Bahia, a redesign of the dynamics of the flow of care was undertaken. Information and protocols from the Ministry of Health and the State Health Department, as well as municipal recommendations were fundamental.[30] Remote care, as an innovation, facilitated the dissemination of information among nurses and clients, providing the opportunity to consult references and resources during patient care, as well as speeding up the dissemination of current information on the management of COVID-19 at the local level, without integrating remote and face-to-face care. Some of the initiatives went through challenges as well (free translation):

> […] As it is a new service, it had failures and was not interconnected with the rest of the network, so there was a lot of mismatched information.[38:6]

Infographics transferred information necessary for the systematized remote health services for puerperal care, ensuring the continuity of care.[37] Equally, in Camaçari, in the state of Bahia,

the information transfer happened through remote telehealth consultations and monitoring, in a PHC unit that was once devoid of digital communication technologies.[36]

Dynamics of the information about innovation: The optimization of technological resources and related skills demonstrated the ability of Brazilian health organizations to improve their communication process with clients. The dynamics of the dissemination of innovation, such as NTC,[40] online interviews (groups and social networks), requests for exams and prescriptions via cell phone, as well as the renewal of prescriptions[32] fundamentally relied on virtual platforms WhatsApp, Facebook, Fast-Track[33] as well as communication by e-mail and telephone.

Phases of the cycle of collective vision/action for knowledge or ideas, promotion of knowledge use and for a dialogue congruent with values and practices.

Discovery: Considering that discovery in the innovation process involves appreciating the best information on a given the subject, it was identified that there was a significant receptiveness to new knowledge and unprecedented strategies on the part of health professionals and SUS clientele. Greater professional autonomy resulting from the management of telemonitoring was understood to enhance the development of better care practices.[32,40] In addition, to give clients the most efficient and effective health services, the inclusion of professionals of the Family Health Strategy (FHS) in decision-making related to innovation was readily acknowledged.[33] The inclusion of these professionals was facilitated by the use of a "COVID App" to fast track the monitoring of suspected cases and better manage infected patients in a given area.[33] On the other hand, when creating initiatives involving technology and audiovisual resources for health education for the elderly, it was discovered that such clientele can be receptive to novelties and learning, despite the cognitive challenges inherent to aging.[34] The unexpected gains brought about by the pandemic's preventing people from physically being together fundamentally reflects human beings' collective desire to learn together.

Virtual spaces that brought clients and professionals together was an essential discovery in the struggle to cope with the challenges imposed by our physical isolation.[35] As a result, such virtual spaces enhanced health promotion, strengthened care networks, connections and effective bonds between the academic community, professionals, and health system clients.[37] In the context of the PHC teams (including student internship activities), their adaptability, resilience, and openness to learning allowed an effective response to the unique situation caused by the pandemic. In addition, there was unprecedented creativity in the management of human and material resources that allowed for enhanced promotion and maintenance of health in the catchment areas.[30,38,39] In view of the practical uncertainties regarding the acquisition of competencies and in relation to students' skills, it was learned that this would be attained through a high mobilization of talents for the training of more creative and problem-solving professionals, as identified in the state of Tocantins.[31]

Dream: Imagining what "could be" regarding incorporating innovative practices led to the discovery of virtual spaces as having a therapeutic potential, with the strengthening of the connection between the community, PHC, and teachers and students, that was not a component of pre-pandemic face-to-face health care services.[35] In addition, strategies that arose out of emergencies, such as the teleconsultation protocol to help women during puerperium,[37] were designed as methodological instruments to educate students, especially in telehealth,[38] allowing their expanded use in other university educational settings.[40] The applicability of innovation in other health settings reinforced the continuity of research for the construction of an ideal physical and virtual space, following the implemented model,[32,40] as well as ensuring the continuity of health care for priority groups[34,36] (free translation):

> The expectation is that older individuals can remain engaged in the online world, however, that this does not interfere with face-to-face social and family relationships, and that digital inclusion is optimized and added to the new skills learned.[34:15]

Project design: The co-construction of the ideal conditions for the implementation of the innovation occurred during efforts to maintain virtual care after restrictive measures, with NTC as a permanent strategy in sexual and reproductive health, and communicable and non-communicable diseases.[40] The virtual strategies created optimized conditions with the clientele that are essential for increased access to information and new health literacy skills, leading to the empowerment and protection of priority groups.[34,37] The therapeutic potential of virtual spaces represented the ideal condition of unprecedented learning for the community, professionals, teachers and students.[34,35] Several PHC units reaffirmed themselves as a reference and source of reliable health information for clients.[33] However, more appropriate conditions for the continuity of innovation, even re-incorporating face-to-face care, faced challenges due to the lack of physical structures and the quality of internet connectivity, that undermined opportunities to gather professionals together, thus hindering the construction of the ideal scenario for the innovation adoption.[36,37]

Destiny: The struggle to innovate also highlighted how the destiny of such projects could be understood in terms of sustaining the actions of life and recognizing them as means to empower, learn, and improvise. The creation of instruments to complement the teaching of theoretical and practicum contents to students,[40] the creation of a permanent NTC protocol to be used by the service,[37] regularly updated virtual booklets to ensure continuous access to current health information,[34] and the connection between teachers, students, the community and PHC,[35] attest to the usefulness of strategies for sustaining innovations as the ultimate aim, including their longevity, once they are incorporated into the practices of PHC teams. As one of our selected articles puts it (free translation):

This tool may be useful after the pandemic period due to the main benefits seen during its application, such as strengthening the bond between clients and the multidisciplinary team and effective and thorough monitoring of them and each family and community.[36:6]

Our analysis focused on the search for internal coherence between the understanding of the elements of innovation and the identification of the harmony between intention, creativity, relevance, and compatibility between actions, context, acceptability, and adherence to innovation incorporated in practice. This analysis made it possible to try to answer our research question about what Brazilian community health nursing during COVID-19 that innovated its professional practices. When trying to identify whether innovations were able to build a feasible condition to ensure accessibility and comprehensiveness of the required care, as well as its longevity, the efforts by teams to coordinate for the continuity of health care in PHC was observed. It should be noted that only one reviewed article[40] reporting teleconsultation protocols in clinical teaching met the eight criteria of the review, presenting the conceptual contents related to innovation as defined in our conceptual framework.

The other articles report conditions that were incompatible with the effectiveness, continuity, and resoluteness of the proposed changes in nursing practice in PHC. The lack of central elements on innovation in the pre-selected articles made it impossible to carry out a cross-sectional analysis between them, revealing a structure with little conceptual support to conclude that innovations can be integrated into practice in a substantial and impactful way. Although some changes introduced in practice have been reported, their innovative characteristics remain unclear. In short, innovation, in its broad and multidimensional conceptual definition, seems to have been scarcely applied in the reported projects. Chart 2 presents a synthesis of what was identified as elements of innovation from the perspectives of what was created, implemented, and used, as reported in the reviewed articles.

DISCUSSION

A health system's functionality is the main factor in its resilience in coping with health emergencies. In emergency situations, the provision of services should be maintained and strengthened by emergency preparedness to prevent and manage outbreaks with multisectoral coordination. Crises can be faced by responding to the context of weaknesses and effective responses to disease outbreaks.[41]

This review confirmed that innovation emanates from technological knowledge and from the interaction and sharing of explicit and tacit knowledge in different environments.[42] It is interesting to note that, as identified in the review, the incorporation of technological innovation in response to the contingencies of practice during the pandemic demonstrated the nursing profession's potential to solve problems, as the redesign of practice stimulated the use of evidence-based technology (e.g., mHealth, e-Health, digital health, digital training, teleconnect), with possible social inclusion and a greater educational approach to better respond to the needs and desires of clients and professionals.[43]

The reviewed evidence confirms that, due to the pandemic, PHC professionals, like others in an international context, changed their perceptions as well as their use of health technologies.[43] Responses to such anxieties were possible due to the assimilation of technological innovations, and translating the complexity of the demands produced by the population's varying levels of health literacy, and the structure of Brazil's health systems.[44]

The review highlighted the trend towards flexibility of professionals to adopt new working methods and receptivity of clients to engage with digital services, including social media, to increase their knowledge about diseases, improve their digital health literacy. This trend was identified more broadly in the international context related to COVID-19 and in information gathered about vulnerable populations showing improved health literacy, including improved skills to cope with changes in daily life, reduction of fear and anxiety, as well increased digital skills and knowledge.[45]

This rapid review considered innovation as a means of prompting changes in the differentiated work process during the pandemic, and necessary for the implementation of nursing actions through new approaches, strategies, methods, and tools. Changes to current nursing practices were seen in the new and redesigned ways that nurses responded to client demands, using cutting-edge technological resources as well as proposing their own ideas for novel and improved nursing assistance, care, and education. This result was based on technical actions involved in the realities inherent to the production, application, and transfer of nursing knowledge.

It is necessary to emphasize that the articles identified and reviewed lacked clear information about the specific logical model that supported each innovation's main components, basic information, effort, activities, products, and short- and long-term results.[46] The conceptual or theoretical logic underlying these nursing interventions was not mentioned in the articles and, therefore, not identified by this review. The rationale for creating a strategy seems to have been in response to the pressure on PHC caused by the COVID-19 pandemic, affecting its effectiveness in all aspects of its accessibility, continuity, comprehensiveness, and coordination.[47]

Although such interventions and the relevance of the logical bases can be justified by the contingency caused by Brazil's four successive waves of infections, with immediate mortality, the demand for acute complaints with restricted resources for their solution, the interruption of comprehensive care for chronic clients, and the impacts on mental health experienced by FHS professionals and clients[47] required innovations in the practice of community health nursing. The response of the Federal Council of Nursing, standardizing care through NTC, through resolution 634/2020,[48] made it possible to integrate this innovation into

Chart 2. Summary of identified innovations.

Creation	(a) an online manual and a virtual platform with areas for maintaining the functional capacity of the elderly;[34] (b) virtual platform for teachers and students in the management of fear and anguish;[35] (c) action plan for continuity of care in the catchment area in the atypical context brought by the restrictive measures;[30] (d) virtual form adapting to the Edinburgh Postnatal Depression Scale and an infographic to guide the assessment and elaboration of the nursing care plan;[37] (e) support network with NGOs for uninterrupted access to drug treatment, home, or PHC unit delivery, and dissemination of information on rapid testing centers;[32] (f) redesign of the dynamics of work extended to the flow of care;[30] and, (g) mechanisms for the participation of NGOs, health departments,[32] integration of teaching-learning,[34,35] nurses in residency programs[33] and frontline professionals.[31,33,34,37,40]
Implementation	(a) Using ultraviolet light spectrum to test the efficacy of hand hygiene;[39] (b) NTC protocol with teacher-student collaboration for a university outreach project;[40] (c) teaching the elderly how to use technological resources on the internet, with virtual manuals for the use of Instagram, WhatsApp, and Facebook;[34] (d) Telehealth service in the internship setting with the use of a protocol to standardize care, optimize the service and increase user access;[38] (e) remote care, providing the opportunity to consult references and resources during patient care, as well as speeding up the dissemination of up-to-date information on the management of COVID-19;[38] (f) infographics for the information transfer to remote systematized care of puerperal women for the continuity of care;[37] (g) remote telehealth visits, consultations, and monitoring in a PHC unit once devoid of digital communication technologies;[36] (h) online interviews, sending requests for exams and prescriptions via cell phone, as well as prescription renewals[32] through the use of WhatsApp, Facebook, and Fast-Track virtual platforms;[33]; and, (i) adjustments for the continuity of virtual and telehealth services in PHC.[30,33,36-38]
Utilization	(a) decision-making tree methodology for the creation of infographics in the NTC of puerperal women, and Google Forms platform for the assessment of mental well-being and reproductive planning;[37] (b) re-engineering of practice through virtual platforms and tools, such as surveillance spreadsheets, smartphones,[32,34] text messaging applications, and phone calls;[33] (c) cross-referencing data from Google Earth, geomaps[33] and global positioning technology; (d) combination of instruments for the systematization of nursing care, using information and communication technology to carry out remote nursing consultations;[40] (e) podcast to inform the community about a project to extend and publish videos to promote mental health on a Youtube channel;[31] (f) virtual strategies to optimize increased access to information and new learned skills to enable health literacy, empowerment, and protection of priority groups;[34,37] (g) NTC protocols as pedagogical support material for teaching of theoretical and practicum contents to students in courses of the professional cycle of the nursing curriculum;[40] (h) creativity in the management of human and material resources for the promotion and maintenance of health in the catchment area;[30,38,39] (i) videos and booklets with audiovisual resources guiding the use of smartphones and social media by low-literate older adults;[34] and, (j) digital spreadsheets to organize information about new practices with continuous usage by the team.[36]

Source: The authors

nursing care more broadly. Even if late, the use of technology in NTC in Brazil adds to the international movement, which began in the 2000s, to adopt remote communication technologies (telephone, e-mail, digital platforms, etc.) in nursing practice.

However, the difficulty of defining a conceptual framework for such practice is an area of interest in international research, including in Canada,[49] which can be a promising area for intellectual dialogue between Canadian and Brazilian researchers. It is important to emphasize the necessary "intellectual humility" to recognize the state of limited knowledge of Brazilian nurses in this area.[50] As justifications, we cite the decision to use technologies

as a matter of urgency, the absence of an intellectual critical mass due to the lack of experts, as well as the lack of education and access to this type of conceptual information. Furthermore, it is necessary for nursing to use theoretical and conceptual frameworks not only to design innovations, but also to disseminate them in organizations.[51] Following Florence Nightingale's pioneering spirit regarding the need for management, leadership and personal initiative in relation to changes in nursing practice,[52] the innovations reviewed (even if incipient) attest to the nursing profession's immediate responsiveness to the SUS operational changes in the face of an unprecedented health emergency.

Globally, innovation in times of pandemic, producing nursing knowledge, was driven both by the interruption of the development of some research[53] and also by the unprecedented use of multi sites and advanced methodologies in research on care practice.[54] Innovation could have been equally driven by bold ways of thinking about coping with difficulties or solving problems, with open-mindedness towards multiple and simultaneous alternatives. Thinking like this is one of the premises of the "Design Thinking" method. This method, already widespread in Brazil,[55] challenges the sequential linearity of the traditional thinking associated with the scientific method,[55] becoming an attractive intellectual challenge for nursing worldwide.

The current state of knowledge in Brazilian community health, including nursing due to its recent logistical reconfiguration with the integration of technological innovations, provides the ideal scenario for the advancement of knowledge originated in reconstructed cultural, social, ethical, and organizational realities. The evidence resulting from this review reinforces the feasibility of proposals for emerging conceptual frameworks and their theorizing. As an example, we cite the middle-range theories that, although limited in number in Brazil, are recognized as being essential for advancing the science of Brazilian nursing.[56] This is justified by the connection of these theories with elements inherent to diversity, the complexity of lived experiences, disease responses, and natural calamities, as well as to contextualization of the environments in which they occur. Therefore, such theories can offer new perspectives so that multidimensional research in SUS settings is unique enough but not so singular as to be able to configure its collaboration with the body of knowledge of global nursing in PHC. Producing knowledge to innovate in the structure of the SUS requires that the research be equally audacious to produce evidence capable of stimulating its managers to be inspired by the revised innovations to define and implement new organizational objectives according to the frequent discussion of ambitious, specific, and transparent targets (FAST) conceptual framework.[57]

In addition to the well-known limitations, risks of errors, and evaluations inherent to the design of a rapid literature review, such as the omission of some systematic review procedures and a less-extensive publication search, the present review also provides a perspective on academic publication in the field, by concentrating on articles in Portuguese, which also restricted the search in multiple scientific indexing databases. The contributions brought by this review are related to the identification of innovations that inspired the process of transferring experimental knowledge acquired by several teams, aiming at its wide incorporation into other contexts of nursing practice. This opportunity itself constitutes an undeniable contribution with regard to the valorization of know-how and its dissemination. In addition, the sparce identification of logical models framing the design and implementation of innovations is a warning for management, practice, teaching, and research professionals. It warns that greater theoretical-conceptual and methodological rigor should be observed, as well as that the systematic evaluation process should be integrated, from the conception of future projects and initiatives, with innovation as a response, justification, tool, means, and purpose to raise the quality of multi-contextual nursing practice in Brazil.

CONCLUSION AND IMPLICATIONS TO PRACTICE

The reviewed articles documented simple solutions to unknown, complex, and unpredictable situations brought about by a severe public health crisis. However, the idea of innovation as something unprecedented, once untested, and structurally revolutionary, was not extensively identified by this rapid review, due to the conceptual and theoretical weakness of the reported interventions and projects. The objective of this review was to formulate an answer to the clinical question about innovative practices in Brazilian community health nursing. This was possible due to the publication of reports revealing other forms and contexts of nursing knowledge production by various social actors. The results of this research supported a conceptual understanding of innovations identified in this review, which, in turn, clearly indicated which planned responsive strategies were implemented to ensure the continuity of nursing practice in the face of concomitant adverse conditions.

The review recognized the driving need to redesign nursing practices to better respond to contextual adversities such as the difficult SUS financial situation, the occurrence of other endemic diseases, the removal of nursing professionals from the frontline activities because they constituted a risk group, in addition to nurses' own high mortality due to illness caused by COVID. The difficult management of the fear of death or infection and the reluctance to offer home care to patients in recovery, as well as a lack of mobile phones or limited access to the internet by the patient, were seen to jeopardize communication in times of restrictive measures and both physical and often technical isolation. Such contexts engendered additional restrictions or, to go even further, made access to the implemented innovations impossible.

AUTHOR'S CONTRIBUTIONS

Study design. Margareth Santos Zanchetta. Clarissa Moura de Paula.

Data acquisition. Margareth Santos Zanchetta. Clarissa Moura de Paula.

Data analysis and results interpretation. Margareth Santos Zanchetta. Clarissa Moura de Paula. Katarinne Lima Moraes.

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