

Telesimulation on suicide postvention: evaluation of educational practices, satisfaction, self-confidence, and debriefing

*Telessimulação sobre posvenção do suicídio: avaliação das práticas
educativas, satisfação, autoconfiança e do debriefing*

*Telesimulación sobre la posvención del suicidio: evaluación de las
prácticas educativas, satisfacción, autoconfianza y del debriefing*

Laysa Fernanda Silva Pedrollo^a 

Aline Conceição Silva^b 

Elaine Cristina Negri^c 

Kelly Graziani Giacchero Vedana^a 

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ABSTRACT

Objective: To evaluate educational practices, satisfaction, confidence, and debriefing experience in the perception of students and health professionals after a postvention telesimulation.

Methods: Cross-sectional study conducted in 2021 with 60 participants, including health professionals (n=44) and students (n=15). Four instruments were used: the characterization questionnaire, the Educational Practices Questionnaire, the Student Satisfaction and Self-Confidence in Learning and the Debriefing Experience Scale. Data were analyzed using descriptive and inferential statistics.

Results: The majority of participants were female (90.0%). Of the total, 50.8% had previous exposure to postvention and 71.2% had no exposure to simulation-based teaching. In terms of educational practices, the highest means for agreement (9.39±1.00) and importance (9.60±0.82) were found in the high expectations factor. Participants reported feeling satisfied and confident in their learning, with an emphasis on the satisfaction dimension (mean score: 24.23±1.81). Regarding debriefing, the highest means were observed in the appropriate guidance factor (mean score: 14.05±2.02). Associations were identified in active learning, learning and making connections, satisfaction, and self-confidence, particularly concerning the virtual experience, prior contact with postvention, and facilitator guidance.

Conclusion: Participants positively evaluated the educational practices, satisfaction, self-confidence, and debriefing in the telesimulation, suggesting that this could be a viable alternative for simulation-based education on suicide postvention.

Descriptors: Suicide; Bereavement; Evaluation Study; Simulation Training; Patient Simulation; Health Human Resource Training

RESUMO

Objetivo: Avaliar as práticas educativas, satisfação, autoconfiança e a experiência frente ao debriefing na percepção de estudantes e profissionais da área da saúde após uma telessimulação sobre a posvenção do suicídio.

Método: Estudo transversal, realizado em 2021 com 60 participantes, sendo profissionais da saúde (n=44) e estudantes (n=15). Foram aplicados o questionário de caracterização, o Questionário de Práticas Educativas, a Student Satisfaction and Self-Confidence in Learning e a Escala de Experiência com o Debriefing. Os dados foram analisados por estatística descritiva e inferencial.

Resultados: A maioria dos participantes era do sexo feminino (90,0%). Do total, 50,8% tinham contato prévio com a posvenção e 71,2% não tinham contato com o ensino baseado em simulação. Nas práticas educativas, as maiores médias para concordância (9,39±1,00) e importância (9,60±0,82) estiveram no fator de altas expectativas. Os participantes se sentiram satisfeitos e confiantes com a aprendizagem, com ênfase para a média da dimensão de satisfação (24,23±1,81). No debriefing, destacaram-se as médias do fator de orientação apropriada (14,05±2,02). Foram identificadas associações na aprendizagem ativa, aprender e fazer conexões, satisfação e autoconfiança, em questões relacionadas à vivência virtual, o contato com a posvenção e a orientação do facilitador.

Conclusão: Os participantes avaliaram positivamente as práticas educativas, satisfação, autoconfiança e o debriefing na telessimulação, sendo essa uma possível alternativa para o ensino baseado em simulação sobre a posvenção do suicídio.

Descritores: Suicídio; Luto; Estudo de Avaliação; Treinamento por Simulação; Simulação de Paciente; Formação Profissional em Saúde

^a Universidade de São Paulo. Escola de Enfermagem de Ribeirão Preto. Departamento de Enfermagem Psiquiátrica e Ciências Humanas. Ribeirão Preto. São Paulo. Brasil

^b Universidade de São Paulo. Escola de Enfermagem. Departamento de Enfermagem Materno-Infantil e Psiquiátrica. São Paulo. São Paulo, Brasil

^c Universidade do Oeste Paulista. Departamento de Enfermagem. Presidente Prudente. São Paulo, Brasil

RESUMEN

Objetivo: Evaluar las prácticas educativas, la satisfacción, la autoconfianza y la experiencia frente al debriefing en la percepción de estudiantes y profesionales del área de la salud después de una telesimulación sobre la posvención del suicidio.

Método: estudio transversal realizado en 2021 con 60 participantes, entre profesionales sanitarios (n=44) y estudiantes (n=15). Se aplicaron cuatro instrumentos: el cuestionario de caracterización, el Cuestionario de Prácticas Educativas, el Student Satisfaction and Self-Confidence in Learning, y la Escala de Experiencia con el Debriefing. Los datos fueron analizados mediante estadística descriptiva e inferencial.

Resultados: La mayoría de los participantes eran mujeres (90,0 %). Del total, el 50,8 % había tenido contacto previo con la posvención y el 71,2 % no había tenido contacto con la enseñanza basada en la simulación. En las prácticas educativas, las mayores medias para la concordancia ($9,39 \pm 1,00$) e importancia ($9,60 \pm 0,82$) se encontraron en el factor de altas expectativas. Los participantes demostraron sentirse satisfechos y confiados con el aprendizaje, destacándose la media de la dimensión de satisfacción ($24,23 \pm 1,81$). En el debriefing, se destacaron las medias del factor de orientación apropiada ($14,05 \pm 2,02$). Se identificaron asociaciones relacionadas con el aprendizaje activo, el proceso de aprender y hacer conexiones, la satisfacción y la autoconfianza, en cuestiones relacionadas con la experiencia virtual, el contacto previo con la posvención y la orientación del facilitador.

Conclusión: Los participantes evaluaron positivamente las prácticas educativas, la satisfacción, la autoconfianza y el debriefing a partir de la telesimulación, lo que sugiere que esta puede ser una alternativa viable para la enseñanza basada en simulación sobre la posvención del suicidio.

Descriptores: Suicidio; Aflicción; Estudio de Evaluación; Entrenamiento Simulado; Simulación de Paciente; Capacitación de Recursos Humanos en Salud

■ INTRODUCTION

Suicide is a form of self-inflicted violence with significant repercussions and impacts, and is one of the leading causes of death worldwide⁽¹⁾. It is present in the work and care provided by health professionals in various care contexts, whether in approaches to people who experience suicidal behavior or to survivors who are grieving due to suicide⁽²⁾.

The experience of mourning due to suicide, a process experienced by people left behind to grieve the loss of someone by suicide, raises doubts and reinforces the need to work on care for bereaved survivors, especially through postvention⁽¹⁾. Although little known, postvention is an aspect of suicide prevention defined by any actions, interventions, and strategies carried out to aid bereaved survivors in coping with a death by suicide⁽¹⁻³⁾. Postvention is related to the care of those left behind, without judgment, with acceptance, listening and recognition of individualities and pluralities of the grieving process, whether in clinical practice, teaching or research⁽¹⁻³⁾.

Understanding the meaning and importance of postvention strengthens the proposed and implemented care practices; however, teaching the topic remains a challenge⁽¹⁻²⁾. Healthcare professionals' approaches to bereaved suicide survivors, individually or in groups, are considered complex and require preparation and training, an aspect that clashes with a reality in which teaching the topic is still poorly portrayed⁽³⁾.

According to an Australian study that described the construction of a resource focused on the work of health professionals in postvention, gaps in curricula

and teaching processes on the subject impact the care to be provided⁽⁴⁾. These gaps aggravate the difficulties in managing cases related to postvention, in addition to reaffirming issues of stigma and taboos experienced daily about suicide⁽⁵⁾.

Although the scientific literature portrays successful experiences on postvention in the world, based on the development of plans, guidelines, and even virtual proposals⁽⁵⁻⁷⁾, there are still scarce innovative training practices in this field compared to the range of possibilities explored in other areas of health education.. Furthermore, studies often describe the resources to be used, and the key points to be considered, but do not address the processes that must be developed for such training⁽²⁾.

From student education to professional training, Brazil also follows similar paths, which gradually distances post-prevention teaching from best practices that include multi-professional and multidisciplinary approaches⁽⁵⁾. The challenges experienced in postvention reinforce the need to seek other teaching possibilities based on experiences already tested in other contexts and areas of health.

In this field, in recent years, significant advances in the relationship between simulation-based learning (SBL) and the health area have provided positive results in teaching and training, as a method that offers resources for participants to construct knowledge in a meaningful and dynamic way⁽⁸⁻⁹⁾. Themes can then be explored in the development of safe and structured teaching practices, which meet objectives and achieve measurable results, as in the case of approaches to clinical simulation in mental health teaching⁽⁸⁻¹⁰⁾.

Innovation in health highlights possibilities in response to teaching needs, which enable the improvement of tools. In SBL, advances related to the use of telesimulation have been observed. The definition of telesimulation differs among authors. Therefore, the concept proposed in 2017 by a group of researchers from California (USA) was adopted. These researchers define telesimulation as an innovative teaching method, which combines the use of telecommunication tools and clinical simulation, with a focus on training and qualification processes in health, and that can be carried out simultaneously remotely and externally (off-location)⁽¹¹⁾.

Despite being part of the teaching process, the use of telesimulation still has gaps, such as in the evaluation of its use in terms of the best educational practices adopted, attitudes related to satisfaction and self-confidence in learning and the experience of debriefing⁽¹²⁻¹⁴⁾. The perceptions of participants in a telesimulation can provide contributions that strengthen the importance of this modality in teaching, especially in the approach to suicide postvention⁽¹⁵⁾.

Therefore, the evaluation of health practices provides knowledge that supports technical-scientific advances, especially regarding topics little discussed, such as supporting those bereaved by suicide through telesimulation. Thus, the present study aimed to evaluate educational practices, satisfaction, self-confidence and experience regarding debriefing in the perception of students and health professionals following a telesimulation on suicide postvention.

■ METHOD

This cross-sectional study was developed as part of the activities of a virtual extension course on the topic of postvention. The criteria proposed in Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) for describing the study were met, except for the absence of a sample power calculation.

The course entitled "Training for postvention: Telesimulation for initial support for those bereaved by suicide" was promoted in two editions, both held in 2021, by researchers linked to a public higher education institution in the inland of the state of São Paulo. For its

development, a free virtual study platform was used to access relevant materials and carry out teaching activities for training participants.

The total workload was 20 hours. The proposed activities were developed in an asynchronous format. Only telesimulation activities were carried out synchronously. In each edition, 70 vacancies were made available, filled through registration made in a system linked to the educational institution of the responsible researchers. Participants were recruited directly, through social media and institutional emails, and indirectly, through advertising by registered participants to other interested health professionals and students. After the available vacancies were filled, registrations for each edition were closed.

Professionals and students from the fields of Nursing, Pharmacy, Medicine, Psychology and Occupational Therapy participated in the course. They made up the research sample, which was defined using a non-probabilistic convenience sampling technique, represented by the total number of participants who completed the course and filled out the research instruments. In this study, the power of the sample was not calculated, which is justified because the procedure is not considered essential in research using the Generalized Additive Models for Location, Scale and Shape (GAMLSS) regression model⁽¹⁶⁾.

Data was collected after the telesimulation experience on postvention, through the SurveyMonkey platform. The inclusion criteria were be 18 years of age or older, undergraduate student in the health field or a health professional, and having participated in the telesimulation. Participants enrolled in the course who were not present at the telesimulation were excluded from the research.

The simulated activity was developed based on the high-fidelity interprofessional scenario entitled "Initial support for people bereaved by suicide (postvention)", described based on guidelines from the International Nursing Association of Clinical Simulation and Learning (INACSL)⁽¹⁵⁾. The scenario was validated by ten expert judges and obtained a total Content Validity Index (CVI) of 0.98 for the items and a general Gwet AC1 Coefficient considered satisfactory to good ($AC1=0.640\pm0.060$; $CI=0.515-0.764$)⁽¹⁵⁾.

Course participants who expressed interest in participating in the proposed telesimulation received prior guidance for the activity, which were observed according to the chosen scenario. Participants received materials from the course organizing committee via email to study the topic in advance, along with instructions for participating in the telesimulated activities.

Four synchronous telesimulation sessions, lasting a maximum of two hours, were held via Google Meet, between August and October 2021. The sessions were part of the course activities. The same format was used for the meetings and these were divided into five moments: opening and welcome, prebriefing, development of telesimulation, debriefing, and data collection.

Two participants were invited to play the role of healthcare professionals in each session, being responsible for providing virtual care, such as teleconsultation, in the context of Primary Health Care (PHC)⁽¹⁵⁾. The proposed duration for the interaction was up to 20 minutes. The service aimed to develop initial support actions for a person bereaved by suicide, experienced by a simulated patient, previously prepared for the activity⁽¹⁵⁾.

The remaining participants in the session acted as observers. Among the members of the course organizing committee, two researchers specializing in mental health facilitated the telesimulation, while the remaining members were responsible for organizing and monitoring the activity. Before the telesimulation began, agreements were made and final notices were given to the participants. Only the health professionals and the simulated patient kept the camera and the microphones connected during the interaction.

During the telesimulated activity, participants worked on their previous knowledge on the topic of postvention, focusing on decision-making during virtual care for people bereaved by suicide. The care was provided in such a way as to provide a space for exchanges between the professionals involved, highlighting the potentialities and difficulties experienced during this moment of interaction.

The facilitators monitored the development of the expected actions and the achievement of the scenario's objective through actions described in the Objective Structured Clinical Examination of the scenario used⁽¹⁵⁾. The telesimulation session was discontinued after 20 minutes, indicating that the activity was over. Then, there was a brief period for reorganizing the virtual room, with the participants being invited to connect

their cameras and microphones to participate in the final activities of the meeting.

Then, debriefing began in a virtual format, based on the scenario used. The activity was also carried out virtually and mediated by the facilitators using The Diamond method⁽¹⁷⁾. The proposed discussion was developed with the participation of all those involved, including the observers of the activity and the simulated patient.

At the end of the debriefing, those who experienced the telesimulation were invited to voluntarily respond to the survey. Through the Google Meet chat, participants received the link directing them to the Free and Informed Consent Form (FICF). After reading it, those who agreed to participate had access to the instruments for self-completion. Four instruments were administered: the participant characterization questionnaire, the Educational Practices Questionnaire⁽¹²⁾, the Student Satisfaction and Self-Confidence in Learning⁽¹³⁾, and the Debriefing Experience Scale⁽¹⁴⁾.

The participant characterization questionnaire was developed exclusively for the study, with questions related to sociodemographic aspects and internet access. Questions were asked about age, gender, color or race, marital status, city and state of residence, education, academic background, length of professional experience, internet access for studies, difficulties connecting to the internet during telesimulation, previous contact with clinical simulation, and postvention.

The Educational Practices Questionnaire was applied in its validated version for the Brazilian context⁽¹²⁾, containing 16 items and four factors. It aimed to evaluate how best practices are used in simulation. The factors are subdivided into: active learning, collaboration, different ways of learning, and high expectations. Each item presents a statement answered on two instruments, regarding agreement and importance, using a five-point Likert scale. The instrument had good internal consistency (Cronbach's Alpha = 0.90) in its validation study⁽¹²⁾.

The Student Satisfaction and Self-Confidence in Learning scale was validated for the Brazilian context⁽¹³⁾ with 13 items. The instrument aims to assess participants' attitudes through two dimensions: satisfaction and self-confidence in learning with simulation. Responses to scale items are based on the participant's agreement with each statement presented, ranging from one to five. In the validation study, the internal consistency obtained in the general scale by Cronbach's Alpha was 0.84⁽¹³⁾.

The Debriefing Experience Scale was used in the version validated for the Brazilian context⁽¹⁴⁾. It aims to measure the participant's experience with debriefing. With 20 items, the instrument addresses four factors, namely: analyzing thoughts and feelings, learning and making connections, teacher's ability to conduct debriefing, and appropriate teacher guidance. Each item has a statement that must be answered according to the agreement and the importance attributed by the participant, with five-point Likert-type responses. The scale obtained good internal consistency (Cronbach's Alpha = 0.94) in its validation study⁽¹⁴⁾.

Data obtained in the SurveyMonkey platform were processed and organized in a spreadsheet using Microsoft Excel 10. The participants' responses to each questionnaire and scale were considered independently. The instruments applied that included incomplete responses, which made it impossible to perform the analysis, were examined by the researchers and the statistical consulting team and subsequently excluded.

Therefore, the characterization questionnaire was completed by 60 participants (100%); the Educational Practices Questionnaire had two excluded forms; The Student Satisfaction and Self-Confidence in Learning had three excluded forms; and the Debriefing Experience Scale, three excluded forms.

Furthermore, differences in *n* values obtained in the analyses of the items of all instruments were considered missing. The losses can be justified by the format of the survey application, in which all questions were non-mandatory. Participants were free to answer or not a given question on the instruments applied, which resulted in items with higher or lower *n* values.

After the treatment, a matrix organizing the independent and dependent variables of the study was created. This stage aimed to assess multicollinearity between dependent and independent variables using the Variance Inflation Factor (VIF) with a cutoff point of 5.

The independent variables defined were age, gender, academic background, education, professional experience, academic training experience, internet access, quality of internet access, previous contact with clinical simulation, previous contact with postvention, objectives, and information factor, feedback/reflection factor, realism factor, active learning factor, high expectations factor, and appropriate teacher guidance factor.

Then, five study outcomes were defined: the "satisfaction with current learning" dimension; the

"self-confidence in learning" dimension; the "Student Satisfaction and Self-Confidence in Learning Scale" score; the "active learning" factor and the "learning and making connections" factor.

The outcomes were defined to allow the understanding of indicators related to the participant's learning mediated by simulation⁽¹²⁻¹⁴⁾. These outcomes have been investigated in studies on simulation-based teaching⁽¹⁸⁻²²⁾, but were not found in approaches on postvention teaching^(2,23), a poorly known aspect in the Brazilian context⁽²⁴⁾.

Through the VIF, dependence between the conflicting independent variables was identified. The variable "Quality of internet access" presented multicollinearity with the variable "Difficulty connecting to the internet". After identifying the dependence, the researchers decided to exclude the item "Quality of internet access".

The data were analyzed using R software, with descriptive analyses (absolute and relative frequencies, mean, median, and standard deviation) and inferential analyses. The variables that followed the models were selected using the generalized Akaike Information Criterion (AIC)⁽¹⁶⁾. The Generalized Additive Models for Location, Scale, and Shape (GAMLSS) regression model⁽¹⁶⁾ was used in the study. The significance level adopted was 95.0%. The fit models were adjusted using the Shapiro-Wilk Normality test.

The study was conducted following the ethical standards and procedures outlined in Resolution 466, of the National Health Council (CNS), of December 12, 2012. It was approved by the Research Ethics Committee of the researchers' institution, under protocol No 3,742,077 of December 3, 2019, CAAE 19918019.8.0000.5393. Participants' anonymity was guaranteed, as well as the guidelines on virtual research where the questions applied were not mandatory.

■ RESULTS

The characterization questionnaire was answered by 60 participants (100%). Most were female (*n*=54; 90.0%), with a mean age of 32.85 years (± 8.87), and lived in the state of São Paulo (*n*=40; 66.7%). Previous contact with postvention was assessed in *n*=30 participants (50.8%), while *n*=42 participants (71.2%) reported having no previous contact with clinical simulation.

Most participants were health professionals ($n=44$ (74.6%)) with 4.95 years of professional experience (± 6.54), while $n=15$ (25.4%) were undergraduate students who had an average of 3.60 years of education (± 1.40). Participants reported having access to the internet for training activities (100.0%), with no difficulties connecting to the internet at the time of the telesimulation (85.0%).

The highest means for agreement and relevance in the Educational Practices Questionnaire were found in the high expectations factor, referring to the actions developed during the simulated activity by everyone involved to favor a teaching-learning space and the construction of knowledge (Table 1).

Most items in the questionnaire had an agreement level equal to or greater than 70.0%. Only item 12 of the collaboration factor had a lower value (67.4%) (Table 2).

The means obtained on the Student Satisfaction scale and Self-Confidence in Learning were considered high, with emphasis on the dimension of satisfaction with current learning, which had a mean of 24.23 (± 1.81), followed by the dimension of self-confidence in learning, with a mean of 35.58 (± 3.18).

On the scale, all statements in the satisfaction dimension obtained a percentage higher than 82.0% in the strongly agree response, with emphasis on the first item, in which the methods used were considered appropriate and effective for the proposed learning (Table 3). In self-confidence, despite the general agreement in item 13, more than 32.0% of the participants felt undecided about the statement related to the responsibility attributed to the facilitator regarding what the participant needs to learn in the simulated activity (Table 3).

In the experience with debriefing, the highest means of agreement and importance were observed in the factor appropriate teacher guidance, which addresses issues about teaching, assessment and guidance carried out at this stage (Table 4).

In the general descriptive analysis on agreement, only three statements did not obtain a percentage higher than 70.0% in the "I totally agree" response. Among these, item 4 stands out, concerning incorrect feelings experienced in the debriefing (Table 5).

Participants who found it difficult to access the internet showed reduced satisfaction with learning compared to participants without difficulties. Participants

with prior contact with postvention had a relative reduction of 58.7% in the mean score of the dimension of satisfaction with learning compared to those who did not have connection difficulties (Table 6).

For each one-point increase in the score of the objectives and information factor, there was a relative increase of 12.3% in the average total score of the learning satisfaction dimension. A one-point increase in the active learning factor score resulted in a relative increase of more than 6.5% in the average total score of the satisfaction dimension (Table 1). Regarding the learning self-confidence dimension, for each one-point increase in the objectives and information factor, there was a relative increase of approximately 3.0% in the average total score of the self-confidence dimension (Table 6).

Study participants with difficulties accessing the internet showed a relative reduction of 14.8% in the average score on the Student Satisfaction and Self-Confidence in Learning Scale compared to those who did not have difficulties. A one-point increase in the score of the objectives and information factor resulted in a relative increase of approximately 2.3% in the average scale score. One-point increases in the appropriate teacher guidance factor resulted in a relative increase of approximately 5.0% in the mean of the scale of satisfaction and self-confidence (Table 6).

For each one-point increase in the realism factor, a relative increase of 13.5% was observed in the average score of the active learning factor (Table 7). Students and health professionals who had prior contact with postvention showed a relative reduction of approximately 27.0% in the mean score of the learning and making connections factor. An increase of one point in the realism factor score resulted in a relative increase of 14.3% in the mean score of the learning and making connections factor (Table 7).

■ DISCUSSION

The assessment of educational practices, satisfaction, self-confidence and experience with debriefing in a telesimulation allows the perceptions and understandings of participants to be highlighted in the teaching and learning process. A Spanish study reinforces that simulation-based teaching favors the construction of attitudes, skills and competencies by participants

Table 1 - Descriptive analysis of the subscales of the Educational Practices Questionnaire (n=58). Ribeirão Preto, São Paulo, Brazil, 2024.

Subscale Score	n	Mean	± *	Median	Minimum	Maximum
Agreement						
Active learning	57	43.47	5.95	45	26	50
Collaboration	48	7.42	2.43	8	2	10
Different ways of learning	57	9.14	1.13	10	6	10
High expectations	57	9.39	1.00	10	5	10
Importance						
Active learning	58	45.28	5.61	46	16	50
Collaboration	48	7.42	2.43	8	2	10
Different ways of learning	57	9.14	1.13	10	6	10
High expectations	57	9.60	0.82	10	7	10

Source: Prepared by the authors, 2024
Notes: ±: standard deviation.

Table 2 - Descriptive analysis of the items of the Educational Practices Questionnaire based on the agreement subscale (n = 57). Ribeirão Preto, São Paulo, Brazil, 2024.

Factors and Items	Number of responses obtained (%)				
	TD [†]	D [‡]	UN ^{**}	A ^{††}	TA ^{††}
Active learning					
1. During the simulation activity, I had the opportunity to discuss the ideas and concepts taught in the course with the teacher and other students	-	-	1 (1.8)	11 (19.6)	44 (78.6)
2. I actively participated in the debriefing session after the simulation	3 (5.5)	8 (14.5)	2 (3.6)	23 (41.9)	19 (34.5)
3. I had the opportunity to reflect further on my comments during the debriefing session	-	1 (1.9)	1 (1.9)	20 (38.5)	20 (57.7)
4. There was enough opportunity in the simulation to find out if I clearly understood the material	-	2 (3.6)	1 (1.8)	16 (28.6)	37 (66.0)
5. I learned from the comments made by the teacher before, during or after the simulation	-	1 (1.8)	- (-)	13 (22.8)	43 (75.4)
6. I received clues during the simulation, in a timely manner	-	3 (5.6)	5 (9.2)	23 (42.6)	23 (42.6)
7. I had the opportunity to discuss the objectives of the simulation with my teacher	-	1 (1.9)	2 (3.8)	23 (44.3)	26 (50.0)
8. I had the opportunity to discuss ideas and concepts taught in the simulation with my teacher	-	1 (1.9)	1 (1.9)	17 (32.1)	34 (64.1)
9. The teacher was able to respond to the individual needs of the students during the simulation	-	-	1 (1.8)	18 (32.1)	37 (66.1)
10. Using simulation activities made my learning time more productive	-	-	-	7 (12.3)	50 (87.7)

Table 2 - Cont.

Factors and Items	Number of responses obtained (%)				
Collaboration					
11. I had the opportunity to work with my colleagues during the simulation	1 (2.1)	6 (12.5)	4 (8.3)	17 (35.4)	20 (41.7)
12. During the simulation, my colleagues and I had to work through the clinical situation together	2 (4.7)	7 (16.3)	5 (11.6)	13 (30.2)	16 (37.2)
Different ways of learning					
13. The simulation offered multiple ways to learn the material	-	1 (1.8)	2 (3.5)	15 (26.3)	39 (68.4)
14. This simulation offered a variety of ways to assess my learning	-	1 (1.8)	2 (3.5)	20 (35.1)	34 (59.6)
High Expectations					
15. The objectives for the simulated experience were clear and easy to understand	-	-	-	14 (24.6)	43 (75.4)
16. My teacher communicated the objectives and expectations to be achieved during the simulation	-	-	1 (1.8)	14 (25.0)	41 (73.2)

Source: Prepared by the authors, 2024.

*Notes: TD: I totally disagree with the statement; D#: I disagree with the statement; UN***: Undecided - I neither agree nor disagree with the statement; A++: I agree with the statement; TA++: I totally agree with the statement.

Table 3 - Descriptive analysis of the instrument Student Satisfaction items and Self-Confidence in Learning from the dimensions of the scale (n = 57).

Dimensions and Items	Number of responses obtained (%)				
	SD [†]	D [‡]	UN ^{**}	A ^{††}	SA ^{††}
<i>Satisfaction with current learning</i>					
1. The teaching methods used in this simulation were useful and effective	-	-	-	4 (7.0)	53 (93.0)
2. The simulation provided me with a variety of teaching materials and activities to further my learning of the medical-surgical curriculum	-	-	-	5 (8.8)	52 (91.2)
3. I liked the way my teacher taught through simulation	-	-	1 (1.8)	6 (10.5)	50 (87.7)
4. The teaching materials used in this simulation were motivating and helped me learn	-	1 (1.8)	1 (1.8)	4 (7.0)	51 (89.4)
5. The way my teacher taught through simulation was appropriate for the way I learn	-	1 (1.8)	1 (1.8)	8 (14.3)	46 (82.1)
<i>Self-confidence in learning</i>					
6. I am confident that I have mastered the content of the simulation activity that my teacher has presented to me	-	1 (1.8)	1 (1.8)	28 (49.1)	27 (47.3)
7. I am confident that this simulation included the content necessary for mastery of the medical-surgical curriculum	-	-	4 (7.1)	13 (23.2)	39 (69.7)
8. I am confident that I am developing the skills and gaining the knowledge necessary from this simulation to perform the necessary procedures in a clinical setting	-	-	1 (1.8)	18 (31.6)	38 (66.6)
9. My teacher used useful resources to teach the simulation	-	-	1 (1.8)	9 (15.8)	47 (82.4)

Table 3 - Cont.

Dimensions and Items	Number of responses obtained (%)				
10. It is my responsibility as a student to learn what I need to know through the simulation activity	1 (1.8)	-	5 (8.8)	21 (36.8)	30 (52.6)
11. I know how to get help when I don't understand the concepts covered in the simulation	-	-	-	20 (35.1)	37 (64.9)
12. I know how to use simulation activities to learn skills	-	-	2 (3.5)	29 (50.9)	26 (45.6)
13. It is the teacher's responsibility to tell me what I need to learn about the topic developed in the simulation, during the class	1 (1.8)	3 (5.4)	18 (32.1)	20 (35.7)	14 (25.0)

Source: Prepared by the authors, 2024.

*Notes: SD†: I strongly disagree with the statement; D‡: I disagree with the statement; UN**: Undecided - I neither agree nor disagree with the statement; A††: I agree with the statement; SA‡‡: I strongly agree with the statement.

Table 4 – Means obtained in the subscales of agreement and importance of the Debriefing Experience Scale (n=57). Ribeirão Preto, São Paulo, Brazil, 2024.

Subscale Scores	n	Mean	±*	Median	Minimum	Maximum
Agreement						
Analyzing thoughts and feelings	56	17.68	2.59	19	11	20
Learning and making connections	56	37.52	4.11	39.5	21	40
Teacher's ability to conduct debriefing	56	22.73	3.22	25	12	25
Appropriate teacher guidance	56	14.27	1.31	15	9	15
Importance						
Analyzing thoughts and feelings	57	18.54	2.71	20	3	20
Learning and making connections	56	38.14	3.75	40	20	40
Teacher's ability to conduct debriefing	55	23.42	2.18	25	16	25
Appropriate teacher guidance	57	14.05	2.02	15	5	15

Source: Prepared by the authors, 2024.
Notes: ±: standard deviation.

Table 5 - Descriptive analysis of the items on the Debriefing Experience Scale based on the agreement subscale (n=57).

Factors and Items	Number of responses obtained (%)				
	TD [†]	D [‡]	UN ^{**}	A ^{††}	TA ^{††}
Analyzing thoughts and feelings					
1. The debriefing helped me analyze my thoughts	-	-	1 (1.8)	12 (21.4)	43 (76.8)
2. The facilitator reinforced aspects of the health team's behavior	-	-	2 (3.6)	10 (17.8)	44 (78.6)
The debriefing environment was physically comfortable	-	1 (2.0)	1 (2.0)	9 (18.0)	39 (78.0)
4. Incorrect feelings were resolved through debriefing	-	1 (2.0)	5 (10.0)	15 (30.0)	29 (58.0)
Learning and making connections					
5. Debriefing helped me make connections in my learning	-	-	1 (1.8)	7 (12.5)	48 (85.7)
6. The debriefing was helpful in processing the simulation experience	-	-	-	8 (14.3)	48 (85.7)
7. The debriefing provided me with learning opportunities	-	-	-	9 (16.1)	47 (83.9)
8. Debriefing helped me find meaning in the simulation	-	-	1 (1.9)	10 (18.5)	43 (79.6)
9. My questions about the simulation were answered by the debriefing	-	1 (1.9)	-	10 (19.2)	41 (78.9)
10. I became more self-aware during the debriefing session	-	-	1 (1.9)	15 (28.8)	36 (69.2)
11. Debriefing helped me clarify issues	-	-	1 (1.8)	15 (26.8)	40 (71.4)
12. Debriefing helped me make connections between theory and real-life situations	-	-	-	4 (7.1)	52 (92.9)

Table 5 - Cont.

Factors and Items		Number of responses obtained (%)			
<i>Teacher's ability to conduct debriefing</i>					
13. The teacher allowed me enough time to verbalize my feelings before making comments.	-	1 (1.9)	2 (3.9)	6 (11.8)	42 (82.4)
14. In the debriefing session, the professor made the correct clarifications.	-	-	1 (1.8)	8 (14.3)	47 (83.9)
15. The debriefing provided a means for me to reflect on my actions during the simulation.	-	-	1 (1.9)	8 (15.4)	43 (82.7)
16. I had enough time to clarify my questions.	-	1 (1.9)	3 (5.7)	13 (24.5)	36 (67.9)
17. In the debriefing session, the teacher was an expert on the topic developed in the simulation.	-	-	1 (1.8)	5 (9.1)	49 (89.1)
<i>Appropriate teacher guidance</i>					
18. The teacher taught the right amount during the debriefing session	-	-	2 (3.6)	13 (23.6)	40 (72.8)
19. The teacher carried out a constructive evaluation of the simulation during the debriefing	-	-	-	9 (16.1)	47 (83.9)
20. The teacher provided adequate guidance during the debriefing	-	-	-	5 (9.1)	50 (90.9)

Source: Prepared by the authors, 2024.

*Notes: TD† : I totally disagree with the statement; D† : I disagree with the statement; UN** : Undecided - I neither agree nor disagree with the statement; A†† : I agree with the statement; TA ‡‡ : I totally agree with the statement.

Table 6 - Inferential analyses based on the dimensions and score of the Student Satisfaction and Self-Confidence in Learning scale. Ribeirão Preto, São Paulo, Brazil, 2024

Variables	Estimate *	± †	t value ‡	Pr(> t) §	AR **	LI_AR ††	LS_AR ‡‡
Dimension of satisfaction with current learning							
Difficulty connecting to the Internet	-0.7267	0.2862	-2.5387	0.0145	0.4835	0.2759	0.8474
Prior contact with postvention	-0.8852	0.3778	-2.3427	0.0234	0.4126	0.1968	0.8654
Objectives and information factor	0.1166	0.0367	3.1790	0.0026	1.1237	1.0457	1.2075
Active learning factor	0.0632	0.0229	2.7633	0.0081	1,0653	1,0186	1.1141
Incomplete graduation	-0.6562	0.3544	-1.8516	0.0704	0.5188	0.2590	1.0392
Postgraduate training	0.4695	0.4392	1.0692	0.2905	1.5992	0.6762	3.7820
Intercept §§	-0.1338	0.9548	-0.1401	0.8892	-	-	-
Dimension of self-confidence in learning							
Objectives and information factor	0.0303	0.0111	2.7256	0.0087	1.0307	1.0085	1.0534
Intercept §§	3,0256	0.2527	11.9711	0.0000	-	-	-
Student Satisfaction and Self-Confidence in Learning Scale Score							
Difficulty connecting to the Internet	-0.1611	0.0776	-2.0752	0.0431	0.8512	0.7311	0.9911
Objectives and information factor	0.0226	0.0094	2.4147	0.0194	1.0229	1.0043	1.0419
Appropriate teacher guidance factor	0.0452	0.0197	2.2871	0.0265	1.0462	1.0065	1.0875
Intercept §§	3.1089	0.3136	9.9128	0.0000	-	-	-

Source: Prepared by the authors, 2024.

Notes: Estimate: Particular value obtained for an estimator in a given sample; ± †: Standard deviation; t value ‡: Standardized value calculated from sample data during a hypothesis test; Pr(>|t|) §: P-value associated with the value in the t-value column; AR **: Relative increase; LI_AR ††: Lower limit of the relative increase; LS_AR ‡‡: Upper limit of the relative increase; Intercept§§: Constant of the regression model; Shapiro-Wilk normality satisfaction: W = 0.97722, p-value = 0.3904; Shapiro-Wilk normality self-confidence: W = 0.96005, p-value = 0.06926; Shapiro-Wilk normality scale: W = 0.96278, p-value = 0.0918.

Table 7 - Inferential analyses based on the factors of active learning and learning and making connections. Ribeirão Preto, São Paulo, Brazil, 2024.

Variables	Estimate *	± †	t value ‡	Pr(> t) §	AR **	LI_AR ††	LS_AR ††
Active learning factor							
Objectives and information factor	0.0324	0.0173	1.8704	0.0672	1.0330	0.9984	1.0687
Realism	0.1274	0.0599	2.1275	0.0382	1.1358	1.0101	1.2773
Intercept§§	2.0175	0.6323	3.1907	0.0024	-	-	-
Factor learning and making connections							
Incomplete graduation	-0.2787	0.1416	-1.9687	0.0545	0.7568	0.5734	0.9988
Postgraduate training	0.2922	0.1823	1.6029	0.1153	1.3394	0.9370	1.9147
Prior contact with postvention	-0.3139	0.1289	-2.4351	0.0185	0.7306	0.5675	0.9406
Realism	0.1336	0.0525	2.5425	0.0142	1.1429	1.0311	1.2669
Intercept§§	2.9132	0.4772	6.1048	0.0000	-	-	-

Source: Prepared by the authors, 2024.
Notes: Estimate: Particular value obtained for an estimator in a given sample ; ± † : Standard deviation; t value ‡ : Standardized value calculated from sample data during a hypothesis test; Pr(>|t|) § : P-value associated with the value in the t-value column; AR ** : Relative increase; LI_AR †† : Lower limit of the relative increase; LS_AR †† : Upper limit of the relative increase; Intercept§§ : Constant of the regression model; Shapiro-Wilk normality: Shapiro-Wilk normality active learning factor: W = 0.97704, p-value = 0.372; Shapiro-Wilk normality learning and making connections factor: W = 0.98326, p-value = 0.6373.

more than traditional methods⁽¹⁰⁾. This aspect can be worked on in more specific approaches, such as in the case of postvention.

The results of a recent scoping review conducted by researchers from Singapore showed that although telesimulation is still considered by many as an alternative in teaching processes, its use has the potential to exceed known limits and effectively address the needs experienced in day-to-day health care⁽²⁵⁾. Telesimulation has been strengthened during the context of the Covid-19 pandemic⁽²⁵⁾, so that new advances in this area result from the creation, improvement and evaluation of simulated scenarios from the perspective of the target audience.

The attributes of telesimulation are significant for teaching and learning. In addition to gains in cognitive and emotional domains, knowledge construction occurs in real time, with the achievement of learning objectives that enhance expected skills and techniques^(11,25). Among the 29 studies analyzed in the scoping review mentioned, proposals carried out at an interprofessional level using audiovisual platforms simultaneously were addressed⁽²⁵⁾, as was experienced in the present study.

Breaking geographic boundaries through telesimulation favors partnerships between different professionals. It also supports educational practices to be developed in contexts with a smaller reach of resources, as emphasized by researchers from California (USA)^(11,25). Despite this potential, none of the studies identified in the review portrayed approaches related to mental health⁽²⁵⁾.

Although few, recent findings describe postvention actions carried out virtually. Some examples available in the scientific literature are from European experiences, such as a live chat developed in Italy and a virtual tool developed by French researchers to support those bereaved by suicide⁽⁶⁻⁷⁾. Neither describes specificities for teaching students and health professionals⁽⁶⁻⁷⁾. Thus, the results of this study are the first related to a telesimulation developed interprofessionally on postvention.

In a challenging scenario, teaching postvention becomes one of the key points for achieving better results with those responsible for care. Based on telesimulation, virtual care was promoted in the context of PHC in Brazil, considered the gateway for initial support to people bereaved by suicide⁽³⁾. Namely, the opportunity

for an experience that brings teaching closer to the real world⁽⁸⁻¹⁰⁾.

Although most participants mentioned previous contact with postvention, the link with the word and its meaning is still little understood in the health area, even in the context of mental health^(3,24). This distance must be observed critically, both in the challenges of addressing a topic that is a global public health problem, as well as in the views regarding beliefs and attitudes about suicide⁽²⁶⁾.

In this context, participants' perceptions about the teaching proposed in telesimulation were assessed using the Educational Practices Questionnaire. One of the pillars analyzed in the development of an educational practice concerns the high expectations factor, which had the highest means in the instrument's agreement and relevance subscales⁽¹²⁾.

A comparative study with 58 Brazilian undergraduate nursing students who developed the SBL for adult immunization found that the high expectations factor obtained higher mean scores only in the control group's agreement responses, with results that differ from those of this study for importance⁽¹⁸⁾. Higher mean scores in this factor indicate a positive experience in relation to their expectations in the telesimulation about the postvention, with better results expected by the participant, both in the construction of individual and collective knowledge, and in motivation and understanding about the objective to be achieved in the teaching and learning process⁽¹²⁾.

Educational practices also include factors related to active learning, collaboration, and different ways of learning⁽¹²⁾. Most participants in this study agreed with the items that describe such factors, reinforcing the effectiveness of the proposed practice regarding the opportunities, needs, and expected results in the teaching-learning process.

A study with 199 North American students reinforced that aspects linked to educational practices are fundamental for the development of the SBL, favoring active involvement by participants in the different forms of their learning⁽¹⁹⁾. By exploring telesimulation as a method for teaching postvention, the participant develops questions related to a complex topic from new perspectives, which also align with the expectations created⁽¹⁹⁾.

Collaboration is essential when considering post-vention, since guidelines indicate that the proposed support actions are based on work, in most cases, carried out in pairs⁽²⁾. In teaching, even in a virtual environment, opportunities for joint experiences and exchanges between participants during telesimulation, and during debriefing, can be provided. The active role of facilitators in establishing good practices can be a significant element that makes a difference in the more effective development of the activity⁽²⁵⁾.

The study addressed perceptions about satisfaction and self-confidence with learning. Participants felt satisfied and confident about learning with telesimulation, with a high level of agreement on all items of the scale applied and emphasis on the satisfaction dimension, which obtained higher means in self-confidence.

Satisfied and confident participants perform better in SBL and also in the construction of knowledge that can be worked on and applied in future experiences, beyond telesimulation⁽²⁰⁾. A recent cross-sectional study with 28 Brazilian students performed similar analyses based on the use of telesimulation in a pre-operative experience, with higher means recorded in the satisfaction dimension⁽²¹⁾.

These findings may suggest that telesimulation has the potential to promote higher levels of satisfaction for the participant, and in contrast, obtain lower levels of self-confidence. The justifications for this reality may be related to the characteristics of telesimulation, and also to personal issues of the participant, related to the ability to develop activities and approach their own goals⁽¹³⁾.

It is worth noting that in the self-confidence dimension, the number of participants who were undecided regarding item 13, about the teacher's responsibility to address what the participant needs to learn about the topic being worked on, stood out in relation to the other statements analyzed. A national study on satisfaction and self-confidence with 44 nursing students who worked in and observed a simulation showed that the same item had the lowest mean scores in the dimension⁽²²⁾.

Despite the active role of the facilitator/teacher in telesimulation and the commitment to participants, simulation-based teaching presents unique characteristics that allow for the individual and collective development of the participant⁽²⁷⁾. Thus, during telesimulation,

the development of skills and abilities that emphasize autonomy, the ability to make decisions and make judgments necessary for care, together with the support and supervision of facilitators is expected⁽²⁷⁾.

The role of the facilitator was also highlighted in the experience with debriefing, in which the highest mean values were in the appropriate guidance factor. National and international literature reinforces that the training and preparation of the facilitator concerning the topic worked on is essential for the success of the debriefing, especially when addressing the feelings expressed by the participants⁽²⁷⁻²⁹⁾. The participation of prepared and qualified professionals in facilitation is not only something that makes a difference but also a need to be considered by all those interested in the development of SBL.

Debriefing is also related to a more active analysis of the participant's thoughts and feelings, a point that obtained lower mean values. During telesimulation, through the construction of knowledge and exchanges, the participant experiences various feelings and sensations in a short period. Commonly, these are new experiences, often unexpected, which require new efforts and movements for learning. Although the debriefing moment offers a safe and structured environment, favoring knowledge, reflections, decisions, and self-assessment⁽²²⁾, a more active experience of this moment can be seen as a challenge for the participant, especially when carried out virtually⁽²⁹⁾.

These issues converge on aspects of active learning. The experience of a debriefing that provides the participant with greater involvement, mediated by a trained facilitator, enriches learning⁽²⁷⁻²⁹⁾. In this study, the scenario used for telesimulation described the debriefing based on an English theoretical model⁽¹⁷⁾. This construction allows the facilitator to carry out structured mediation, even in a virtual context, to achieve the expected learning objectives^(15,29).

In the inferential analyses, participants who experienced telesimulation in a more engaged way, based on aspects listed in active learning, showed a relative increase in the dimension of satisfaction. The results of a study with students from the southern region of Brazil indicated the presence of a positive association between satisfaction and self-confidence in a telesimulation, however, without specific analyses on active learning⁽²⁸⁾. It can be inferred that the participants were

more connected to the interactions, discussions and exchanges carried out at the appropriate time of the telesimulation, with a more productive experience, contemplated their learning needs and favored their dimension of satisfaction with teaching.

The total score of the satisfaction dimension showed a relative reduction when participants had difficulties accessing the internet, as did the mean score of the total score of the Student Satisfaction and Self-Confidence in Learning Scale. Changes in internet access patterns, especially when difficulties occur, harm the learning process^(11,25).

Experiencing such difficulties affects participants in different ways, which can result in feelings of loss with a direct impact on their perceptions of satisfaction⁽¹³⁾. The satisfaction dimension also decreased when participants had prior contact with postvention. In addition, participants with prior contact with postvention had a reduction in the mean score related to the factor about learning and making connections.

Although discussions in the scientific literature do not directly address issues regarding postvention, it is plausible to consider that telesimulation is not the most appropriate teaching method for participants with prior knowledge on the topic. Participants who mentioned prior contact may have more precise knowledge on the topic, so that the objectives and results of telesimulation do not address their interests. It is also possible to infer that the connections expected by the participant are not broadly portrayed in the debriefing, a point that may limit the development of learning⁽²⁷⁻²⁹⁾.

However, an intervention study conducted by Brazilian researchers on the construction of knowledge with health students based on simulation showed an opposite reality⁽³⁰⁾. Participants presented knowledge gaps before the simulated practice, something that changed after the teaching, with the construction of knowledge that was maintained in the short and long term⁽³⁰⁾.

This is corroborated by the fact that there are few studies and teaching approaches on postvention⁽²⁴⁾. It is also worth reinforcing that the SBL provides the opportunity for the participant to coordinate previous knowledge with current knowledge, with longitudinal impacts on the construction of knowledge and learning⁽³⁰⁾.

Participants who evaluated the facilitator's guidance during telesimulation as positive obtained better mean values of satisfaction and self-confidence in learning. The relationship established between facilitators and telesimulation participants favors the teaching and learning processes. The analysis of the debriefing based on an experiential learning theory reinforces this finding by highlighting that participants experience satisfaction when perceiving themselves in practical action, with the completion of the expected activities and the confidence to develop them⁽²⁸⁾.

Thus, the results of this study reinforce that telesimulation is a possible alternative for professional training and qualification in health on suicide postvention. Its use in postvention care does not exclude other proposals, but expands a scope that needs and can be further explored, mainly through more simulated scenarios addressing other perspectives related to suicide grief and postvention.

The positive results analyzed highlight potential, but do not exclude the need for a critical and committed view from proponents of telesimulation. Technological advances align with new perspectives of care in the context of health and should be worked on for their improvement. They also show a centralization of care in regions with a higher development index, as observed in the results of the scoping review on telesimulation⁽²⁵⁾.

As this is a convenience sample, a limitation of the study is the existence of gaps due to the generalization of the results. The instruments used in the collection do not present specificities for the evaluation of the scenarios proposed in the telesimulation. The study was carried out with a simultaneous and interprofessional evaluation, with students and health professionals, without highlighting possible differences in the perceptions of the different groups. The results refer to the participants' perceptions regarding self-confidence, satisfaction, educational practices, and the debriefing experience. Other methodological approaches may provide findings related to gains obtained through simulation-based teaching. Although they have been evaluated, difficulties in accessing the internet are potential limits in the evaluation of teaching mediated by the virtual environment.

CONCLUSION

Students and health professionals evaluated educational practices, satisfaction, self-confidence and debriefing from telesimulation on suicide postvention. The results showed that telesimulation was evaluated positively in all analyses, thus reinforcing its use as a viable teaching method for initial support to those bereaved by suicide.

In educational practices, the highest means evaluated for agreement and importance were obtained in the high expectations factor. Participants showed satisfaction and confidence with learning, with emphasis on the satisfaction dimension. In debriefing, the means of the appropriate guidance factor stood out, while the more active analysis of the participant's thoughts and feelings resulted in lower values.

Regarding inferential analyses, a positive association was identified between active learning and satisfaction, despite the reduction in satisfaction levels among those who experienced difficulties in the virtual experience and had previous contact with postvention. Participants who mentioned previous contact with postvention also had a reduction in the factor about learning and making connections. The facilitator guidance factor had a positive association with satisfaction and self-confidence in learning.

The evaluation of simulated scenarios enhances SBL, providing results that improve the methods used. The study addresses postvention based on telesimulation, with findings not yet described in the scientific literature, which can foster future discussions on the impacts of this practice on professional training and qualification, with a focus on care for those bereaved by suicide in the healthcare field.

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■ Availability of data and material

Access to the dataset may be granted upon request to the corresponding author.

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■ Authors' contribution

Conceptualization: Laysa Fernanda Silva Pedrollo, Aline

Conceição Silva and Kelly Graziani Giaccherro Vedana

Data curation: Laysa Fernanda Silva Pedrollo, Aline

Conceição Silva and Kelly Graziani Giaccherro Vedana

Formal analysis: Laysa Fernanda Silva Pedrollo, Aline

Conceição Silva and Kelly Graziani Giaccherro Vedana

Funding acquisition: Laysa Fernanda Silva Pedrollo, Aline

Conceição Silva and Kelly Graziani Giaccherro Vedana

Investigation: Laysa Fernanda Silva Pedrollo, Aline

Conceição Silva and Kelly Graziani Giaccherro Vedana

Methodology: Laysa Fernanda Silva Pedrollo, Aline

Conceição Silva, Elaine Cristina Negri and Kelly Graziani

Giaccherro Vedana

Project administration: Laysa Fernanda Silva Pedrollo,

Aline Conceição Silva and Kelly Graziani Giaccherro

Vedana

Resources: Laysa Fernanda Silva Pedrollo, Aline Conceição

Silva and Kelly Graziani Giaccherro Vedana

Supervision: Aline Conceição Silva and Kelly Graziani

Giaccherro Vedana

Validation: Laysa Fernanda Silva Pedrollo, Aline Conceição

Silva, Elaine Cristina Negri and Kelly Graziani Giaccherro

Vedana

Visualization: Laysa Fernanda Silva Pedrollo, Aline

Conceição Silva, Elaine Cristina Negri and Kelly Graziani

Giaccherro Vedana

Written - original draft: Laysa Fernanda Silva Pedrollo,

Aline Conceição Silva and Kelly Graziani Giaccherro

Vedana

Written - review & editing: Laysa Fernanda Silva Pedrollo,

Aline Conceição Silva, Elaine Cristina Negri and Kelly

Graziani Giaccherro Vedana

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■ Corresponding author

Laysa Fernanda Silva Pedrollo

E-mail: laysa.pedrollo@usp.br

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