

ORIGINALES

Potentialities and challenges of health education in the Covid-19 pandemic

Potencialidades e desafios da educação em saúde na pandemia da Covid-19

Potencialidades y desafíos de la educación para la salud en la pandemia Covid-19

Socorro Adriana de Sousa Meneses Brandão¹

Sônia Maria de Araújo Câmpelo²

Ana Roberta Vilarouca da Silva³

Herla Maria Furtado Jorge⁴

Telma Maria Evangelista de Araújo⁵

Fernanda Valéria Silva Dantas Avelino⁵

¹ Master in Science and Health-UFPI. Assistant Professor II at the State University of Piauí-UESPI. Brazil. adrianamenesesbrandao@hotmail.com

² Assistant Professor II at the State University of Piauí-UESPI. Intensive care nurse at HGV-4789. Brazil.

³ Master and Ph.D. in Nursing from the Federal University of Ceará (UFC). Associate Professor of the Nursing Course at the Federal University of Piauí (UFPI). Brazil.

⁴ Ph.D. in Tocogynecology. Adjunct professor in the Department of nursing and graduate nursing in the Federal University of Piauí. Brazil.

⁵ Ph.D. in Nursing from UFRJ/EEAN. Associate Professor IV of the Undergraduate and Graduate Nursing Program at the Federal University of Piauí. Brazil.

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ABSTRACT:

Objective: To report the potential and challenges of the Multi-professional Residency Programs in health education to frontline professionals in the Covid-19 pandemic.

Method: This is a descriptive study from an experience report of professors from the residency program at the State University of Piauí. It shows the result of a process of experiences and critical reflections on the practices, health education offered to professionals in the healthcare industry in front of hospitals and basic health units, during the Covid-19 pandemic, in the municipality of Teresina, Piauí. The activities were divided into four stages: planning; execution, monitoring, and evaluation. There were conversation circles and demonstration of the process of dressing and undressing the equipment and also practical feedback by each participant at the end. Welcoming and/or completion dynamics were also used.

Results: During March and April 2020, 1,343 (one thousand, three hundred and forty-three) health professionals were qualified.

Conclusion: The qualifications enabled an exchange of experiences, reflections on safety culture, and two-way learning between residents and health professionals. Dealing with the new, indecision and the unknown was a great challenge.

Keywords: health education, pandemic, personal protective equipment

RESUMO:

Objetivo: Relatar as potencialidades e desafios de Programas de Residências Multiprofissionais na educação em saúde aos profissionais da linha de frente na pandemia da Covid-19.

Método: Trata-se de um estudo descritivo proveniente de um relato de experiência de docentes do programa de residências da Universidade Estadual do Piauí, fruto de um processo de vivências e reflexões críticas acerca das práticas de educação em saúde ofertadas aos profissionais da linha de frente dos hospitais e unidades básicas de saúde, na pandemia da Covid-19, no município de Teresina, Piauí. As atividades foram divididas em quatro etapas: planejamento; execução, monitoramento; e avaliação. Estas abrangeram rodas de conversas e demonstração do processo de paramentação e desparamentação, além de devolutiva prática por cada participante ao final. Utilizaram-se também dinâmicas de acolhimento e/ou finalização.

Resultados: No decorrer dos meses de março e abril de 2020 foram qualificados 1.343 (mil trezentos e quarenta e três) profissionais de saúde.

Conclusão: As qualificações realizadas possibilitaram uma troca de experiências, reflexões sobre uma cultura de segurança e uma aprendizagem de via dupla entre residentes e profissionais de saúde. Como também, lidar com o novo, indecisões e o desconhecido foi um grande desafio.

Palavras-chaves: Educação em Saúde; Pandemia; Equipamentos de Proteção Individuais.

RESUMEN:

Objetivo: Informar el potencial y los desafíos de los Programas de Residencia Multiprofesional en educación para la salud a los profesionales de primera línea en la pandemia del Covid-19.

Método: Se trata de un estudio descriptivo a partir de un relato de experiencia de profesores del programa de residencia de la Universidad Estatal de Piauí, resultado de un proceso de experiencias y reflexiones críticas sobre las prácticas, educación para la salud ofrecidas a los profesionales de la industria de la salud. frente a hospitales y unidades básicas de salud, en la pandemia de Covid-19, en el municipio de Teresina, Piauí. Las actividades se dividieron en cuatro etapas: planificación; ejecución, seguimiento y evaluación. Y cubrieron rondas de conversaciones y demostraciones del proceso de ponerse y quitarse. Además de la retroalimentación práctica de cada participante al final. También se utilizaron dinámicas de bienvenida y / o finalización.

Resultados: Durante los meses de marzo y abril de 2020 se capacitaron 1.343 (mil trescientos cuarenta y tres) profesionales de la salud.

Conclusión: Las titulaciones realizadas permitieron un intercambio de experiencias, reflexiones sobre una cultura de seguridad y un aprendizaje bidireccional entre residentes y profesionales de la salud. Además, lidiar con lo nuevo, la indecisión y lo desconocido fue un gran desafío.

Palabras clave: educación para la salud, pandemia, equipo de protección personal.

INTRODUCTION

Multi-professional Residencies are postgraduate programs created based on Law 11,129 of 2005 to provide specific training, establishing professionals with a profile to modify practices, and create a new intervention culture and understanding of health in the context of the implementation of the Unified Health System (SUS), through in-service training ⁽¹⁾.

The State University of Piauí - UESPI, with its Residency programs, aims to train and improve human resources for the development of specialists in specific areas of each proposed program, within the Multi-professional Residence in Family and Community Health (MRFCH) and the Integrated Multi-professional Residence in Adult Intensive Care (MRAIC).

MRFCH and MRAIC are graduate teaching modalities, full-time (60 hours per week), characterized as education for work, through in-service learning, within the scope of

the Piauí Health Department (*SESAPI*), involving other institutions, university or not, under the guidance of professionals with technical and ethical qualifications. It consists of health professionals (coordinators; field tutors; core tutors and preceptors) such as nursing, dentistry, psychology, physiotherapy, nutrition, physical education, and social work, totaling 31 (thirty-one) residents.

With the pandemic of the New Coronavirus, a reorganization was necessary for the pedagogical format of the residency, on how to approach health education as one of the bases of this teaching modality since health education is generally experienced within this process collectively and with a cluster of people, which becomes a challenge in this pandemic.

At the end of 2019, the New Coronavirus was named SARS-CoV-2. This New Coronavirus produces the disease classified as COVID-19 and it is the causative agent of a series of pneumonia cases in the city of Wuhan (China). There is still no full information about the natural history, nor unquestionable effectiveness measures for the clinical management of cases of human infection by SARS-CoV-2, and there are still many details to be clarified. However, the virus has high transmissibility and causes an acute respiratory syndrome that varies from mild cases - about 80% - to very severe cases with respiratory failure - between 5% and 10% of cases. Its lethality varies, mainly, according to the age group and associated clinical conditions ⁽²⁾

The main routes of transmission are respiratory, through the inhalation of droplets and aerosols eliminated through coughing or sneezing, and the aerosolization of body substances during procedures that manage the airways, such as intubation, extubation, aspiration, cardiopulmonary resuscitation, noninvasive ventilation, and bronchoscopy ^(3,4).

Infection with COVID-19 can vary from symptoms similar to the common cold to severe viral pneumonia or acute respiratory distress syndrome, which can be potentially fatal ⁽⁵⁾.

The onset of the first symptoms occurs on average between four to seven days after the contamination, but so far, there is not enough information about this ⁽⁶⁾. The transmission is possible even in individuals who do not show clinical signs of infection, as they may have a viral load similar to asymptomatic individuals ⁽⁷⁾.

Currently, we know that this virus has high and sustained transmissibility among people. Thus, the best way to prevent the disease caused by this virus called COVID-19 is to take action to prevent its spread ⁽⁸⁾.

Therefore, professionals working in health services must implement infection prevention and control measures to prevent or reduce the transmission of microorganisms as much as possible during any health care. Considering the precautions indicated for the assistance to patients suspected or confirmed to be infected with SARS-CoV-2, the correct use of Personal Protective Equipment (PPE) and measures to prevent and control the spread of the new coronavirus (SARS-CoV-2) in health services are essential to avoid future contamination ⁽⁸⁾.

Based on this, health education is a primordial and essential tool to contribute to the improvement of the living and health conditions of the population, considering the

conditioning factors and social determinants of this population, through the strengthening of social movements and the bonds between health professionals and the daily thinking of the population. We should base on the dialogue on the previous knowledge of health service patients, their “popular” knowledge, and on a critical analysis of reality.

We also need education for health professionals to promote health education, and then we can talk about health education.

Thus, this study aimed to report on the potential and challenges of Multi-professional Residency Programs in Health at *UESPI* through the qualification of frontline professionals in the covid-19 pandemic.

METHODS

This is a descriptive study that comes from an experience report of a nursing tutor from the MRFCH Program and a nurse-coordinator of MRAIC, from the State University of Piauí. It is the result of a process of experiences and critical reflections about the practices, health education offered to frontline professionals in hospitals and basic health units, in the covid-19 pandemic, in the city of Teresina, Piauí.

Through this emergency state of the challenge of integrated health care, we noticed the need to update COVID-19 prevention practices for health professionals and the construction of new Standard Operating Procedures (SOP) to minimize the spread of Coronavirus (SARS-CoV-2).

Health education in this scenario is a practical and conceptual form of public policies that aims to give autonomy and encourage self-care, through the search for quality of life, seeking strategies based on the construction of individual and collective knowledge, in the process of work and the health situation of the individuals. However, to achieve the expected results, we need to create a bond between educators and students, enabling trust and respect, subsidizing the achievement of comprehensive and resolving care ⁽⁹⁾.

Also, the proposed goal would be to take the guidelines to health professionals in the State that would be multipliers for others and reach the largest number of employees working in hospital networks and basic health units in the city of Teresina that are at risk for COVID 19.

The activities were divided into four stages: planning; execution and monitoring and evaluation. The coordinators, field tutors, core tutors, preceptors, and residents of the two residences developed theoretical and practical activities, based on the pedagogical plurality, interspersing the formation of autonomy and emancipation by the professionals in the teaching-learning process, based on participatory dialogue.

In the planning stage, there was a search for demands for interactive actions with Patient Safety Centers (PSC); Hospital Infection Control Commission (HICC), and Permanent Education Centers (PEC) of hospitals in the state of Piauí and Basic Health Units (*UBS*) in the city of Teresina. During the dialogue, there was the construction of protocols that would be the theoretical-practical guide for the attire and

unattire training in the context of COVID-19 and inflows and outflows from the COVID area.

In the execution stage, the training sessions of dressing and undressing the equipment was carried out in an open area with good air circulation and a distance of two meters for each training multiplier, following the rules of the Ministry of Health (MH), in groups of a maximum of eight health professionals. The initial demands were professionals from the COVID ICUs of the hospitals behind the Contingency Plan of the State of Piauí and subsequent expansion to other sectors and technical support, and multiplying professionals from the *UBSs* included in the Contingency Plan of the municipality of Teresina. In this stage, a model was built with the flow of health professionals in and out, where it was fixed in the route of the stations of this flow in the COVID area.

In the hospital monitoring stage, there was a resident's duty scale at the entrance of the COVID area, with due observation of dressing and undressing the PPE in the inflows and outflows of the multiplying professionals during the duty shifts in the COVID area. In the *UBS*, training was followed in the same dynamic as the hospital area.

In the evaluation stage, we observed the need to expand the practical replanning training so that each professional could repeat dressing and undressing the PPE in a practical station. We carried out the actions in March and April 2020.

The activities were developed under the supervision of the tutors of the residences, and structured in such a way to problematize reality through specific guidelines, on the processes of dressing and undressing the personal protection equipment (PPE) used in direct care provided to suspected/confirmed COVID- 19 patients.

We follow the technical notes of the National Health Surveillance Agency-ANVISA as support, following these steps:

DRESSING
<ol style="list-style-type: none">1. To perform proper hand hygiene: use water and liquid soap or 70% alcoholic preparation;2. To gather the necessary material: according to the situations indicated (Chart 01);3. Hand hygiene: use water and liquid soap or 70% alcoholic preparation;4. Disposable apron: wear it with an opening at the back, fully covering the trunk, from neck to knees, arms to the end of the wrist, and tied at the back, at the height of the neck and waist;5. Hand hygiene: use water and liquid soap or 70% alcoholic preparation;

6. Masks

6.1 Surgical mask: put on the mask carefully to cover the mouth and nose and adjust it securely to minimize the spaces between the face and the mask

6.2 Mask N95/PFF2: attach the ribbons or elastic bands to the middle of the head and neck; Adjust the flexible stem on the nose; Fit it well on the face and below the chin for complete sealing.

7. Hand hygiene: use water and liquid soap or 70% alcoholic preparation;

8. Goggles or face shield: Goggles must be exclusive to each professional responsible for assistance. Conventional (prescription) glasses should not be used as an eye protector, as they do not protect the eye mucosa from splashing; Health professionals who wear prescription glasses should wear goggles or face shields over them.

9. Hand hygiene: use water and liquid soap or 70% alcoholic preparation;

10. Cap: covering the ears;

11. Hand hygiene: use water and liquid soap or 70% alcoholic preparation;

12. Procedure gloves (if necessary).

UNDRESSING

1. Remove the procedure gloves (if used): dispose them of the infectious waste in the trash;

2. Hand hygiene: use water and liquid soap or 70% alcoholic preparation;

3. Remove the disposable apron: the neck and then untie the waist; remove the apron from back to front, touching only the upper part behind the neck; the apron will be inside out; dispose of it in the infectious waste trash;

4. Hand hygiene: use water and liquid soap or 70% alcoholic preparation;

5. Go to the EXPURGE OR DESTINED AREA to clean and disinfect the glasses and/or face protector; put on procedure gloves and remove protective glasses or face shield, touching the side of the

- glasses gently, close to the ear region; clean the article with water and soap/detergent (proceed with manual drying with clean, soft absorbent material) or 70% alcohol (disinfect three times, spray and rub for 30 seconds); perform disinfection with 1% sodium hypochlorite (according to the manufacturer's guidelines); wash them under running water, dry and pack or store them in a clean container intended for safekeeping;
- 6. Remove the gloves;**
 - 7. Hand hygiene:** use water and liquid soap or 70% alcoholic preparation;
 - 8. Removing the cap:** pulling on the back;
 - 9. Hand hygiene:** use water and liquid soap or 70% alcoholic preparation;
 - 10. Remove the mask:**
 - 14.1 Surgical Mask:** remove the mask by the side strips and do not touch the front of the mask, as it may be contaminated.
 - 14.2 N95 / PFF2:** touching it only on the back and packing in a plastic bag up to 36 hours after its first use.
 - 15. Hand hygiene:** use water and liquid soap or 70% alcoholic preparation;

RESULTS

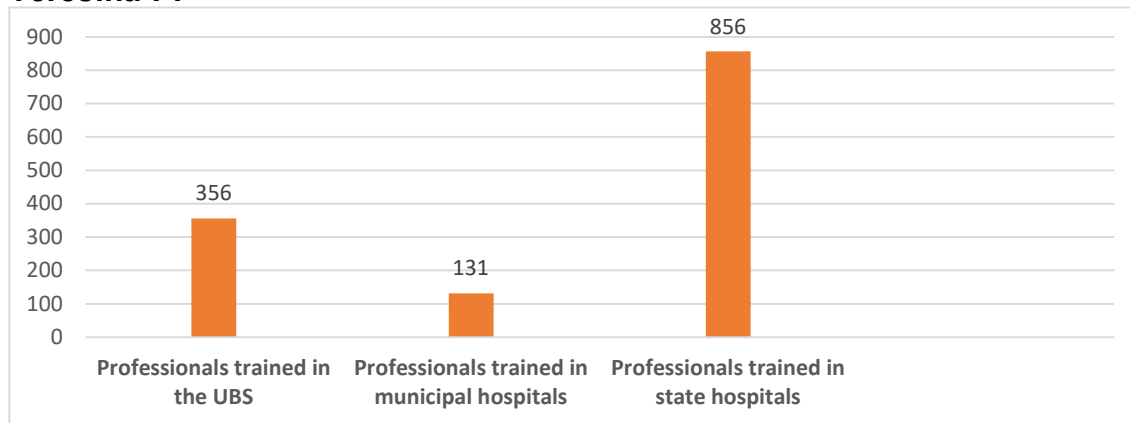
Before showing the results from this experience, we will contextualize the trajectory followed by residents and tutors of the *UESPI* multi-professional residency programs until the effective start of qualifications. The residents are from the 2020-2022 biennial class, and this was the first challenge faced by them starting the first cycle of the Residency in March 2020. Each team of residents and tutors was welcomed with an unusual chaotic situation in which a pandemic started, without adequate infrastructure and unqualified human resources to face a situation unknown to all health professionals and support from health units, as well as hospital networks that would be open doors and or references in urgent and emergency cases for COVID 19.

Each resident team was composed of a nurse, a physiotherapist and a psychologist who, when starting their activities in different scenarios, were evidencing the demands and requests of the care coordinators, about coping with COVID 19. One of the mandatory and primary requests in all scenarios of residents' practices was the handling of PPE during dressing and undressing them to minimize the spread of the Coronavirus (SARS-CoV-2).

Thus, it was a work process to support public health in the State of Piauí, prioritizing prevention, which was an important weapon against the spread of COVID 19. Therefore, after planning qualifications and following the safety rules of ANVISA and WHO, we started the project of qualifications dressing and undressing the PPE. During March and April 2020, 1,343 (one thousand, three hundred and forty-three) health professionals were qualified, including doctors; nurses; physical therapists; nursing technicians and assistants; nutritionists; dietary aids; laboratory technicians, as well as support services for basic health units and hospital networks in the State of Piauí, including stretcher-bearer, general Services; imaging and diagnostics professionals.

The Graph below shows in absolute numbers, the number of professionals trained by residents of MRFCH and MRAIC, in dressing and undressing the PPE in coping with the pandemic of COVID -19.

Graph 1 -Quantitative distribution of professionals trained for dressing and undressing PPE in UBS, municipal, and state hospitals. March/April 2020. Teresina-PI



Source: MRFCH and MRAIC, 2020

DISCUSSION

Throughout this experience, the Municipal Health Foundation (MHF), the Patient Safety Centers (PSC); Hospital Infection Control Commission (HICC), and Permanent Education Centers (PECs) of hospitals in the State of Piauí and tutors of residency programs played an important role during the activities conducted by the team of residents in each specific area since this demand has been identified in all scenarios facing COVID-19.

The actions carried out, in a multi-professional or uni-professional way, were based on the use of active methodologies, carried out after surveying the demands and planning together with the core tutors and/or with the field tutors. The activities were planned according to the specificity of each location and the profile of the participating public.

The correct handling of PPE during dressing and undressing is for the safety of the patient and the professional, minimizing the contamination of the Coronavirus (SARS-CoV-2) and the possible reduction in the mortality rate in the State of Piauí.

Studies show a high risk of contamination when dressing and undressing the equipment so they need high level of the precision level to avoid this. However,

proficiency in linking precise gestures depends on adequate training. An alternative in some places was to allocate an exclusive area for this procedure, a type of chamber, an agent occupies the monitoring post to guide the professional in the step by step of removing PPE ^(10,11).

Each trained professional becomes a multiplier agent for this procedure, contributing internally and externally to the hospital area to reduce the infection rates of COVID 19 since the procedure of dressing and undressing goes beyond a simple placement and removal of clothes, including a preventive and essential action performed before and after any procedure which is hand hygiene (HH). Evidence shows the importance of hands in the chain of transmission of healthcare-related infections (HCRI) and their adverse effects resulting from not using the correct HH technique, especially in the current moment of serious threat to global public health caused by the Coronavirus (SARS-CoV-2).

We believe that any actions proposed with the intention of teaching should be thought of in the perspective of those who will participate in it, who should appreciate it. Thus, the planning and organization of learning situations must be focused on the activities of the recipient, as the main objective of the educational action is the construction and assimilation of knowledge ⁽¹²⁾.

Health education actions based on the use of active methodologies, stimulate critical-reflective teaching-learning processes, in which the participant is committed to the constructed learning. This method also facilitates learning by immersing in scenarios close to reality, leading the listener to reflect on situations, encouraging them to think and develop new knowledge ⁽¹²⁾.

We emphasized the importance of carrying out group actions considering the local specificities, ⁽¹³⁾ the learning with groups as being much richer, participatory, emancipatory, and citizen than the individual, as this has the purpose of a participative experience with an emphasis on dialogue, encouraging the participation of all.

CONCLUSION

We conclude that the qualifications carried out enabled an exchange of experiences, reflections on a culture of safety, and two-way learning between residents and health professionals, and also dealing with the new, indecision and the unknown was a great challenge.

Health education is present daily in interprofessional relationships, as it is based on a practice in which technical knowledge must provide the empowerment of health professionals in this exchange of experiences. Also, it fostered the autonomy of residents as a promoter of knowledge in their context of general health in the pandemic.

At this time, the adoption of educational qualifications for health and technical support professionals in the prevention of HCRI represents a major impact in improving knowledge management, quality of care, and patient safety.

It was also possible an individual and collective reflection experienced in the qualifications that strengthened learning about the world pandemic scenario and

minimized the impact of the spread of the virus in the scenarios of the residency programs, equipping professionals for safe and more confident practice in an environment of uncertainty.

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