# Information and communication technologies to address violence against women in emergency remote nursing teaching activities during the COVID-19 pandemic

Tecnologias de informação e comunicação para o enfrentamento da violência contra a mulher em atividades de ensino remoto emergencial de enfermagem durante a pandemia da COVID-19

Tecnologías de la información y la comunicación para abordar la violencia contra las mujeres en las actividades de enseñanza de enfermería a distancia de emergencia durante la pandemia de COVID-19

**Nayara Gonçalves Barbosa**
ORCID: https://orcid.org/0000-0003-3646-4133
Universidade Federal de Juiz de Fora, Brasil
E-mail: nagbarbosa@gmail.com
**Mônica Maria de Jesus Silva**
ORCID: https://orcid.org/0000-0002-4532-3992
Universidade de São Paulo, Brasil
E-mail: monicamjs@usp.br
**Flávia Azevedo Gomes-Sponholz**
ORCID: https://orcid.org/0000-0003-1540-0659
Universidade de São Paulo, Brasil
E-mail: flagomes@usp.br
**Juliana Cristina dos Santos Monteiro**
ORCID: https://orcid.org/0000-0001-6470-673X
Universidade de São Paulo, Brasil
E-mail: jumonte@usp.br

**Abstract**
Introduction: violence against women is a multidimensional phenomenon that has increased significantly during the COVID-19 pandemic. Objective: to report the experience of developing a prevention, protection and support strategy for women at risk of violence, during the COVID-19 pandemic, mediated by the incorporation of information and communication technologies, developed in emergency remote nursing undergraduate teaching activities. Materials and methods: an experience report carried out in April 2020, with undergraduate nursing students who attended a subject related to women's health, at a public university in the countryside of the state of São Paulo, Brazil. The strategy development took place in five stages: 1) survey of available applications; 2) WhatsApp® group creation; 3) operationalization; 4) compilation of discussions and assessment; 5) strategy dissemination. Results: a prevention, protection and support strategy was developed for women at risk of violence, during the COVID-19 pandemic, through content that was shared by message on WhatsApp® and, later, on social medias such as Facebook®, Instagram® and Twitter®. Discussion: the strategy development was positively assessed by students on the occasion of the emergency remote teaching, emphasizing the importance of the internet and social networks as means to expand the discussions. Conclusion: using information and communication technology as a strategy to break the invisibility and tackling violence against women during the COVID-19 pandemic was an innovative experience in an undergraduate course, showing the importance of including them in teaching.
**Keywords:** Violence Against Women; Nursing Education; Coronavirus Infections; Pandemics; Internet.

**Resumo**
Introdução: A violência contra a mulher é um fenómeno multimensional que teve aumento expressivo durante a pandemia da COVID-19. Objetivo: Relatar a experiência de desenvolvimento de uma estratégia de prevenção, proteção e suporte às mulheres em risco de violência, durante a pandemia de COVID-19, mediada pela incorporação das Tecnologias de Informação e Comunicação e desenvolvida nas atividades de ensino remoto emergencial de graduação em enfermagem. Materiais e Métodos: relato de experiência realizado em abril de 2020, com alunos de graduação em enfermagem que cursaram uma disciplina relacionada à Saúde da Mulher, de uma universidade pública no interior do Estado de São Paulo, Brasil. O desenvolvimento da estratégia ocorreu em cinco etapas: 1) levantamento dos aplicativos disponíveis; 2) criação de um grupo no aplicativo WhatsApp; 3) operacionalização; 4) compilação das discussões e

avaliação; 5) divulgação da estratégia. Resultados: Desenvolveu-se uma estratégia de prevenção, proteção e suporte às mulheres em risco de violência, durante a pandemia de COVID-19, por meio de um conteúdo que foi compartilhado por mensagem no WhatsApp® e, posteriormente, nas redes sociais Facebook®, Instagram® e Twitter®. Discussão: O desenvolvimento da estratégia foi avaliado positivamente pelos alunos na ocasião do ensino remoto emergencial, ressaltando a importância da internet e redes sociais como meios para ampliação das discussões. Conclusão: O uso de Tecnologia da Informação e Comunicação como estratégia de quebra da invisibilidade e enfrentamento da violência contra a mulher durante a pandemia da COVID-19 foi uma experiência inovadora em uma disciplina de graduação e demonstra a importância de agrega-las no ensino.
**Palavras-chave:** Violência contra a mulher; Educação em enfermagem; Infecções por Coronavirus; Pandemias; Internet.

**Resumen**
Introducción: La violencia contra las mujeres es un fenómeno multidimensional que se ha incrementado significativamente durante la pandemia del COVID-19. Objetivo: Relatar la experiencia de elaboración de una estrategia de prevención, protección y apoyo a mujeres en riesgo de violencia, durante la pandemia del COVID-19, mediada por la incorporación de las Tecnologías de la Información y la Comunicación y desarrollada en actividades de enseñanza a distancia de emergencia de pregrado en enfermería. Materiales y Métodos: relato de experiencia realizado en abril de 2020, con estudiantes de graduación en enfermería que cursaron una asignatura relacionada con la Salud de la Mujer, en una universidad pública del interior del Estado de São Paulo, Brasil. El desarrollo de la estrategia se llevó a cabo en cinco etapas: 1) levantamiento de aplicaciones disponibles; 2) creación de un grupo en la aplicación WhatsApp; 3) operacionalización; 4) compilación de discusiones y evaluación; 5) difusión de la estrategia. Resultados: Se elaboró una estrategia de prevención, protección y apoyo a mujeres en riesgo de violencia, durante la pandemia del COVID-19, a través de contenidos que se compartieron por mensaje en WhatsApp® y, posteriormente, en las redes sociales Facebook®, Instagram® y Twitter ®. Discusión: El desarrollo de la estrategia fue evaluado positivamente por los estudiantes con motivo de la enseñanza a distancia de emergencia, enfatizando la importancia de internet y las redes sociales como medios para ampliar las discusiones. Conclusión: El uso de las Tecnologías de la Información y la Comunicación como estrategia romper la invisibilidad y abordar la violencia contra las mujeres durante la pandemia del COVID-19 fue una experiencia innovadora en un curso de pregrado y demuestra la importancia de incluirlas en la docencia.
**Palabras-clave:** La violencia contra las mujeres; Educación en enfermería; Infecciones por Coronavirus; Pandemias; Internet.

# 1. Introduction

Violence against women is defined as any act of gender-based violence that results in, or is likely to result in, physical, sexual, or psychological harm or suffering to women, including the threat of such acts, coercion or arbitrary deprivation of liberty in public or private life (United Nations, 1993).

As an extreme form of gender inequality, violence against women is a public health and human rights problem that affects a large number of women around the world. In the region of the Americas, one in three women experience domestic violence committed by an intimate partner or sexual violence committed by someone other than their partner in their lifetime (World Health Organization, 2013).

Violence against women is a multidimensional phenomenon, representing the most tolerated violation of human rights in the world and affecting women in their right to life, health and physical integrity. Globally, one in three women has been a victim of physical or sexual violence in their lifetime, however violence against women tends to increase in emergency situations, including epidemics (Kaukinen, 2020).

The new coronavirus (SARS-CoV-2) pandemic, which causes the disease COVID-19, has had a significant impact on the routine of most people, especially due to the implementation of social distancing measures (Marques *et al.,* 2020). Among these impacts, those inherent to women's health stand out, since they are more susceptible and exposed to gender violence and may have their human rights violated during the period of social distancing. Limited mobility during physical isolation and the economic impact of the pandemic can create additional hardship, leaving a violent partner, in addition to the greater risk of sexual exploitation (Campbell, 2020).

In this context, there is an increase in cases of domestic violence since the beginning of the COVID-19 pandemic in countries such as China, the United Kingdom, the United States, among others (Kaukinen, 2020). Likewise, in Brazil, according to the Ministry of Women, Family and Human Rights, there was a 35% increase in reports of violence against women at the Women's Assistance Center – Call 180 (Brazil, 2020). This reality reiterates the importance of developing strategies to combat violence against women during the COVID-19 pandemic, when anxiety and stress, the breakdown of social and protective contacts, and the restriction of access to services can increase the risk of violence for women (Kaukinen, 2020).

In the period of social distancing, women are exposed to increased domestic work and family care, in addition to having more time to live with aggressors, making them more vulnerable to violence. Additionally, reducing contact with friends and family reduces the chances of victims strengthening and/or accessing the support network and seeking help for the situation of violence (Marques *et al.*, 2020). In addition to this, the pandemic influences this pattern, due to the reduction of social contact and access to services and institutions, favoring the maintenance and worsening of situations of violence already installed (Campbell, 2020). Thus, the search for creative and innovative solutions to address violence against women in the age of COVID-19 is healthy.

Social movements, such as the feminist movement, have found the internet an important space for political organization, expression and action (Ferreira, 2015). The internet has become an amplifier of their causes and claims, which are articulated in the online space, in order to delimit their social place and start in search of affirmations and rights, including in the fight against different types of violence against women.

In this context, information and communication technology (ICT) use stands out, which include computing tools and telecommunication means that facilitate the dissemination of information in a convergence between information technology and telecommunications (Ferrarini, Saheb & Torres, 2019).

An example of ICT use is the associative social practices of internet use by politically motivated movements that are characterized as cyberactivism. In the case of the feminist movement, a new digital public sphere is built that is based on collaboration and interaction between women, using ICTs through cyberactivism. In cyberspace, women exchange information, content and personal testimonies, enabling a strengthening of the feminist movement on the internet and opening space for organizing actions that benefit women (Martins & Nunes, 2019).

ICT and cyberactivism use in social networks has made it clear and notorious that the private sphere actions are undoubtedly part of the public sphere, as is the case of domestic violence, which, through the virtual articulation of the feminist movement, envisions the possibility of breaking household limits, from the joint action with other women, in a public way (Ferrarini, Saheb & Torres, 2019). This breaking of household limits gains even more strength when it encounters information multipliers along the way.

Thus, considering ICT and social network use as a tool for disseminating information, the role of students as multipliers of guidelines and the university's social function, we sought to develop a tool to address violence against women during the COVID-19 pandemic in the context of emergency remote teaching.

Given the above, this study sought to answer the question: does the incorporation of ICT in emergency remote nursing undergraduate teaching favor the fight against violence against women during the COVID-19 pandemic?

This article aimed to describe the experience of developing a prevention, protection and support strategy for women at risk of violence, during the COVID-19 pandemic, mediated by the incorporation of ICT in emergency remote nursing undergraduate teaching activities.

The experience's relevance is expressed by the incorporation of ICT in teaching, in addition to cyberactivism use in social networks, as a tool developed to face a socially naturalized problem, which was aggravated during the COVID-19 pandemic. Sharing the experience is necessary and important, so that others benefit from this learning.

## 2. Methodology

This is an experience report on the development of a strategy to prevent, protect and support women at risk of violence, during the COVID-19 pandemic, mediated by the incorporation of ICT in emergency remote nursing undergraduate teaching activities.

Four professors and 25 students participated, enrolled in a subject related to women's health, offered in an undergraduate nursing course at a public university in the countryside of the state of São Paulo, Brazil, in the first half of 2020. The experience's reflections concern the process experienced by professors during emergency remote nursing undergraduate teaching activities.

Considering the scope and dimension of violence against women, as well as the need for contextualization and critical positioning in relation to the phenomena studied, the methodological construction of this study is supported by the qualitative approach and the theoretical framework anchored by the Brazilian National Policy to Combat Violence Against Women (*Política Nacional de Enfrentamento da Violência Contra as Mulheres*) (Brazil, 2008), as well as national and international literature on ICT and emergency remote teaching to support analyzes and discussions.

As this is an experience report, this study does not need to be sent to a Research Ethics Committee. It is noteworthy that, by explaining the strategy's objectives and purpose, all students accepted the invitation to participate.

## 3. Results

A digital content was developed on coping with and preventing violence against women to be disseminated via a multiplatform instant messaging application (WhatsApp®), which was discussed in videoconference with students.

The development of this digital content involved five steps: 1) survey of applications available in virtual stores; 2) creation of a group on WhatsApp®; 3) operationalization; 4) compilation of discussions and assessment; 5) strategy dissemination.

### *Survey of applications available in virtual stores*

In the first stage, there was a survey of applications and content description on coping with and preventing violence against women, focusing on the presentation of smartphone applications that can be used by women at risk of suffering violence during social isolation with their partners.

Application search was carried out from April 6 to 10, 2020, in the Play Store® (Android) and Apple Store® (iOS), using the keywords "violence against women" and "domestic violence". The search with the first word obtained no results. In this way, the system directed to the second keyword, which resulted in 19 applications.

Applications were selected according to eligibility criteria. We included apps in Portuguese, free of charge, available to the general public and that addressed strategies for coping with violence against women. We excluded applications that cannot be downloaded, information restricted to data on violence against women, absence of security features, confidentiality and preservation of women's identity, expressions and images of violence against women.

For data extraction, an instrument was used, developed by the authors, containing the application name, operating system, rating, description and tools available in the application.

After searching and filtering the eligibility criteria, we excluded 13 applications: 3 (23.6%), because they were in another language; 4 (30.6%), due to not being available to the general public; 1 (7.6%), due to the impossibility of downloading; 2 (15.3%), due to the presence of expressions and/or images of violence; 2 (15.3%), due to the absence of characteristics that report security, secrecy and preservation of women's identity; and 1 (7.6%), due to containing information restricted to data on violence against women.

The six selected applications were tested and had their contents analyzed before being included in the text message to be disclosed. Chart 1 presents the list of the six selected applications.

**Chart 1 -** Characterization of applications disclosed in the intervention. Ribeirão Preto, SP, 2020

| Name, operating system and rating* | Application description | Application tools |
|---|---|---|
| *Violentômetro* 5.0 (Android) | "Application whose objective is to alert women about the dangers of an abusive relationship, providing guidance and a diagnosis of the level of violence experienced by users, offering protection and support services to victims of violence." | Women answer questions and, in the end, have the percentage of the type of violence they have suffered. If more than 75%, it is suggested to seek professional help. |
| PLP 2.0 5.0 (iOS and Android) | "Instrument to curb violence against women. Google Social Impact Challenge 2014 Popular Vote Winning Project." | Panic button sent to previously scheduled protection network. Informational articles and videos. |
| *PenhaS* 4.0 (iOS and Android) | "It offers support to women in abusive relationships. In it, women (in situations of violence or not) can have access to: information, confidential dialogue, support, reception network and panic button - all in the same app." | Present in the application description. |
| *Rede Mete a Colher* 3.6 (iOS) | "Collaborative network that helps women who experience domestic violence. The application directly connects women who need help with others who can volunteer support. The platform has three categories of help requests: Emotional support (...). Legal guidance (...). Labor market insertion (...)." | |
| *S.O.S. Mulher* 3.3 (iOS and Android) | "Application whose objective is to promote protective action to people in vulnerable situations. Developed by the São Paulo State Military Police, the application allows people covered by a protective measure granted by the court to call the 190 emergency service in cases of risk to their physical integrity or their own lives." | Present in the application description: only in the state of SP; only for women who have obtained protective measures against the aggressor in court. |
| *Juntas* 3.3 (iOS and Android) | It makes it possible to create a network of protection and empowerment for women. The application connects women to a protection network made up of people they trust that can be activated in dangerous situations. In addition, the *Juntas* portal provides a set of studies, research and information on the subject and on the network of services aimed at combating violence against women. | Protection social network with previously added trusted people; alarm button; real-time geographic visualization. |

Source: from the authors. *Rating that the application received in the store (in stars) in April 2020.

### WhatsApp® group creation

In the second stage, a group was created on WhatsApp®, whose members were the four professors and 25 students enrolled in subject. The group aimed presented to students and they all accepted the invitation to participate, with no dropouts. Then, the content developed through the application was shared.

### Operationalization

The third stage regarding operationalization was carried out on April 23, 2020, with the discussion on violence against

women and text message content with students in a videoconference held through Hangouts Meets®.

### *Compilation of discussion and assessment*

In the fourth stage, compilation of discussion and assessment took place, with reflections and notes that emerged from reflections with students, which were compiled by the subject professors, and the content to be disseminated was revised based on the discussion, thus concluding the final version of the text message below:

"At home. Without leaving. Tense environment. With him. During the COVID-19 pandemic, many women in our community may be more vulnerable to violence within the home. In addition to the Women's Assistance Center - Call 180, which can guide and refer women to services, when necessary, we selected six free apps for women in or at risk of violence, which offer support, protection and guidance. Share with the women close to you".

1. *Violentômetro*: warns women about the dangers of an abusive relationship, providing a diagnosis of the level of violence experienced (available on the Android system).
2. PLP 2.0: curbs violence against women (available on iOS and Android systems).
3. *PenhaS*: offers support for women in abusive relationships (available on iOS and Android systems).
4. *Rede Mete a Colher*: helps women who experience domestic violence (available on the iOS system).
5. *S.O.S. mulher*: ensures protective action for people in situations of vulnerability, by the São Paulo State Military Police (available on iOS and Android systems). Attention: use only in the state of SP.
6. *Juntas*: makes it possible to create a network of protection and empowerment for women (available on iOS and Android systems).

Bonus: mapadoacolhimento.org: platform that connects women who suffer or have suffered gender violence to a network of therapists and lawyers willing to help them voluntarily. To participate, registration must be done through the website.

### *Strategy dissemination*

Finally, in the fifth stage, called strategy dissemination, the content was made available to students through WhatsApp® group, and its dissemination in the community was encouraged, aiming to reach the largest number of women at risk of suffering violence during isolation with the partner, as a form of prevention and protection.

Students showed interest in the proposal, stated the importance of the initiative and of sharing the message on WhatsApp® and requested authorization to disseminate the messages also on their social networks, such as Facebook®, Instagram® and Twitter®. This request wa  answered promptly and, as soon as they posted on these networks, they realized that part of the message was hidden, because it was too long. Thus, they suggested inserting the text message in the form of a picture, in order to be posted as a photo. This adaptation was made and the picture with the text message was also shared by WhatsApp®, so that students could share it on their social networks.

It is worth mentioning that, on the same day and on the others that followed after the first sharing of the text message of this strategy by WhatsApp®, the authors of this report received the message in other WhatsApp® groups that participated and also viewed the message on social networks from students who were not enrolled in the course.

One month after the first sharing, two professors received private messages from other students, requesting authorization to disseminate the text message in virtual events organized by a student league at the university where the experience took place, demonstrating the strategy repercussion and amplification in different contexts.

## 4. Discussion

The experience enabled developing a strategy to prevent, protect and support women at risk of violence during the COVID-19 pandemic, through content that was shared by message on WhatsApp® and, later, on Facebook®, Instagram® and Twitter®, as well as the incorporation of ICT in emergency remote nursing undergraduate teaching activities.

In this regard, it should be mentioned that global responses to the COVID-19 pandemic are directed to scenarios where gender inequity is present. Past epidemics, including Ebola and Zika, suggest that violence against women may change in nature and scale as outbreaks affect the social and economic life of populations (Parkinson & Zara, 2013).

In this context, it is emphasized that gender-based violence is related to inequalities in the relationships between men and women, supported by historical and social conditions of relational construction of the feminine and masculine (Schraiber, D'oliveira & Couto, 2006).

In the social distancing scenario, social media use created from the internet started to be widely stimulated, and mobile devices such as smartphones and tablets started to be used as instruments with mitigating functions of this distance. Social media favors and strengthens the massive exchange of information between people and social movements. In order to prevent and cope with violence against women, the internet operation specificities provide an effective way of acting and organizing collective actions in networks. This fact favored coping with violence against women, which is unfeasible and even unrecognizable, accepted as natural, expected or customary (WHO, 2005).

In Latin America, internet use represents a strategic action tool, especially in the case of this experience, due to the fact that it is one of the most digitally connected regions in the world and, simultaneously, one of the most violent. Additionally, there is a significant presence of women in cyberspace and a greater perception of the importance of the internet as a tool for communication and learning, capable of meeting society's demands (Domingues et al., 2017).

Application use allows a reconfiguration of private and public spaces, in addition to the construction of an environment of cyberactivism that allows articulation between women, victims or not of violence, aiming at promoting a transformation of their reality. In this context, multiplatform application use was essential to develop a strategy for the prevention, protection and support of women at risk of violence during the COVID-19 pandemic, demonstrating that ICTs can be incorporated in the fight against violence against women, as well as in the teaching-learning process of this theme with undergraduate students, especially when emergency remote teaching strategies are necessary. Digital media played an important social function, expressively conveying information related to violence against women during the COVID-19 pandemic, through the dissemination of campaigns and coping strategies (Fornari et al., 2021).

It is worth mentioning that, during the pandemic, other experiences that used text messages via cell phones and smartphones were promising for coping with harmful effects on the mental health of people in confinement (Agyapong et al., 2021; Aguilera et al., 2021). Thus, ICT use in the pandemic may lead to adaptations in the teaching process, possibly extending to the post-pandemic period, considering that the strategies adopted in this exceptional moment point to the remote teaching modality deepening or the hybrid teaching model implementation (Rodrigues et al., 2020).

Despite this eminent notoriety of digital media in the COVID-19 pandemic, previous successful experiences also stand out, such as street sexual harassment mapping applications, a smart city initiative that provides the creation of a collaborative map of locations where harassment occurs, in addition to offering a whistleblower space through the internet (Souza & Maggioni, 2015, Baggio & Da Luz, 2019).

It should be noted that, on the other hand, digital media use can infer a risk to women in situations of violence, triggered when aggressors, among their actions, seek to "inspect" the accesses and situations that expose them to the complaint.

The strategy development was positively assessed by students at the time of emergency remote education. It should be

noted that this type of teaching was fundamental to minimize the impact of class suspension and guarantee the teaching-learning opportunity for students, with the internet as the main tool, even during the social distance period (Silva, Panobianco & Clapis, 2021).

In this context, the internet and social networks are highlighted as important means to expand the feminist movement discussions and the search for real changes in the daily lives of women (Souza & Maggioni, 2015). It is clear that the broad and conscious experience of cyberspace and the possibilities of cyberactivism using the digital social network tools contributes significantly so that social groups, whose voices are silent or imperceptible, can be inserted and have visibility and articulation in society (Ferrarini, Saheb & Torres, 2019), especially during the COVID-19 pandemic.

This study presents as strengths new paths and possibilities, using technologies and digital means for multiplying guidelines, developing health promotion strategies, which can be developed by several social actors, such as students, professors and nursing professionals, in the COVID-19 pandemic.

However, it has the limitation, because this is an experience report carried out in a single subject taught at the undergraduate nursing course, which makes it difficult to generalize its results. Moreover, it is practically impossible to measure the reach of messages in a multiplatform application, due to the speed of its propagation, considering that the internet expands communication between people, which makes the most diverse actions, campaigns and collaborative projects acquire incalculable power (Cha & Seo, 2018). The aforementioned occurred with the developed strategy, since the message was replicated countless times and many women may have benefited from this proposal.

## 5. Conclusion

ICT use as a strategy to break invisibility and cope with violence against women during the COVID-19 pandemic was an innovative experience in an undergraduate subject. This strategy has proven to be a vehicle to help women in situations of violence to seek prevention, protection and support. In the context of nursing education, the strategy developed and implemented at the university sought to sensitize students to the theme, so that they develop and share best practices in health.

The experience reported here demonstrates the importance of adding ICT to academic activities, to contribute to the teaching-learning process of students, also transforming them into multipliers of knowledge they experience at the university. It also demonstrates the importance of keeping an eye on situations that require rapid interventions, such as the increase in violence against women during the pandemic. Furthermore, the experience highlights the need for (re)planning teaching, through virtual strategies, in order to meet the unpredictability and dynamics of emergency contexts.

This report brings contributions to the health area, especially nursing, by offering an example and highlighting the importance of incorporating ICT in nursing education and cyberactivism use in social networks as a tool for disseminating information, considering the health issues that emerged during the COVI-19 pandemic, such as violence against women.

The results of this report highlight the importance of future studies that invest in a critical approach to the phenomenon of violence against women in digital media, with a view to contributing to social transformation and gender equity.

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