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BALINT GROUPS USING THE "*COLETIVOS EM SAÚDE MENTAL*" *M-HEALTH* APP DURING COVID-19

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ABSTRACT

Objective: to evaluate the potential effectiveness of Balint groups with health professionals using an *m-Health* device called "*Coletivos em Saúde Mental*", during the SARS-COV-2.
Method: a quasi-experimental pilot study, developed in three phases: initial assessment; longitudinal monitoring and reassessment. Eight health professionals participated in the study, mean age of 35.5 years old, of different genders and with various schooling levels. The instruments used were the following: Demographic questionnaire; Mental health; Depression, Anxiety and Stress Scale; COVID-19 Fear Scale; Post-Traumatic Stress Disorder. The Balint interventions totaled 24 sessions using an *m-Health* device between December 2021 to February 2022.
Results: the health assessment indicated mental distress: before, 75%; after, 50% (mean, 1.70±0.05 vs 1.54±0.05; SD=0.378; 0.377; p=0.387); depression: before, 62.5%; after, 12.5% (mean, 1.91±0.05 vs 1.50±0.05; SD=0.688; 0.497; p=0.242); anxiety: before, 50%; after, 37.5% (mean, 1.71±0.05 vs 1.98±0.05; SD=0.703; 0.624; p=0.208); stress: before, 75%; after, 37.5% (mean, 2.36±0.05 vs 1.98±0.05; SD=0.697; 0.547; p=0.260); COVID-19 fear: before, from 14 to 31; after, from 10 to 26 (mean, 3.57±0.05 vs 2.82±0.05; SD=1.043; 1.038; p=0.005), with a 100% reduction; post-traumatic stress disorder, re-experiencing the trauma: before, 37.5%; after, 12.5%; avoidance: before, 25%; after, 25%; hyperstimulation: before, 25%; after, 12.5% (mean, 2.11±0.05 vs 1.66±0.05; SD=0.734; 0.615; p=0.133).
Conclusion: the findings of this study show the potential of Balint groups to promote health professionals' mental health. These results cannot be generalized and further research is required to evaluate the effectiveness of Balint groups.

DESCRIPTORS: Digital health. Mental Health. Crisis intervention. Innovation. Public health.

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GRUPOS BALINT COM O USO DO APLICATIVO M-HEALTH COLETIVOS EM SAÚDE MENTAL NA COVID-19

RESUMO

Objetivo: avaliar o potencial de eficácia dos grupos Balint com profissionais da saúde com dispositivo *m-Health* Coletivos em Saúde Mental, na Sars-COV-2.
Método: estudo piloto quase-experimental, desenvolvido em três fases: avaliação inicial, acompanhamento longitudinal e reavaliação. Participaram do estudo oito profissionais da saúde, média de 35,5 anos, de diferentes sexos e escolaridade. Os instrumentos utilizados foram: Questionário demográfico; Avaliação da saúde mental; Escala de Depressão, Ansiedade e Estresse; Escala de medo do Covid-19; *Posttraumatic Stress Disorder*. As intervenções Balint totalizaram 24 sessões, com o uso de dispositivo *m-Health*, entre dezembro de 2021 a fevereiro de 2022.
Resultados: A avaliação indicou sofrimento mental**,** pré 75%; pós 50% (média,1,70±0,05 vs 1,54±0,05; DP=0,378;0,377; p=0,387); depressão, pré 62,5%; pós 12,5% (média,1,91±0,05 vs 1,50±0,05; DP=0,688;0,497; p=0,242); ansiedade, pré 50%; pós 37,5% (média,1,71±0,05 vs 1,98±0,05; DP=0,703;0,624; p=0,208); estresse, pré 75%; pós 37,5% (média,2,36±0,05 vs 1,98±0,05; DP=0,697;0,547; p=0,260); medo da Covid-19, pré= 14 a 31; pós=10 a 26 (média,3,57±0,05 vs 2,82±0,05; DP=1,043;1,038; p=0,005), com redução do medo em 100%; transtorno de estresse pós-traumático, reexperiência do trauma, pré 37,5%; pós 12,5%; evitação, pré 25%; pós 25%; hiperestimulação, pré 25%; pós 12,5% (média,2,11±0,05 vs 1,66±0,05; DP=0,734;0,615; p=0,133).
Conclusão: Os achados deste estudo demonstram o potencial dos grupos Balint para fomentar a saúde mental dos profissionais da saúde. Esses resultados não podem ser generalizados e outras pesquisas são necessárias para avaliar a eficácia dos grupos Balint.

DESCRITORES: Saúde digital. Saúde Mental. Intervenção na crise. Inovação. Saúde pública.

GRUPOS BALINT UTILIZANDO LA APLICACIÓN DE *M-HEALTH* LLAMADA "*COLETIVOS EM SAÚDE MENTAL*" DURANTE COVID-19

RESUMEN

Objetivo: evaluar el potencial de eficacia de los grupos Balint con profesionales de salud utilizando un dispositivo de *m-Health* llamado "*Coletivos em Saúde Mental*" durante la SARS-CoV-2.
Métodos: estudio piloto cuasiexperimental, desarrollado en tres fases: evaluación inicial; seguimiento longitudinal; y segunda evaluación después de la intervención. Los participantes del estudio fueron ocho profesionales de salud,35,5 años. Se utilizaron: un Cuestionario demográfico; Salud mental; Escala de Depresión, Ansiedad y Estrés; Escala de miedo al COVID-19; y *Post-Traumatic Stress Disorder*. Las intervenciones Balint totalizaron 24 sesiones, utilizando el dispositivo *m-Health*, entre diciembre de 2021 y febrero de 2022.
Resultados: la evaluación indicó padecimiento mental: antes, 75%; después, 50% (media,1,70±0,05 vs 1,54±0,05; DE=0,378;0,377; p=0,387); depresión: antes,62,5%; después,12,5% (media,1,91±0,05 vs 1,50±0,05; DE=0,688;0,497; p=0,242); ansiedad: antes, 50%; después,37,5% (media,1,71±0,05 vs 1,98±0,05; DP=0,703;0,624; p=0,208); y estrés: antes, 75%; después,37,5% (media,2,36±0,05 vs 1,98±0,05; DE=0,697;0,547; p=0,260); miedo al COVID-19: antes, de 14 a 31; después, de 10 a 26 (media,3,57±0,05 vs 2,82±0,05; De=1,043;1,038; p=0,005), con 100% de reducción; Trastorno por Estrés Post-Traumático, "reexperiencia del trauma": antes,37,5%; después,12,5%; "evitación": antes, 25%; después, 25%; "hiperestimulación": antes, 25%; después,12,5% (media,2,11±0,05 vs 1,66±0,05; DP=0,734;0,615; p=0,133).
Conclusión: los hallazgos de este estudio demuestran el potencial de los grupos Balint. Estos resultados no pueden generalizarse y se requieren más trabajos de investigación para evaluar la eficacia de los grupos.

DESCRIPTORES: Salud digital. Salud Mental. Intervención en situaciones de crisis. Innovación. Salud pública.

INTRODUCTION

The SARS-CoV-2 pandemic negatively affects health professionals' mental health. Notably, physicians, nursing technicians and nurses, who work on the front line of care, as they deal with the fear of becoming infected and contaminating other people every day, given the lack of Personal Protective Equipment (PPE) and work overload daily[1].

The relevance of the emotional aspects during pandemic events has led a number of authors to identify SARS-CoV-2 as a pandemic of fear or coronaphobia[2], which can provoke or intensify anxiety, stress and fear symptoms[3]. In addition to that, the presence of Post-Traumatic Stress Disorder (PTSD) should also be considered[4–5–6].

Diverse evidence suggests that health professionals, especially nurses, suffer from high anxiety and depression levels[7]. Therefore, it becomes necessary to offer interventions that provide emotional support, positive coping techniques and a welcoming work environment, in addition to implementing public policies that ensure protective measures against virus contamination[8]. From this perspective, the care modalities with the use of Information and Communication Technologies (ICTs) were intensified, as alternatives to guarantee social distancing and general and mental health assistance to the population[9].

Innovative solutions, such as mental health care through videoconferences, can increase the number of people assisted[10]. *m-Health* technologies refer to tools and practices carried out using mobile devices such as cell phones and tablets, and can be defined as using ICTs to offer and improve health services. Professional care in the mobile health area provides conditions for the continuous assessment of health parameters, sets up a new scenario for encouraging healthy behaviors and assists in the self-management of chronic conditions[11].

m-Health technologies can enable greater population access to mental health services, in addition to easing the development of public emergency interventions[12]. Even before the SARS-CoV-2 pandemic, many countries were already using mobile health technologies to provide online appointments and treatments. With the need for social distancing, Telehealth became an essential service, and this resulted in global expansion[13].

Some studies show the importance of offering remote interventions to support health professionals in generalized crisis situations. On the international scene, since March 28th, 2020, the Psychiatry department at the Brooklyn University Hospital, in the state of New York, has developed support group sessions with 187 health professionals (physicians, residents, nurses) to provide emotional support to each other, in addition to helping to deal with work-related stress and emotions in the face of the SARS-CoV-2 pandemic[9]. The psychological appointment took place virtually in groups and individually, through phone and video calls. The groups were attended by 6 assistant psychiatrists and 10 Psychiatry residents; individual sessions were conducted by psychologists, psychoanalysts and/or social workers. The results indicated the significant burden of anxiety experienced by health professionals, combined with the stress of social distancing, along with the fear of contracting the virus or spreading it to their family members. The study suggests that offering psychological support groups via Telehealth and individual counseling in crisis situations is potentially positive[9], which corroborates studies stating that Telepsychotherapy is vital for this population group, especially in the face of a pandemic outbreak[14].

In India, online psychological interventions were well accepted by health professionals (n=153), male (69.3%), with positive evidence regarding accessibility, user satisfaction, and with a lower effective cost, which eased access to the specialists. Mental Telehealth has increased access to patients; however, concerns about safety and technological barriers have been highlighted[15].

In Brazil, the provision of psychological support services in remote and synchronous modalities gained space in the SARS-CoV-2 pandemic context. An example is the "*Coletivos On-line em Saúde Mental: Ação Transdisciplinar para grupos vulneráveis à COVID*"" project ("Online Collective Groups in Mental Health: Trandsdisciplinary action for groups vulnerable to COVID-19") targeted at health professionals. By using the *m-Health* device called "*Coletivos em Saúde Mental*" and supported by the Balint method, consultations take place weekly, on established days and times and lasting approximately 60 minutes. The Balint group is a device that gathers professionals from the same category, with a coordinator who leads the group's reflection. Each participant presents a report about a moment of their conflicting practice to which the group will react, following the methodological purpose of free association[16]. The group allows the anxieties of the professionals involved to be addressed, through the use of the *m-Health* device technique, in the synchronous online modality. The technique inspired the creation of different analysis groups in the most diverse contexts, with professors, psychologists, guardianship counselors, caregivers of people with disabilities and nurses[17–18–19].

There are different theoretical approaches to online psychological care. One of the models is the one proposed by Michael Balint, a Hungarian physician and psychoanalyst who lived much of his life in England, due to persecution in World War II. This group modality was created during a period in which an intense interest in group practices and the possibility of expanding the psychoanalytic therapeutic potential emerged in England, with transposition of the psychoanalysis foundations beyond the traditional clinic[20].

The objective of the Balint groups is to enable empathetic listening, contributing to care humanization beyond the biological issues of diseases. Humanized relationships can help to better cope with illness and also improve the relationship with the patient[16]. The Balint group is a device that gathers professionals from the same category, with a coordinator who leads the group's reflection (from 6 to 12 participants). Each participant presents a report about a moment of their conflicting practice, to which the group will react. The emotional difficulties that emerge instigate narratives and feelings, as well as past and present affections. Thus, each member of the group recognizes themselves differently, from the unconscious, the "mirror" of the group[19].

A study carried out in Sweden evaluated the experience of nine physicians (general practitioners) in Balint groups. The results indicated that the technique was beneficial and essential for the participants' professional lives, with improvements in several aspects, such as competence, resistance, satisfaction and confidence. Balint groups can therefore help health professionals cope with a demanding work life and prevent emotional exhaustion. Although Balint groups are not suitable for all health professionals, they can reduce stress and increase job satisfaction[21].

Another study verified the effectiveness of Balint groups in preventing burnout among 36 residents in training programs in China. In total, there were 10 sessions over 6 months. The results indicated evidence of burnout among the participants, pre- and post-intervention. After participating in the Balint group, the mean burnout subscale scores for Emotional Exhaustion (EE) and high Depersonalization (DP) decreased, and those for job satisfaction increased. The participants reported the importance of the technique, as overall satisfaction with the program was above 80%[22].

The study carried out in Birmingham, United Kingdom, showed the experiences of Balint groups in virtual environments during the SARS-CoV-2 pandemic crisis. The questionnaires answered by 6 groups about the experience of participants and facilitators (physicians/psychiatrists) indicated that it was positive; the response rate was 89% for the participants (n=51) and 100% for the facilitators (n=5). The participants found both formats favorable (in-person and online), becoming a source of support and connectivity, with some preferring the virtual modality. In conclusion, the study indicated the flexibility and accessibility promoted by virtual spaces, with virtual Balint groups being positive in

promoting emotional well-being, peer support and development of psychotherapeutic skills, with the potential to continue beyond the SARS-CoV-2 pandemic[23].

Another study carried out in Iran revealed the experience with an online and in-person Balint group during the SARS-CoV-2 pandemic. As the results indicated, the 9 health professionals were able to verbally express their experiences, feelings and emotions, providing an opportunity for interaction, reflection and understanding of their experiences. In addition to that, the semi-structured questionnaire indicated that the Balint group was an opportunity for development and learning, relief from work-related stress and a possibility of emotional discharge; as well as an empathetic space to talk about concerns and fears. The study concluded that the Balint group promoted well-being and quality of life for the health professionals[24].

In Brazil, studies using the Balint method are scarce and permeate the school context. A study carried out in a public early childhood education school from the Federal District sought to provide a space for listening and reflection on school inclusion for eight teachers aged between 33 and 52, in five meetings. The feelings of helplessness, loneliness and insecurity in the teachers' complaints drive the need to offer support and welcoming spaces, so that they can feel active in the educational process, reducing their anguish[25]. Another study, carried out in the public school system in the Federal District, verified the relevance of listening groups, focusing on the anxieties and analysis of the professional practices of seven psychologists. The group took place virtually, in 12 meetings lasting 90 minutes each. There was a reduction in anguish, uncertainty and fears related to the profession and the grief experienced in SARS-CoV-2[19].

These data support the need for mental health protection interventions aimed at health professionals, given the risk factors at work in the face of the generalized crisis imposed by the virus[11–26], as well as the development of research studies in Brazil with this population segment with Balint group devices. The rapid implementation of online mental health care shows that it can be a safe and effective assistance modality for treatment continuity, in addition to increasing access to mental health care. However, lack of Internet devices and proficiency in the use of digital technologies can directly influence access and restrict this type of assistance[27–28–29–30–31].

Given the adverse pandemic context and its effects, Balint groups can be a useful tool in promoting the health professionals' health, helping and developing skills to deal with various daily situations in the profession. Taking into account the considerations presented, as a mental health support measure for individuals affected by the pandemic, this study aimed at evaluating the potential effectiveness of Balint groups with health professionals with the *m-Health* device called "*Coletivos em Saúde Mental*", during the SARS-CoV-2 pandemic.

METHOD

This is a quasi-experimental pilot study of the before-and-after type, developed in three phases: initial assessment; longitudinal monitoring (intervention); and reassessment after the intervention.

The study obtained Brazilian Clinical Trials Registry (REBEC) No. RBR-4vy54v and was approved by the Research Ethics Committee (*Comitê de* Ética *em Pesquisa*, CEP) of a University located in the North of the state of Rio Grande do Sul. It contemplates Resolution 010/05 of the Federal Psychology Council, which approves the Psychologist's Code of Ethics, and Resolution 466/12 of the National Health Council, on the participation of human beings in research studies, which considers both individuals and communities.

The sample included 8 health professionals aged between 20 and 59 years old, with training in different health areas (multidisciplinary), working in public and/or private institutions, at the three health care levels (primary, secondary and tertiary), and living in the state of Rio Grande do Sul – RS.

Procedures and data collection

Initial contacts were made via *WhatsApp* with basic health care institutions in the northern region of the state of Rio Grande do Sul (Basic Health Units; Family Health Strategy; Comprehensive Health Care Centers; and hospitals). After announcing the research to those potentially interested in participating in the study, an online meeting was scheduled with each person with the objective of screening the main complaint and verifying the inclusion criteria for the study: health professionals aged between 20 and 59 years old; with training in different health areas; having worked in the training area for at least 6 months; in public and/or private institutions; in all three health care levels (primary, secondary and tertiary); living in the state of Rio Grande do Sul; and with time availability to participate in synchronous remote consultations. Health professionals with presence of neurological pathologies and/or significant depressive symptoms, assessed using the Depression Scale (DASS-21), and the Questionnaire for assessing mental health – *Self-Reporting Questionnaire* (SRQ-20) were excluded.

The professionals who met the inclusion criteria were informed about the study by reading the Free and Informed Consent Form, which was sent to the voluntary research participants for signature via WhatsApp. Registration of the study participants was carried out using the *m-Health* app called "*Coletivos em Saúde Mental*", a *Progressive Web App*[32] Digital Health technology (https://coletivosaudemental.com.br/pesquisa/).

The volunteer participants answered the assessment instruments in the "*Coletivos em Saúde Mental*" *m-Health* app in two online sessions, with assistance from the researcher responsible for this study, with an estimated time of 60 minutes each session. After responding to the standardized psychological assessment tests individually, the participants were divided into two groups (four participants in each one), depending on time availability, to carry out the intervention based on the Balint method, on the *Google Meet* platform. The Balint group meetings took place weekly, lasting approximately 60 minutes each session, between December 2021 and February 2022.

There were a total of 24 sessions, 12 sessions with each group of participants, distributed as follows: initial assessment (two meetings); Balint groups (eight meetings); final assessment – reassessment (two meetings), to compare their general health status and psychological functioning in relation to the first psychological assessment conducted. Both groups were led by the same psychologist and organized in a multidisciplinary way, according to the participants' available schedules.

With regard to the determinations for using the Balint group, each intervention session followed this script: 1st round – "Presentation of the group members"; 2nd round – "What worries you at work?"; "Which is the anguish of this moment?"; 3rd round – "Selection of the theme of anguish for descriptive and analytical deepening"; 4th round – "Details of the anguish selected by the member who proposed it"; and 5th round – "Analytical in-depth analysis of the topic by the participants"; "Who would like to talk?".

Each session of the process of applying the Balint Group principles (monitoring of the instructions and their efficiency) was recorded weekly, in a specific protocol for this purpose. Initially, the estimated participation in the study was from 10 to 15 participants, with an acceptance estimate of 50%; however, some professionals were unable to continue in the study and participate in the intervention stage. As a result, sample size was reduced to the expected minimum. All stages of this study were carried out by the researcher/coordinator of the groups, online, and taking into account the social distancing imposed by the SARS-CoV-2 pandemic.

The results were presented using descriptive statistics through distributions in absolute and relative frequencies (n – %), as well as mean (M), standard deviation (SD) and p-value. For the comparison analysis between scores, based on participants' measurements at both assessment

moments (pre- and post-intervention) and category frequencies, the Binomial test and the Jamovi software (*Version 1.2*)[33] were used. Descriptive and comparative analyses of the results were performed in the different study stages (pre- and post-). The materials and instruments used were the following:

a) "*Coletivos em Saúde Mental*" app[34] – This is a *Progressive Web App* (PWA) solution developed for access and participation in remote services. The PWA digital health solution consists of intuitive features that consider usability principles. The platform offers the addresses of official government websites to obtain information about the pandemic, guidelines for preserving mental health, a mental health booklet[35], a guide to access the platform and general information about the service. The solution houses all data collection instruments and diverse materials and information regarding the access link to the online meeting room. The app was certified at the National Institute of Industrial Property as computer program registration number BR512021000923-1, on 09/15/2020, available at https://coletivosaudemental.com.br/pesquisa/.

b) Sociodemographic Questionnaire – With the objective of collecting relevant sociodemographic information about the group of professionals, such as: profession, age, gender, ethnicity, schooling level, income, marital status, weekly working hours, family conditions (family, children, housing, etc.). The questionnaire has a total of 25 questions, with multiple-choice answers, eight related to SARS-CoV-2.

c) Questionnaire for assessing mental health – *Self-Reporting Questionnaire* (SRQ-20) [36]: for community and Primary Health Care studies, it aims at screening mental health. It consists of 20 questions that address psychoemotional aspects, proposed for screening Common Mental Disorders (CMDs): non-psychotic symptoms, characterized by insomnia, fatigue, irritability, forgetfulness, difficulty concentrating and somatic complaints. The answers are dichotomous (yes or no). Each affirmative answer scores a value of 1 to compose the final score, through the sum of these values. The scores obtained are related to the probability of the presence of a non-psychotic disorder, varying from 0 (no probability) to 20 (extreme probability). The cutoff point for diagnosing a mental disorder is the occurrence of seven positive answers.

d) Depression, Anxiety and Stress Scale (DASS-21)[37] – It assesses severity of the central symptoms of depression, anxiety and stress. The depression, anxiety and stress levels are measured based on behaviors and sensations experienced in the last seven days, through 21 questions that are answered in approximately 15 minutes. Each question is rated on a 4-point Likert scale of frequency or severity of the participants' experiences during the past week, with the intention of emphasizing emotional states over traits.

e) Fear of COVID-19 Scale (EMC-19)[38] – It aims at investigating fear of COVID-19. EMC-19 consists of a unidimensional measure, containing 7 items (for example, "I am afraid of dying because of COVID-19." – Item 4), answered on a *Likert* scale with possible answers from 1 (I totally disagree) to 5 (I totally agree). The total score is obtained from the sum of the items, varying from 7 to 35 points. The higher the score, the greater the feeling of fear regarding the disease.

f) *Post-Traumatic Stress Disorder Checklist-Civilian Version* (PCL-C)[39] – It assesses post-traumatic symptoms and indicators of Post-Traumatic Stress Disorder (PTSD). It is a self-report scale that has 17 items, based on criteria established by the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) for diagnosing PTSD, using a scale from one (Not at all) to five (A lot). The total evaluation of the instrument can be carried out by grouping or global score.

RESULTS

The results are arranged in the following sequence: presentation of the sociodemographic data, SRQ-20, DASS-21, EMC-19 and PCL-C. Table 1 below presents the sociodemographic characteristics of the sample in this study.

Table 1 – Sociodemographic characteristics of the health professionals. Passo Fundo, RS, Brazil, 2022. (n=8).

Variable		n (%)
Gender	Female	7 (87.5)
	Male	1 (12.5)
Age group	25-30 years old	1 (12.5)
	31-35 years old	3 (37.5)
	36-40 years old	3 (37.5)
	51.55 years old	1 (12.5)
Mean	35.5 years old	
Standard deviation	1.48	
Marital status	Single	4 (50)
	Married	4 (50)
Schooling	Technical level	2 (25)
	Graduate studies	6 (75)
Profession	Pharmacist	1 (12.5)
	Nutritionist	1 (12.5)
	Nurse	1 (12.5)
	Physician	1 (12.5)
	Physiotherapist	1 (12.5)
	Nursing technician	1 (12.5)
	Social worker	2 (25)
Workplace	Primary Care	3 (37.5)
	Hospital	4 (50)
	Private clinic	1 (12.5)
Working time	1-5 years	2 (25)
	6-10 years	1 (12.5)
	11-15 years	1 (12.5)
	16-20 years	3 (37.5)
	21-25 years	1 (12.5)
Do you have a diagnosis?	Depression	1 (12.5)
	Anxiety	2 (25)
	None	5 (62.5)
Have you already undergone psychiatric treatment?	Yes %	No %
	4 (50)	4 (50)
Have you already undergone psychological treatment?	5 (62.5)	3 (37.5)
Have you already thought about suicide?	3 (37.5)	5 (62.5)
Did you have COVID?	4 (50)	4 (50)
Have you felt lonely?	7 (87.5)	1 (12.5)
Medication use	2 (25)	6 (75)
Suicide attempt?	2 (25)	6 (75)
Heave you felt fear of virus contagion?	7 (87.5)	1 (12.5)

The sociodemographic data showed that the health professionals participating in the study were aged from 25 to 55 years old, with an estimated mean of 35.5 (SD=1.48); 87.5% female (n=7); 87.5% white-skinned (n=7); 87.5% with graduate studies (n=7); 50% single (n=4); and 50% married (n=4). The participants were distributed into two groups, one of which was comprised by a nurse, a pharmacist, a social worker and a nursing technician; whereas the other group included professionals who worked as a nutritionist, nursing technician, geriatrician and physiotherapist.

The health professionals worked in public and/or private institutions, at the three health care levels (primary, secondary and tertiary), 50% in hospitals and private clinics (n=4), Health Department, Health Reference Centers for Social Assistance (*Centros de Referência de Assistência Social*, CRAS) and Family Health Strategy – FHS (n=4); 62.5% have already undergone psychological treatment (n=5); 50% psychiatric treatment (n=4); 25% use medication (n=2); 37.5% have an anxiety (n=2) and/or depression (n=1) diagnosis; 37.5% had suicidal thoughts (n=3); 25% jad attempted suicide (n=2); 87.5% were infected by SARS-CoV-2; mainly presented respiratory sequelae since the previous year; lost a close relative or friend during the pandemic (n=7); 25% nearly two months ago (n=2), 25% between three and six months ago (n=2); and 87.5% are afraid of contracting the virus and feel lonely (n=7). Table 2 presents the SRQ-20 results before and after the intervention.

Table 2 – SRQ-20 results obtained by the health professionals before and after the intervention. Passo Fundo, RS, Brazil, 2022. (n=8).

Variable	Before Yes n	%	Before No n	%	After Yes n	%	After No n	%
1- Do you have frequent headaches?	6	(75)	2	(25)	4	(50)	4	(50)
2- Do you have lack of appetite?	1	(12.5)	7	(87.5)	1	(12.5)	7	(87.5)
3- Do you sleep poorly?	6	(75)	2	(25)	4	(50)	4	(50)
4- Are you easily scared?	1	(12.5)	7	(87.5)	1	(12.5)	7	(87.5)
5- Do you have tremors in your hands?	0	(0)	8	(100)	-	-	8	(100)
6- Do you feel nervous, tense or worried?	8	(100)	-	-	4	(50)	4	(50)
7- Do you have poor digestion?	4	(50)	4	(50)	2	(25)	6	(75)
8- Do you have difficulty thinking clearly?	3	(37.5)	5	(62.5)	2	(25)	6	(75)
9- Have you felt sad lately?	5	(62.5)	3	(37.5)	2	(25)	6	(75)
10- Have you been crying more than usual?	3	(37.5)	5	(62.5)	2	(25)	6	(75)
11- Do you find it difficult to carry out your daily activities satisfactorily?	6	(75)	2	(25)	4	(50)	4	(50)
12- Do you have difficulty making decisions?	3	(37.5)	5	(62.5)	2	(25)	6	(75)
13- Do you have difficulties at work (is your work painful, does it cause you suffering?)	6	(75)	2	(25)	4	(50)	4	(50)
14- Are you unable to play a useful role in your life?	-	-	-	-	-	-	-	-
15- Have you lost interest in things?	2	(25)	6	(75)	-	-	8	(100)
16- Do you feel like a useless, worthless person?	2	(25)	6	(75)	-	-	-	-
17- Have you had the idea of ending your life?	-	-	-	-	-	-	-	-
18- Do you feel tired all the time?	6	(75)	2	(25)	3	(37.5)	5	(62.5)
19- Do you get tired easily?	6	(75)	2	(25)	4	(50)	4	(50)
20- Do you have unpleasant sensations in your stomach?	4	(50)	4	(50)	2	(25)	6	(75)

The results of the SRQ-20 (pre-) mental health assessment questionnaire on pain and problems existing in the last 30 days indicated that 75% of the health professionals presented mental distress (scores equal to or greater than 7 (n=6). After the intervention, 50% had scores equal to or greater than 7 (n=4), indicating a reduction in SRQ-20 (n=2). Table 3 below presents the results according to the levels of depression, anxiety and stress symptoms in DASS-21, obtained before and after the intervention.

Table 3 – Description of the levels of depression, anxiety and stress symptoms obtained by the health professionals in DASS-21 before and after the intervention. Passo Fundo RS, Brazil, 2022. (n=8).

Symptoms	Score	Before		After	
		n	(%)	n	(%)
Depression					
Normal	0-9	3	(37.5)	7	(87.5)
Mild	10-13	2	(25)	0	(0)
Moderate	14-20	2	(25)	1	(12.5)
Severe	21-27	0	(0)	0	(0)
Extremely severe	>28	1	(12.5)	0	(0)
Anxiety					
Normal	0-7	4	(50)	4	(50)
Mild	8-9	0	(0)	1	(12.5)
Moderate	10-14	3	(37.5)	2	(25)
Severe	15-19	0	(0)	0	(0)
Extremely severe	>20	1	(12.5)	1	(12.5)
Stress					
Normal	0-14	2	(25)	5	(62.5)
Mild	15-18	2	(25)	2	(25)
Moderate	19-25	3	(37.5)	1	(12.5)
Severe	26-33	1	(12.5)	0	(0)
Extremely severe	>34	0	(0)	0	(0)

In the depression subscale, after the intervention there was a 50% reduction in the normal scores (n=4), 25% for mild (n=2), 12.5% for moderate (n=1) and 12.5% for extremely severe (n=1). In the anxiety subscale, there was a 12.5% increase in the mild score (n=1) and a 12.5% reduction in the moderate score (n=1), with no reduction in the extremely severe score. In the stress subscale, there was a 12.5% reduction in the moderate scores (n=1) and 12.5% in the severe scores (n=1), with a significant increase in the normal score in 37.5% (n=3) after the intervention.

In the pre-intervention, the data from the Fear Scale revealed a high fear of COVID-19 index (EMC-19; pre- = From 14 to 31 points). After the intervention, there was a reduction in fear intensity (EMC-19; post- = From 10 to 26 points).

The Figure 1 shows the pre- and post-intervention EMC-19 scores.

In PCL-C (pre-), in the “trauma re-experience” dimension, 37.5% had at least one significant symptom from criterion B (n=3), which includes signs and symptoms such as re-experiences, sleep changes, nightmares, psychological distress and physiological reactivity resulting from memories of the event, with a 12.5% reduction after the intervention (n=1). In the “avoidance” dimension, 25% of the participants presented three symptoms from criterion C (n=2), which include efforts to avoid negative

thoughts, places and activities that evoke the event, memory lapses, demotivation and a feeling of an shortened future, with no reduction after the intervention. In the “hyperstimulation” dimension, 25% of the sample presented two symptoms from criterion D, such as insomnia, hypervigilance, startles and intense irritability (n=2), which indicates the prevalence of PTSD. After the intervention, there was a 12.5% reduction in this dimension (n=1). Table 4 below presents the mean values, standard deviations and p-values in the instruments applied to the health professionals in the pre- and post-intervention assessment.

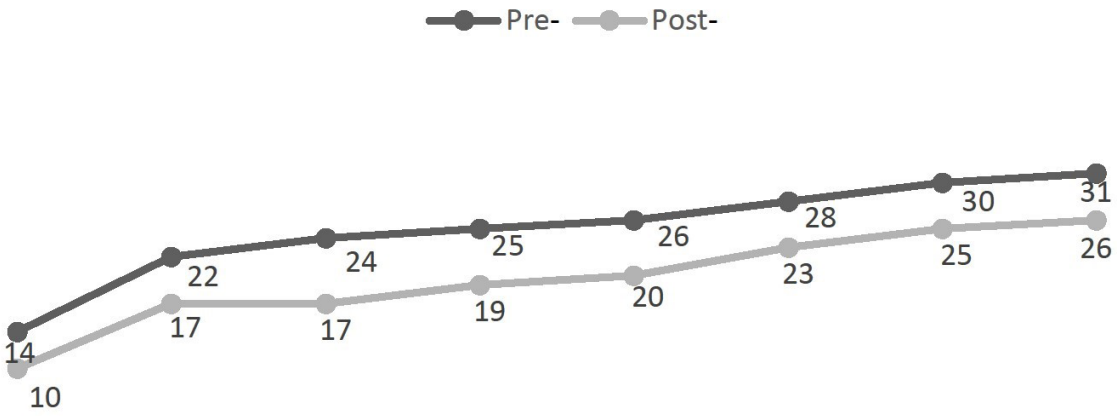

Figure 1 – Description of the fear scale scores (EMC-19; Pre-; Post-) obtained by the health professionals. Passo Fundo, RS, Brazil, 2022. (n=8).

Table 4 – Mean values, standard deviations and p-values in the instruments applied to the health professionals before and after the intervention. Passo Fundo, RS, Brazil, 2022. (n=8)

	Mean	Standard Deviation	p-value
SRQ-20			0.387
Before	1.70	0.378	
After	1.54	0.377	
DASS-21			
Depression			0.242
Before	1.91	0.688	
After	1.50	0.497	
Anxiety			0.208
Before	1.71	0.703	
After	1.52	0.624	
Stress			0.260
Before	2.36	0.697	
After	1.98	0.547	
PCL-C			0.133
Before	2.11	0.734	
After	1.66	0.615	
EMC-19			0.005
Before	3.57	1.043	
After	2.82	1.038	

*Binomial Test. Category frequencies (pre- and post-).

According to the results presented in Table 4, a statistically significant difference in EMC-19 (p=0.005) was identified using the binomial test, with a pre-intervention mean of 3.57 (SD=1.043) and a post-intervention reduction, obtaining a mean of 2.82 (SD=1.038). No equally significant results were observed in SRQ-20 (p=0.387) or in DASS-21, in the depression (p=0.242), anxiety (p=0.208), stress (p=0.260); and in PCL-C (p=0.133) dimensions.

The evaluation of the mean values in SRQ-20 indicated 1.70 (SD=0.378), with a reduction after the intervention, reaching 1.54 (SD=0.377). An evaluation of the mean values for depression, anxiety and stress was carried out before the intervention, obtaining 1.91 (SD=0.688) for depression, 1.71 (SD=0.703) for anxiety and 2.36 (SD=0.697) for stress. After the intervention, it was possible to observe a change in the means, obtaining 1.50 (SD=0.497) for depression, 1.52 (SD=0.624) for anxiety and 1.98 (SD=0.547) for stress. In PCL-C, a mean of 2.11 (SD=0.734) was obtained in the trauma re-experience, avoidance and hyperstimulation dimensions. After the intervention, an overall mean of 1.66 was obtained, indicating a reduction (SD=0.615).

DISCUSSION

This study evaluated the potential effectiveness of Balint groups with health professionals using the *m-Health* device called "*Coletivos em Saúde Mental*", during the SARS-CoV-2 pandemic. The predominant female sample at 87.5% (n=7) reflects the workforce of the Brazilian population during the pandemic, with 77.6% made up of women[40]. The reduced sample size can be related to the context imposed by SARS-CoV-2, as work overload, exhaustion and lack of time were constant complaints reported in the groups by the participants, which may have hindered health professionals' adherence and participation in the study. The health professionals' mental health assessment (SRQ-20) showed diverse evidence of mental distress in at least 75%, such as anxiety, stress, depressive symptoms and fear (scores ≥7), with a 25% reduction in indicators after the intervention: pre-, n=6; post-, n=2; (mean, 1.70±0.05 vs 1.54±0.05; SD=0.378; 0.377; p=0.387).

These results corroborate studies which show that health professionals face high workload levels in psychologically difficult situations, situations that intensify the need for intervention[3–8–9–30], and online assistance in the face of SARS-CoV-2 can contribute both to preserving and promoting mental health, as well as to the health professionals' work practice and lives[2–26–27–28–29–30–31].

The DASS-21 data indicated a reduction in the negative affect symptoms after the intervention, in the depression dimensions (mean, 1.91±0.05 vs 1.50±0.05; SD=0.688; 0.497; p=0.242). However, the increase in anxiety symptoms in the mild scores and the non-reduction in the extremely severe score (mean, 1.71±0.05 vs 1.98±0,05; SD=0.703; 0.624; p=0.208), corroborate data that indicate anxiety symptoms in health professionals when faced with situations of major shock and emotional distress, such as fear, grief and death[8–12–27]. As shown in the literature, many health professionals, especially Nursing professionals, experienced high anxiety levels during SARS-CoV-2 and, therefore, it becomes necessary to establish intervention protocols to reduce anxiety, providing emotional support and positive coping techniques, in addition to implementing policies that ensure protective measures[8]. It is noted that, even after the intervention, 75% reported feeling dry mouth at some point (n=6), which can be related to the sequelae of this virus, as pointed out by 25% of the participants during the initial assessment (n =2).

It was observed that, after the intervention, 62.5% of the participants presented normal stress (n=5), with a 25% reduction in the moderate score (n=2), which was positive (mean, 2.36±0.05 vs 1.98±0.05; SD=0.697; 0.547; p=0.260). While applying the instrument (pre-), 87.5% reported having lost close family members due to COVID-19 (n=7), which can be related to the result obtained.

Such results are compatible with studies which show that Balint groups can be beneficial for health professionals, especially in reducing stress[22–24–25]. These data demonstrate the significant burden of anxiety and stress intensified by social distancing, and motivate the provision of individual care and support groups via Telehealth in crisis contexts[2–8–11–22–23–27–28–29–30–31–35].

The results obtained in EMC-19 highlight the high fear of the virus among health professionals, even though they showed a reduction in fear levels after the intervention (mean, 3.57±0.05 vs 2.82±0.05; SD=1.043; 1.038; p=0.005). The pandemic of fear, also known as coronaphobia[2], can be related to the fear of becoming infected, with work overload due to lack of PPE and, also, to the daily experience of death[1]. Some narratives from the participants in the Balint groups can better exemplify these findings: "(...) *exposure at work is very high, it's the contamination focus, and with overcrowding things only get worse;* "(...) *the price is very high, because if you catch the virus it might cost you your life*"*;* "(...) *all of this creates a lot of insecurity and fear in us, because nothing is certain, everything changes*". Such results drive the need to offer support and welcoming spaces[23–24–25–27–28–29–30–31–35].

Major stressful events can cause psychological disorders. The relevant data from the sociodemographic questionnaire can be related to PTSD. Most of the participants in this study were infected by SARS-CoV-2, with respiratory sequelae since 2021; and 75% reported having lost a close relative or friend during the pandemic (n=7), 50% less than six months ago (n=4). In the cases of more severe clinical conditions and deaths, there is a greater risk of developing PTSD[3–5–42]. The pandemic was a stressful event that intensified feelings of helplessness, loneliness and insecurity, which highlights the need to offer support and welcoming spaces to reduce anguish[1–25–26–30–31].

It is emphasized that 75% of the participants presented different symptoms in the initial assessment (n=6), possibly more than six months ago, which was also evidenced in PCL-C, in the trauma re-experience, avoidance and hyperstimulation dimensions (mean, 2.11±0.05 vs 1.66±0.05; SD=0.734; 0.615; p=0.133), as the SARS-CoV-2 pandemic began at the end of 2019; since feelings of loneliness and fear of virus contagion have been intensified by 87.5% in recent months (n=7). In this traumatic context, Balint groups were useful in reducing the symptoms, and this reinforces the importance of listening groups focused on feelings arising from the pandemic, reducing anguish, uncertainty and fears related to the profession and the grief experienced during SARS-CoV-2[8–13–15–26–27–28–29–30–31–32].

According to the literature, the stressful event must have taken place at least one month ago, and the patient must be affected by suffering or impairment in important areas of their life, as is the case with SARS-CoV-2. According to the data herein presented, part of the sample may present acute PTSD, with symptoms that can last less than three months. Historically, traumatic aspects have been recognized among health professionals, such as increased burnout, fatigue, lower job satisfaction, suffering and high stress levels, which can lead to short- and long-term psychiatric disorders after experiencing stressful events[41].

A study revealed that patients with risk factors or who have infected relatives/friends are those who are most exposed to significant stress, with a double risk: contamination and compromise to their mental health[2]. This study highlights a high burden of negative experiences and emotions in health professionals during SARS-CoV-2, as also shown in previous studies[1–5–6–8–9–13–14–27–28–29–30–42]. As a collective traumatic event, this epidemiological and psychological crisis, both in the present and in the foreseeable future, affects the mental health of populations. In addition, situations of disasters and catastrophes lead to the possibility of real trauma experiences, given their intense impact on the psyche and the community[30–31–35], which corroborates the findings of this study.

The implementation of online mental health care in the face of SARS-CoV-2 shows that this type of assistance can be effective for treatment continuity, in addition to increasing access to mental health care[2–3–7–8–9–13–26–28–29–30–31–32–35–42].

As well as other Telehealth resources, mobile technologies have a potential for expansion and represent an opportunity for traditional health practices to be revised, based on incorporating these technologies into health systems[13]. In this sense, another study revealed satisfaction among most of the users in online services[22], which was also confirmed since, at the end of the intervention, the health professionals highlighted the importance of this type of service in their lives.

The data from this study reinforce the importance of supporting health professionals through interventions to protect mental health against risk factors at work, in the face of the widespread crisis imposed by the pandemic. This result corroborates data which indicate that, in the short term, online care during the COVID-19 pandemic can be positive in reducing psychological symptoms in health professionals[26–28–30–31–35], as well as Balint groups, with the *m-Health* device in the synchronous online modality[23–24].

CONCLUSION

This study met the objective proposed by evaluating the potential effectiveness of Balint groups with health professionals using the *m-Health* device called "*Coletivos em Saúde Mental*" during SARS-CoV-2. The intervention findings indicated the potential effectiveness of Balint groups in the online modality with the *m-Health* device. The reduction in anguish through the decrease in the SRQ-20, DASS-21, EMC-19 and PCL-C scores indicated that the Balint groups, in the online modality and with the *m-Health* app, were effective in improving the mental health conditions of the participants in this study, in the pandemic context. Additionally, this study innovates by proposing group care through digital health resources, contributing with important information to an evidence base that is not yet sufficiently developed on the effectiveness of digital services supported by Balint group devices for health professionals, in reducing of psychological distress.

Although this study brought about contributions from mental health services in the Balint group modality with *m-Health* devices targeted at health professionals, it is important to note its limitations. The health professionals' high work demand and lack of time may have contributed to non-adherence to the intervention and, consequently, to the reduction in sample size. Even though the requirements for analysis were met, this study does not allow generalization of the results. In addition to that, the users involved in the digital health intervention were predominantly female; it is necessary to verify whether the services in the modality offered in this study constitute an equitable path to support men and individuals of different genders. Finally, it is also suggested to continue experimental studies using *m-Health* to evaluate the potential effectiveness of mental health services aimed at health professionals, supported by Balint's proposal, covering clinical groups, as well as research studies into resources that can enhance adherence to assessments and interventions through digital health.

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NOTES

ORIGIN OF THE ARTICLE

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CONTRIBUTION OF AUTHORITY

Conception of the study: Secchi A, Scortegagna SA.
Data collection: Secchi A.
Data analysis and interpretation: Secchi A.
Discussion of the results: Secchi A.
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CONFLICT OF INTEREST

There is no conflict of interest.

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