

## INFORMATION AND COMMUNICATION TECHNOLOGIES: HEALTH EDUCATION AND CONTINUING EDUCATION FOCUSED ON COVID-19

### TECNOLOGIAS DA INFORMAÇÃO E COMUNICAÇÃO: EDUCAÇÃO EM SAÚDE E EDUCAÇÃO PERMANENTE VOLTADAS À COVID-19

### TECNOLOGÍAS DE LA INFORMACIÓN Y DE LA COMUNICACIÓN: EDUCACIÓN EN SALUD Y EDUCACIÓN PERMANENTE DIRIGIDAS A LA COVID-19

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#### ABSTRACT

**Objective:** to report the experience of an Extension Program in the development of Health Education and Permanent Health Education actions aimed at COVID-19, using Information and Communication Technologies. **Method:** experience report of professors, undergraduate and graduate students about the development of an Extension Program of a public Higher Education Institution located in Rio Grande do Sul. **Results:** Six Technical and Technological Audiovisual Products were produced and shared on digital platforms, four of which addressed measures and guidelines for health education, and two guidelines for the Primary Health Care Network in different municipalities. Furthermore, two infographics were designed and implemented for professionals in the Primary Health Care Units of Santa Maria. **Conclusion:** The program made it possible to articulate teaching, research and extension, contributing to the dissemination of knowledge as a vehicle for social transformation in the face of the COVID-19 pandemic.

**Descriptors:** COVID-19; Health Education; Continuing Education; Nursing; Information Technology.

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## RESUMO

**Objetivo:** relatar a experiência de um Programa de Extensão no desenvolvimento de ações de Educação em Saúde e de Educação Permanente em Saúde voltadas à COVID-19, utilizando Tecnologias da Informação e Comunicação. **Método:** relato de experiência de docentes, discentes de graduação e de pós-graduação acerca do desenvolvimento de um Programa de Extensão de uma Instituição de Ensino Superior pública localizada no Rio Grande do Sul. **Resultados:** foram produzidos e compartilhados nas plataformas digitais seis Produtos Técnicos e Tecnológicos Audiovisuais, sendo que quatro deles abordaram medidas e orientações de educação em saúde, e dois orientações para a Rede de Atenção Primária à Saúde de diferentes municípios. **Considerações finais:** o programa possibilitou articular ensino, pesquisa e extensão, contribuindo para a difusão do conhecimento como veículo de transformação social frente à pandemia de COVID-19.

**Descritores:** Covid-19; Educação em Saúde; Educação Continuada; Enfermagem; Tecnologia da Informação.

## RESUMEN

**Objetivo:** reportar la experiencia de un Programa de Extensión en el desarrollo de acciones de Educación para la Salud y de Educación Permanente en Salud dirigidas al COVID-19, utilizando Tecnologías de la Información y de la Comunicación. **Método:** relato de experiencia de profesores, estudiantes de pregrado y posgrado sobre el desarrollo de un Programa de Extensión de una Institución de Educación Superior pública ubicada en Rio Grande do Sul. **Resultados:** se produjeron y compartieron seis Productos Audiovisuales Técnicos y Tecnológicos en plataformas digitales, cuatro de los cuales abordaron medidas y lineamientos para la educación en salud, y dos lineamientos para la Red de Atención Primaria de Salud en diferentes municipios. Además, se diseñaron e implementaron dos infografías para profesionales de las Unidades de Atención Primaria de Salud de Santa María. **Consideraciones finales:** El programa permitió articular la docencia, la investigación y la extensión, contribuyendo a la difusión del conocimiento como vehículo de transformación social frente a la pandemia de COVID-19.

**Descriptor:** COVID-19; Educación en Salud; Educación Continua; Enfermería; Tecnología de la Información.

## INTRODUCTION

In December 2019, a series of cases of a new infectious disease caused by the SARS-CoV-2 coronavirus was identified for the first time in the city of Wuhan, China, which was named COVID-19.<sup>1</sup> Months later, the disease broke out into a pandemic, which by March 10, 2023 had killed 6,881,955 and infected 676,609,955 people worldwide, and in Brazil, 37,085,675 cases and 699,310 deaths.<sup>2</sup> However, in addition to mortality,

the impact on the lives of the population stands out, since the entire health, social and economic context has been affected, giving rise to the need for specific care, changes in personal relationships and the environment in which people live.

Faced with this scenario, health professionals have faced challenges both in caring for the population with COVID-19 and in society in general. They were required to carry out measures to prevent

and control the transmission of the virus, helping with care in the face of family illness and bereavement, which led to an overload of activities, also due to the progress of health services. In addition, the successful response to the challenges posed by the pandemic was fundamental for dealing with COVID-19 in Brazil and around the world, as well as for the recovery after the pandemic, considering the country's demographic, economic and social importance.<sup>3</sup>

The use of technologies in Permanent Health Education (PHE) and Health Education practices during the COVID-19 pandemic has been essential and necessary for health production processes.<sup>1</sup> It should be added that isolation and social distancing measures have accelerated the spread of technological and informational practices centered on the internet and online communication, to adapt health services and provide the necessary inputs for personal well-being, while ensuring safety.<sup>3</sup> In this case, EPS has been a strategy for tackling COVID-19, especially because of its ethical, aesthetic, political and pedagogical processes for developing critical-reflective thinking, which make it possible to implement innovative actions in health services.<sup>1</sup> In addition, Health Education is a tool for health promotion, transmitting information and knowledge to the general

population with the aim of raising awareness, sensitizing and mobilizing the community to tackle situations that interfere with quality of life.<sup>4</sup>

It can thus be seen that Information and Communication Technologies (ICTs) were significant pedagogical tools in the scenario of social distancing during the pandemic, as they enabled the sharing of health information based on evidence and scientific knowledge, and enhanced education in the digital environment.<sup>5</sup> Considering the pandemic, ICTs have been fundamental for the development of health education, as they provide opportunities for teaching and learning, the qualification of health care and also improvements in the work environment, as well as enabling information to reach the general population, spreading knowledge.<sup>6</sup>

In this sense, it is important that the actions carried out are based on providing care, encouraging prevention and managing humanized health care.<sup>7</sup> This study aims to report the experience of an Extension Program in the development of Health Education and EPS actions aimed at COVID-19, using ICTs.

## **METHOD**

This is a report on the experience of teachers, undergraduate and graduate

students in nursing at the Federal University of Santa Maria (UFSM), based on the development of an Extension Program (EP). The Program began in June 2020 and was awarded two Calls for Proposals from the Extension Incentive Fund. It was also developed in partnership with the Permanent Health Education Center (NEPeS) of the Santa Maria Municipal Health Department.

The actions carried out were mainly in line with the demands and needs identified by health services and professionals, as well as by the municipal administration. To this end, the program relied on undergraduate and postgraduate students to prepare the materials, and on teachers to review them.

Initially, the scripts for the audiovisual productions were drawn up, based on official publications and technical notes from the Ministry of Health. After reviewing the scripts, the EP members recorded them and authorized the use of their images and voices for the productions. In addition, there was a partnership with professionals from UFSM's Educational Technology Centre (NTE), who provided the technical development for recording, editing and socializing the audiovisual Technical and Technological Products (PTTs).

As this was an extension project and did not use data collection, only information already officially available, as well as images and voices of the program members

with the appropriate authorizations, it was not necessary to obtain approval from the Research Ethics Committee. However, the ethical aspects, references and authorship were respected.

## **EXPERIENCE PRESENTATION**

The main PTTs developed from the Extension Program entitled "Health Education and Permanent Education in Coping with the COVID-19 Pandemic", linked to the Teaching, Research and Extension Group Care Practices in Various Health Care Settings (PraCCeS), which is part of the Care, Health and Nursing Group at UFSM, will be presented and discussed. It should be noted that the products are available at the following electronic addresses:

[https://ntetube.nte.ufsm.br/catalogo/248-Educação\\_para\\_o\\_Enfrentamento\\_da\\_COVID](https://ntetube.nte.ufsm.br/catalogo/248-Educação_para_o_Enfrentamento_da_COVID) and <https://www.instagram.com/grupo.praces.ufsm/>.

In order to reinforce health education actions throughout the activities developed in the Extension Program, and according to the needs of NEPeS and UFSM, four audiovisual PTTs were built in partnership with NTE. They were made available on free digital platforms and have subtitles, making them easier to understand. Systematization and accessible language

were also considered at the time of preparation.

As a result, the first audiovisual PTT developed addresses protective measures such as correct hand washing, the proper use of masks and social distancing. The second explains the hygiene of stainless acid, plastic and cardboard packaging and the lifespan of the virus in each material. The third shows how to keep your distance from a suspected or confirmed COVID-19 case, as well as ways to sanitize the environment and food, in order to reduce the risk of contagion to other family members. The last PTT addresses specific guidelines for the target audience of workers, servants and cleaning assistants in the workplace, exemplifying the use of the PFF2 mask and care when putting it on and taking it off without contamination, as well as the necessary distancing measures for meal times.

It should be noted that the four audiovisual PTTs on both digital platforms, the research group's *Instagram* (@grupo.praces.ufsm) and the NTE UFSM page, have so far been viewed 10,462 times. Therefore, these health education practices during the pandemic have made it possible to share information and improve the population's knowledge. The purpose of the health education actions developed was to sensitize the population to learning about COVID-19 prevention and control measures.

This is an essential pillar for building knowledge and safe information, seeking to raise awareness through the production of audiovisual PTTs, which addressed issues of health guidance and care.

In addition, in view of the pandemic scenario, it was necessary to reorganize the care flows of health services, as well as prepare and update professionals to provide care in this context. To help with this demand, two audiovisual PTTs were produced, one covering guidelines for the Primary Health Care (PHC) Network in Santa Maria-Rio Grande do Sul, and the other with guidelines for the COVID-19 Coping Network in Santiago-Rio Grande do Sul. Both products have been viewed more than 2,687 times.

In addition, the number of views of the PTTs highlighted the need for reliable and easily accessible information materials in the context of the pandemic. It should be emphasized that the products produced contributed to raising awareness of the importance of COVID-19 prevention and control, by promoting health education and strengthening the EPS.

## **DISCUSSION**

Health education acts as a facilitator of scientific knowledge, as it provides strategies aimed at improving quality of life with safety, teaching and autonomy of care.

Furthermore, the inclusion of health education actions is a social practice which, in addition to contributing to the community, promotes critical awareness and reflection among health students, favoring future professionals and their sensitivity to life situations.<sup>8</sup>

In emergency health situations, such as pandemics, communication becomes essential for spreading effective measures to reduce contagion and control damage. However, the rise in access to and sharing of information, provided by social media, has had implications for the global collective, causing *fake news to become* commonplace. Thus, in the midst of the pandemic, the question was what instrument to use to achieve effective awareness and, consequently, the deconstruction of this practice.<sup>7</sup> Thus, the health education developed by the program promotes, through social media, the demystification of misinformation, with the transmission of understandable and correct information.

EPS, on the other hand, is a political and pedagogical training strategy that seeks to promote changes in care practice, valuing the knowledge and work of professionals, and considering meaningful learning and education at work and for work.<sup>9</sup> In this way, it enables health professionals to be trained and updated through actions that focus on

orientation, preparation and reflection for the development of their work activities.

Health professionals have found themselves at the epicenter of the pandemic, caring for people already diagnosed with COVID-19 and at high risk of infection, in addition to the need to guide and raise awareness among the general population about measures to prevent and control the spread of the virus. Thus, the EPS has enabled supporters and management liaisons in most of the municipalities to answer questions and provide guidance to health professionals, especially with regard to technical aspects, such as the correct and rational use and disposal of all PPE, as well as other measures to prevent and control the spread of the virus in services.<sup>7</sup>

With the first case of COVID-19 in Brazil in February 2020, prevention and control actions have intensified as a way of tackling the spread of the virus. Added to this health situation is the need for social distancing, driving the adaptation of health education actions, such as EPS and Health Education. As for crisis management, some municipalities have included humanization supporters and EPS coordinators in the composition of technical committees to draw up strategic plans to deal with COVID-19,<sup>7</sup> whose actions have begun to take place more frequently in remote and digital formats. ICTs are already known in some

service and teaching environments and, in recent years, they have begun to be inserted into health, being enhanced by the pandemic, with the purpose of disseminating information, transforming environments with ways of thinking and innovating, and also to debate actions and strategies among professionals and the population.

University Extension has taken on different roles at different times and in different social and historical contexts. It is worth noting that the main players in promoting extension strategies have been university institutions, which have sought to get closer to social reality and develop strategies for articulating knowledge with the community.<sup>10</sup> It is also inherent to research and teaching, and constitutes a space for educational work, human and professional training and dialog with the community. This is why we consider the impact of extension on student education and the possibility of social transformation, also characterized by innovative and transformative education in the forms of knowledge exchange, and the expansion of educational and pedagogical-formative proposals and interlocutions.

From this perspective, it can be seen that extension can strengthen and stimulate social transformation, so that the academic experience transcends institutional architecture, and also stimulates

commitment and respect for each individual, and seeks collective strategies for tackling the problems experienced by the community.<sup>10</sup> Therefore, the program reported evidenced the power of the extension in contributing to society, as well as the use of health tools such as permanent education and health education, associated with the needs to face a public health crisis.

## FINAL CONSIDERATIONS

The project made it possible to link teaching, research and extension, and the production and use of media technologies with six audiovisual PTTs launched, two aimed at EPS and four at health education, allowed interaction between the university and the community. Thus, by underpinning the extension action, it is understood that ICTs can be a strong ally to prevent the spread of *fake news*, helping the population with safe guidelines, based on WHO and MH manuals, preventing and controlling the transmission of COVID-19.

In this way, the amount of access to audiovisual PTTs has highlighted the general population's need for relevant and reliable information materials to find ways of protecting themselves. Its role in disseminating knowledge as a vehicle for social transformation to tackle COVID-19 stands out, as it provides access to health information and encourages the population

to adhere to self-care measures. In addition, the PTTs produced by the program contribute to building and expanding a body of knowledge, which can be accessed with significant ease by society as a whole.

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