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# Behavioral Activation for mexican women victims of violence during the COVID-19 Pandemic: a non-randomized pilot study

*Ativação Comportamental para mulheres mexicanas vítimas de violência durante a Pandemia de COVID-19: um estudo piloto não randomizado*
*Activación Conductual para mujeres mexicanas víctimas de violencia durante la Pandemia de COVID-19: un estudio piloto no aleatorizado*

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## Abstract

Objective: To evaluate depressive symptoms and levels of behavioral activation in telehealth for women victims of violence (VCM) during the COVID-19 pandemic. Method: A quasi-experimental pretest-posttest design without a control group was used. The participants were 14 women (18-60 years old) with depression and victims of violence. The Beck Depression Inventory and the Behavioral Activation for Depression Scale were applied. Participants were recruited through social networks and a culturally adapted protocol of Brief Behavioral Activation Treatment for Depression (BATD) was applied in telehealth, once a week. Data were analyzed with the Wilcoxon signed-rank test and Reliable Change Index. Results: There was a decrease in depressive symptoms ($p < .001$) and an increase in activation levels ($p < .001$). Conclusions: BATD could be an effective treatment for women with depressive symptoms facing VCM in vulnerable contexts such as the COVID-19 pandemic.

Key words: depression; violence against women; behavioral activation; COVID-19.

## Resumo

Objetivo: Avaliar sintomas depressivos e níveis de ativação comportamental via tele-saúde para mulheres vítimas de violência durante a pandemia de COVID-19. Método: Foi utilizado um delineamento quase-experimental pré-teste e pós-teste sem grupo controle. Participaram 14 mulheres (18-60 anos) com depressão e vítimas de violência. Foram aplicados o Inventário de Depressão de Beck e a Escala de Ativação Comportamental para Depressão. As participantes foram recrutadas por redes sociais e foi aplicado um protocolo culturalmente adaptado de Tratamento Breve de Ativação Comportamental para Depressão via tele-saúde, uma vez por semana. Os dados foram analisados com o teste de postos sinalizados de Wilcoxon e o Índice de Mudança Confiável. Resultados: Houve diminuição dos sintomas depressivos ($p < .001$) e aumento nos níveis de ativação ($p < .001$). Conclusões: O Tratamento Breve de Ativação Comportamental poderia ser um tratamento eficaz para mulheres com sintomas depressivos enfrentando violência em contextos vulneráveis como a pandemia de COVID-19.

Palavras-chave: depressão; violência contra a mulher; ativação comportamental; COVID-19.

## Resumen

Objetivo: Evaluar síntomas depresivos y niveles de activación conductual en telesalud para mujeres víctimas de violencia (VCM) durante la pandemia COVID-19. Método: Se utilizó un diseño cuasiexperimental sin grupo control: prestest-postest. Participaron 14 mujeres (18-60 años) con depresión y víctimas de violencia. Se aplicaron el Inventario de Depresión de Beck y la Escala de Activación Conductual para la Depresión. Se reclutó a las participantes por redes sociales y se aplicó un protocolo de Tratamiento Breve de Activación Conductual para la Dpresión (BATD) adaptado culturalmente al contexto de pandemia y VCM en telesalud, una vez por semana. Los datos se analizaron con la prueba de rangos de Wilcoxon y el Índice de Cambio Confiable. Resultados: Hubo una disminución de síntomas depresivos ($p < .001$) y aumento en niveles de activación ($p < .001$). Conclusiones: La TBAC podría ser tratamiento eficaz para mujeres con síntomas depresivos enfrentando VCM en contextos vulnerables como la pandemia COVID-19.

Palabras clave: depresión; violencia contra la mujer; activación conductual; COVID-19.

# Behavioral Activation for mexican women victims of violence during the COVID-19 pandemic: a non-randomized pilot study

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Objective: To evaluate depressive symptoms and levels of behavioral activation in telehealth for women victims of violence (VCM) during the COVID-19 pandemic. Method: A quasi-experimental pre-test-posttest design without a control group was used. The participants were 14 women (18-60 years old) with depression and victims of violence. The Beck Depression Inventory and the Behavioral Activation for Depression Scale were applied. Participants were recruited through social networks and a culturally adapted protocol of Brief Behavioral Activation Treatment for Depression (BATD) was applied in telehealth, once a week. Data were analyzed with the Wilcoxon signed-rank test and Reliable Change Index. Results: There was a decrease in depressive symptoms ($p < .001$) and an increase in activation levels ($p < .001$). Conclusions: BATD could be an effective treatment for women with depressive symptoms facing VCM in vulnerable contexts such as the COVID-19 pandemic.

Palavras-chave: depression; violence against women; behavioral activation; COVID-19.

In March 2020, the World Health Organization (WHO) declared a global pandemic of the severe acute respiratory syndrome coronavirus 2, which is responsible for causing COVID-19 (WHO, 2020). Without an effective vaccine to slow the spread of COVID-19 and reduce viral transmission, international organizations and governments adopted preventive measures related to behavior modification strategies, including recommendations or the enforcement of mask use, social distancing, home confinement, and suspension of nonessential activities (WHO, 2020).

These measures altered the lifestyles of populations worldwide and led to adversely affected relationship dynamics for some couples (Evans et al., 2020). This problem highlighted the structural violence to which many women are subjected within family and work contexts, both of which are environments in which they spend long hours, hindering the full exercise of their rights in the face of the COVID-19 pandemic: the right to work, mental health, legal support, and non-violence (Comisión Interamericana de Mujeres, 2020; United Nations, 2020; Valencia et al., 2021).

Violence against women (VAW) is considered a problem on three fronts: public health, human rights, and social justice (WHO, 2021a). In fact, worldwide, one in three women are estimated to experience physical, psychological, or sexual violence by their partner at some point in their life, with urban women aged 24–35 years being the most vulnerable group; in Latin America and Mexico, these numbers are similar (Bott et al., 2019; Instituto Nacional de Estadística y Geografía 2020; WHO, 2021).

The VAW refers to behavior aimed at physically, psychologically, and/or sexually controlling, harming, or threatening women, publicly or privately (United Nations, 1993). International studies have shown a relationship

between the COVID-19 pandemic and increasing levels of VAW (Bradbury-Jones & Isham, 2020; Silverio-Murillo et al., 2020).

The main effects of VAW (physical, psychological, or sexual) can be seen in their mental health (e.g., posttraumatic stress, depression, anxiety, psychoactive substance use, and suicidal ideation), which, in turn, affect their quality of life (Ferrari et al., 2016; Xu et al., 2020). Moreover, exposure to violence is a risk factor of depression, which is considered the leading cause of disease-related disability among women (Berenzon et al., 2013; WHO, 2021).

Depression is characterized by a mood change due to persistent sadness, deterioration in family, work, and interpersonal functioning, loss of pleasure or enjoyment of activities, fatigue, poor concentration, feelings of guilt and worthlessness, changes in the sleep-wake cycle, food intake, and behaviors associated with suicide; according to its severity, depression can be classified as mild, moderate, or severe (American Psychiatric Association [APA], 2013; WHO, 2019).

The measures implemented to mitigate the effects of the COVID-19 pandemic could be risk factors for victims of violence because, for example, home confinement may expose them to live longer with the perpetrator. Furthermore, this confinement and exposure may lead to detrimental economic and psychological effects, increased use of psychoactive substances, access to police reporting services, protection orders, and decreased social support (Hoehn-Velasco et al., 2021; Moreira & Pinto, 2020; Silverio-Murillo et al., 2020; van Gelder et al., 2020).

Accordingly, organizations, associations, and research groups have called for the establishment of prevention and intervention measures regarding VAW toward making specialized care services more comprehensive, with examples of such measures being potential interventions in legal aspects and mental health under vulnerability contexts, such as the one evoked by the COVID-19 pandemic (Bradbury-Jones & Isham, 2020; United Nations, 2020; Sánchez et al., 2020; van Gelder et al., 2020).

Technology-based interventions (TBIs) have become a relevant alternative to face-to- face psychotherapy because of their accessibility, scope, and cost-effectiveness. In a context of increased vulnerability (e.g., the COVID-19 pandemic), mental health issues, and violence, the use of cost-effective TBI (which generally require only a mobile device and an application, usually with low data consumption, for implementation) for psychotherapy can bridge accessibility gaps, decrease stigma related to going to a public or private institution for psychological help, reduce waiting lists, facilitate personalized remote care, save physical space, decrease implementation time and costs, and ensure patient security and privacy (Boelen, 2020; Li et al., 2020; Su et al., 2021).

Taking into account these benefits of TBI, face-to-face psychological interventions must be adapted to TBIs to address the mental health problems of victims of violence. This is because TBIs usually provide a safe space for women to share their experiences and have been considered an

essential alternative means of helping women in violent contexts (Ford-Gilboe et al., 2017; Tarzia, 2016; Su et al., 2021). Indeed, evidence shows that TBIs reduce symptoms of depression and anxiety and exposure to violence (Decker et al., 2020; Koziol-McLain et al., 2018).

The Society of Clinical Psychology 2023) Division 12 of APA suggests various psychological treatments for the care of depression, including Behavioral Activation Treatment (BAT).

This intervention has been proven to be as effective as cognitive behavioral therapy and pharmacotherapy in reducing depressive symptoms (Martel et al., 2010), although it has the advantage of requiring less training for healthcare professionals and non-professionals (Richards et al., 2017). Furthermore, the BAT is potentially scalable, easy to administer in outpatient clinical settings, and its effectiveness has been demonstrated in both face-to-face and Internet interventions (Simmonds et al., 2019; Uphoff et al., 2020).

The literature has suggested the effectiveness of applying culturally adapted BAT in the Latino population (see Kanter et al., 2010; Kanter et al., 2015). For example, in two pilot studies of a randomized clinical trial (RCT) that included Latin people, Collado et al. (2014, 2016) described the greater efficacy of Behavioral Activation Treatment for Depression (BATD) compared to support counseling. Specifically, both studies showed relevant treatment acceptance and satisfaction, decreased depressive symptoms, increased activation levels and the maintenance of such levels, and favored BATD after one month of follow-up.

Despite these theoretical contributions, we have identified a need for further evidence from randomized controlled trials on the efficacy of behavior activation therapy for depression among women who are victims of violence and/or intimate partner abuse. Among the few on a related topic in face-to-face mode, the following are reported. The study by Bolton et al. (2014) evaluated the effectiveness of BATD and cognitive processing therapy in reducing depressive symptoms among survivors of systematic violence, suggesting that BATD decreased depressive symptoms more significantly than the Cognitive Processing Therapy (CPT). Furthermore, the RCT conducted by Patel et al. (2017) with two BATD groups and improved routine treatment showed a general decrease in depressive symptoms.

Research shows that violence is a variable that moderates depressive symptoms and prevents the activation process (Patel et al., 2019). Escaping the depressive cycle requires people to engage in behavioral activation; however, cohabiting with the perpetrator of violence may hinder the victims' ability to seek help, perform pleasant activities, access legal resources, and receive social, economic, and medical support, thus inhibiting their behavioral activation and potentially influencing their overall response to treatment (Patel et al., 2019).

Although it is essential that people suffering from VAW receive psychological treatment, the search for support among women in such

circumstances is often complex and they may choose not to visit the available services owing to fear for their safety. Accordingly, we believe that a telehealth BATD must be culturally adapted and assessed for its effectiveness in women experiencing VAW.

We consider that current efforts to expand and reorganize mental health services for VAW victims are opportunities to build a more effective mental health system in the future. To our knowledge, this was the first pilot study in telehealth to assess depressive symptoms and culturally adapted BATD activation levels in telehealth for VAW victims during the COVID-19 pandemic.

## Method

### Design

This study utilized a pretest-posttest quasi-experimental design without a control group. Specifically, a single group of participants completed assessments at baseline (pretest) and again following the intervention (posttest). This research design aligns with a non-randomized pilot study approach, which involves implementing an intervention and/or other procedures of a future randomized controlled trial (RCT) without randomizing participants. Non-randomized pilot studies test aspects of the future RCT protocol in practice, but do not include randomized intervention and control groups. Such designs allow for evaluating the feasibility and viability of the intervention and procedures. The focus is on testing processes rather than determining effectiveness of the intervention. By piloting the intervention and assessments with a single group, this study aimed to assess the feasibility and acceptability of the procedures planned for a larger RCT evaluating the effectiveness of the approach (Eldridge, 2016).

### Ethical Considerations

The project was approved by the Research Ethics Committee (Comité de Ética en Investigación – CEI) of the Centro Universitario del Sur, Universidad de Guadalajara, under Opinion CEI/26. To protect the confidentiality and safety of participants, we follow internal and Mexican ethical and legal recommendations for cases of violence (Diario Oficial de la Federación, 2007, 2009, 2012, 2013; Sociedad Mexicana de Psicología, 2010; World Medical Association, 2013).

The informed consent outlined the study's purpose, procedures, risks, benefits, and confidentiality protections, emphasizing the voluntary nature of participation. In addition to informed consent, intake documents assessed risks that could arise during treatment. We developed emergency protocols for situations like substance use, severe violence necessitating police or shelter support, and possible treatment suspension with referrals. Safety plans were created collaboratively, detailing strategies for maintaining well-being.

If safety concerns like imminent high risk of violence were identified during intake assessments, participants were immediately connected with local support services. We provided contact details of study team members available 24/7 for emergencies. Ongoing check-ins during treatment monitored safety issues. Care was taken to provide psychological support in an ethical, compassionate manner due to the sensitivity of addressing violence against women.

## Participants

The sample comprised 14 participants that belonged to different states of Mexico (see Table 1), with an age range of 18–40 years, an average of 29.07 years (*SD* = 7.03); 71% of the participants reported being married; 64% were currently unemployed; 43% had a junior college degree (3-year bachelor's degree), 43% had a university degree (5-year bachelor's degree); 86% reported that their partner was the perpetrator of violence, which was most often of a psychological nature (79%).

*Table 1*
Participants' Sociodemographic Characteristics

| Demographic Characteristics | M | SD | % |
|---|---|---|---|
| Age | 29.06 | 7.03 | |
| Marital status | | | |
| Single | | | 71 |
| Married | | | 29 |
| Cohabiting | | | 57 |
| Education Level | | | |
| High School | | | 14 |
| Junior College | | | 43 |
| University | | | 43 |
| Monthly income | | | |
| $180–$360 | | | 64 |
| $360–$7520 | | | 36 |
| Current employment status | | | |
| Unemployed | | | 64 |
| Part-time job | | | 18 |
| Full-time job | | | 18 |
| Perpetrator of violence | | | |
| Partner | | | 86 |
| Father | | | 7 |
| Another | | | 7 |
| Type of violence | | | |
| Physical | | | 14 |
| Psychological | | | 79 |
| Sexual | | | 7 |

**Therapists**

In this study, 14 therapists (13 women, 1 man) participated. All therapists had at least basic psychology training, a psychology degree, and a certificate of professional practice. Furthermore, 80% had a master's degree in psychology or cognitive behavior therapy and reported having two to five years of experience applying care protocols for violence against women (VAW), treating depression, and preparing safety plans for situations involving violence, crises, emergencies, and suicidal behaviors.

To select professional psychologists, from September 16 to October 16, 2020, we posted a recruitment message on Facebook and emailed members of the Mexican System of Research in Psychology (Sistema Mexicano de Investigación en Psicología – SMIP), in Mexico. With this, we aimed to recruit a sample for a training activity aimed at preparing a group of clinical psychologists to implement an evidence-based treatment for depression and VAW. Those interested in participating were sent a link to an online form, which contained general data about the study and an invitation to a briefing via Google Meet.

Once the group was formed, we held a meeting to explain the project, the projected intervention time, the training dates, and the case supervision protocols. Once completed, the clinical psychologists signed an informed consent form by checking a box. For this research, 14 professionals were trained, and one patient was assigned to each professional.

To apply the BATD, we first asked the original author of this tool for consent to translate and culturally adapt its manual for professionals (Lejuez et al., 2011). Subsequently, the main author of this work trained 14 psychologists in a 20-hour training in psychological care with a gender perspective and application of the BADT protocol. After training and review of the participant's and therapist's digital manuals, they provided feedback on the intervention protocol and suggested cultural adaptations for the context of the pandemic and violence against women. Finally, once the intervention began, case supervision was carried out biweekly in a group format.

**Procedure**

Participants were recruited through Facebook. The project was announced in a Facebook post, which included data on the principal investigator and described situations of intimate partner violence and depressive symptoms; the post was active for the first 15 days of October 2020. After reading the post, participants contacted the principal researcher by Facebook messaging or email; during this contact, participants were given the opportunity to clarify any doubts about the study.

Upon demonstrating interest in participating, we shared a link to the online form; It included an informed consent form, a sociodemographic data sheet, an ad hoc structured interview about violence, the Beck Depression Inventory version II (BDI-II, Morales, 2015), and the Behavioral Activation Depression Scale (BADS, Sanchez et al., 2018). Upon meeting all

these criteria, the first author notified the participants by email and sent instructions about the intervention process.

The inclusion criteria were as follows: Mexican women aged 18-60 years, who have experienced VAW, at least mild symptoms of depression (according to BDI-II results), access to the Internet, an electronic device (i.e., to install a video call application, WhatsApp, Google Meet or Zoom), and signing the informed consent form. No financial incentive was provided for study participants. Participants who required urgent care or were unavailable were excluded from the study to protect their integrity; participants with a profile of use of psychoactive substances, suicidal ideation, or post-traumatic stress were also excluded.

**Culturally Adapted BATD**

To apply the BATD, we first asked the original author of this tool for consent to translate and culturally adapt its manual for professionals. The manual was translated from English to Spanish. The BATD is a 10-session behavioral intervention governed by the laws of learning and by the philosophy of radical behaviorism (Skinner, 1953). Its technology fits within contextual or third-generation therapies, and it aims to evaluate participants through behavioral functional analysis.

The intervention monitors your mood, identifying vital areas and values to gradually select, hierarchize and schedule activities allowing participants to effectively ask for help and preparing them to maintain the learnt behaviors and prevent relapses (Lejuez et al., 2011), this model considers that by modifying the activities that maintain the depressive behavior, the thoughts and emotions experienced are gradually changed, and it is not necessary to add other intervention techniques, such as techniques to restructure thoughts.

Treatment targets behavioral activation, which acts as a mechanism of clinical change by helping to extinguish negative reinforcement behaviors while maintaining depressive behavior. We applied BATD in Spanish, using video calls on WhatsApp to conduct 60-minute, individual, and weekly sessions from October 19, 2020, to January 15, 2021.

Based on previous research on methods to adapt treatments for depression (Chowdhary et al., 2014), we culturally adapted BATD. First, we conducted a literature review of references on TBIs, the COVID-19 pandemic, treatment for depression in the Latino population, and VAW in major scientific databases, namely PsycINFO, PubMed, Science of Web and the Cochrane Library. The results suggested adapting the standard intervention protocol to a telehealth video format, personalizing it to patients' needs, and incorporating psychoeducation on key concepts related to violence against women (VAW).

Specifically, VAW elements that were addressed included providing education on the psychological dynamics, types of violence, and cycle of abuse that can occur in intimate relationships. Additionally, safety planning, referrals for legal and medical services, minimizing risks when seeking

help, and ongoing evaluation of ethical and human rights standards were important VAW components integrated into the adapted intervention (Arroyo et al., 2017; Asadi et al., 2020).

The intervention was adapted to the cultural context through modifications to the original manualized sessions. For example, in Session 1 psychoeducation was added on the concepts of violence, types of abuse, and the cycle of violence. In Session 2, psychoeducation was incorporated about legal options and other support services available. Additionally, Session 3 involved collaboratively developing a safety plan detailing strategies for maintaining the participant's well-being when in abusive situations. The remainder of session content aligned with the original BATD protocol.

This case-by-case and session-by-session adaptation approach allowed for retaining the core treatment components while ensuring contextual relevance. The additional psychoeducation and safety planning elements were deemed important for ethically providing care to women experiencing intimate partner violence in Mexico.

### Fidelity

To ensure treatment fidelity, an ad hoc self-reported checklist was prepared to assess compliance with the activities designed for each session, both by the professional and by the participant. Our checklist was based on the treatment fidelity checklist and the guidelines of the Behavior Change Consortium of the National Institutes of Health and recent research (Borrelli, 2011). To complement the evaluation, the professionals recorded clinical notes after each session, with one clinical record being included in this study per patient. Since we considered our study participants to be in a vulnerable situation, professionals were asked not to record the sessions.

Furthermore, we assessed treatment fidelity by case supervision, which had the main goals of ensuring treatment safety, adherence, monitoring, and fidelity, improving the procedures; and discussing the progress and obstacles to intervention implementation from the side of participants and of professionals. This supervision activity was conducted biweekly, in a group format, lasted approximately four hours and was conducted based on international guidelines and evidence-based models (APA, 2014). The principal investigator conducted this activity considering her clinical training to deal with and care experience with the studied population. When faced with any doubt about a specific case, the principal investigator supervised the case with a Ph.D. in psychology, with 20 years of experience in research and clinical care for women victims of violence.

### Instruments

**Sociodemographic Questionnaire**. We designed a questionnaire to collect data on age, sex, marital status, household, education level, employment, income, length of schooling, health status, history of treatment for depression, and use of antidepressants.

**Structured Interview on Violence**. We developed an ad hoc structured interview to collect data on type, frequency, intensity, specific violent behaviors, means of coercion, complaints, leaving home experiences, help-seeking behavior from shelters, injuries, access to social support, and on the perpetrator of violence.

**Beck Depression Inventory II**. To assess the severity of depressive symptoms, we used the Beck Depression Inventory II (BDI-II) of 21 items (Beck et al., 1996). We used its simplified and adapted version for the Mexican population, which showed a Cronbach's α = 0.91 and has two subscales: cognitive-affective symptoms (14 items) and somatic-motivational (seven items) symptoms (Moral, 2013). The items are rated on a four-point scale ranging from 0 to 3, and the total scores are calculated by the sum of the scores for each item. We classified total scores into absent (0–15), mild (16–20), moderate (21–29), and severe (30–63) depressive symptoms (Moral, 2013).

**Behavioral Activation for Depression Scale (BADS)**. We also used the 25-item BADS, which comprises four dimensions: activation, avoidance/rumination, work/school impairment, and social impairment (bolto et al., 2006). We used the Mexican version, which showed a Cronbach's α = 0.89 (Sánchez et al., 2018). Furthermore, we use this scale to measure activation, avoidance, and escape behaviors when applying the BADT. Items are rated on a seven-point scale ranging from 0 to 6 (not at all - completely true), and total scores are calculated by the sum of each item. The avoidance/rumination, work/school impairment, and social impairment subscales are calculated in inverse form, while the activation subscale is qualified directly (Sánchez et al., 2018).

**Questionnaire on treatment satisfaction and safety**. The purpose of this questionnaire (created ad hoc) was to identify the participant's experience of satisfaction and safety during the intervention process. It consists of two dimensions with five open questions for each item, for example, in the satisfaction section, "how satisfied are you with the way in which the psychologist has treated your problem", or in the safety aspect, "do you have a space to carry out the session safely?"

### Statistical analysis

Data were processed and analyzed using the Social Sciences Statistical Package, version 28. We conducted a non-parametric Wilcoxon signed-rank test for dependent variables; this test enabled us to assess intra-group differences in a small sample. The reliable change index (RCI) was calculated to analyze individual clinical differences (Jacobson & Truax, 1991). The post-test-pretest/standard error of the mean difference formula is applied to calculate the RCI. The positive change is considered reliable when it is greater than 1.96; negative change is considered reliable when it is less than -1.96; significant when the result is less than -1.96; absence of change with values between -1.96 and 1.96.

Further, we measured efficacy by calculating effect sizes with Hedge's *g*, using the following values: 0.2 small, 0.5 median, and 0.8 large (Cohen, 1992). To evaluate the acceptability and safety of treatment in a given group, an online form was used to evaluate participants with 10 open--ended questions, using the content analysis technique, which consists of identifying elements or categories to describe a phenomenon (Fernández, 2002).

## Results

The BDI-II scores are outlined in Table 2; we observed a decrease from the pretest to the posttest in the total score of depressive symptoms ($p < .001$), and in the scores for the cognitive-affective symptoms subscale (14 items) and ($p < .001$), and the somatic-motivational symptoms (seven items) subscale ($p < .001$). The effect sizes were large for the total score ($g = 2.44$) and large for the cognitive-affective symptoms (14 items) subscale ($g = 2.04$) and null for the somatic-motivational (seven items) symptoms subscale ($g = .008$).

We observed significant differences in the total scores of BADS ($p < .001$) between the pre-test and post-test. The pretest total scores for the BADS scale consider all its subscales. The average total scores for BADS in the pre-test and post-test were 80 and 107, respectively, showing a large effect size ($g = .18$). In the BADS Activation subscale, we observed a significant increase ($p < .001$) in the scores between the pre-test and post-test, with a median effect size ($g = .73$).

Then we clinically analyzed individual scores on the BDI-II and BADS scale. Table 3 describes clinical deterioration or improvement, divided into three sections: positive, negative, or unchanged RCI. Differences in the pre-test and post-test scores of the participants are presented. On the BDI-II scale, scores decrease, whereas, on the BADS scale and the Activation subscale of the BADS, the tendency is to increase. The results show that all 14 participants showed a positive RCI on the instruments applied.

Regarding adherence, fidelity, safety and acceptability of treatment, participants completed the 10 sessions scheduled in the protocol within a 15-week period. We observed an increase in the number of violent events related to the COVID-19 pandemic among 10 participants, who had to cancel or reschedule the session for this reason. Although we scheduled a specific day and time for each session, incompatibilities emerged due to various situations, including the participant's partner was present during session hours, the couple was working at home, some perpetrators of violence were able to identify the help that participants would receive, children's school activities, shift-work rotation, work schedule and job performance, and legal processes for filing the VAW complaint. All these problems prevented the conduction of the intervention as scheduled or the performance of session tasks.

Participants were warned of the need for a private space to conduct the sessions, that is, one in which they could not be heard or exposed. Some

*Table 2*
Pre-Post Intragroup Comparison of Scores for the BDI-II and BADS.

| Variable | Pretest | | Postest | | Average range | *z* | *p* | 95% CI | | *g* |
|---|---|---|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | | | | Lower Bound | Upper Bound | |
| BDI-II | 45.57 | 5.61 | 21.78 | 2.10 | 7.50 | -3.27 | < .001 | 18.36 | 29.20 | 2.44 |
| Factor 1 | 34 | 4.05 | 16 | 6.23 | 7.50 | -3.29 | < .001 | 14.64 | 23.35 | .008 |
| Factor 2 | 12 | 2.10 | 7.34 | 2.06 | 8.50 | -3.11 | < .002 | 2.91 | 6.65 | 2.02 |
| BADS | 80 | 10.91 | 107 | 15.74 | 119 | -3.29 | < .001 | -33.35 | -20.36 | .18 |
| Activation | 14 | 8.46 | 29 | 4.78 | 31 | -3.29 | < .001 | -18.59 | -11.97 | .73 |

*Notes*. BDI-II. Beck Depression Inventory II. Factor 1. Cognitive-affective symptoms, BDI-II, subscale. Factor 2. Somatic-motivational complications, BDI-II, subscale. BADS. Behavioral Activation Depression Scale. Activation. BADS, subscale. The effect size was calculated using Hedge's g. CI. Confidence Interval for Difference.

were also suggested to ask for help from a trusted person in order to be able to have the session; a security plan was designed for one participant, because she was in a situation of extreme violence. When a situation of violence arose outside of session time, we delivered crisis care using calls or text messages.

*Table 3*
Rating of therapeutic change based on the RCI of the BDI-II and BADS.

| Participant | Pretest-Posttest | | |
|---|---|---|---|
| | BDI-II | BADS | Activation |
| P1 | -2.90* | 3.42* | 2.69* |
| P2 | -3.11* | 2.38* | 1.45* |
| P3 | -1.45* | 3.11* | 2.07* |
| P4 | -2.38* | 4.35* | 1.86* |
| P5 | -1.97* | 2.48* | 2.59* |
| P6 | -1.55* | 4.24* | 1.04* |
| P7 | -1.97* | 2.28* | 1.55* |
| P8 | -4.04* | 3.11* | 2.07* |
| P9 | -4.14* | 4.97* | 1.14* |
| P10 | -1.14* | 1.76* | 1.35* |
| P11 | -1.55* | 1.97* | 1.14* |
| P12 | -2.48* | 0.72* | 1.45* |
| P13 | -2.17* | 1.76* | .83* |
| P14 | -3.62* | 2.38* | .93* |

*Notes*. BDI-II. Beck Depression Inventory II. BADS. Behavioral Activation Depression Scale. Activation. BADS, subscale. *Signifies positive clinical change.

Regarding the fidelity of the intervention, the professionals did not struggle to implement the intervention; This was evaluated through the checklist, case supervision reports and clinical records containing the activities carried out by the participants. Regarding intervention acceptability and safety, we conducted a five-item online questionnaire using Google Forms, to which all participants answered positively (see Table 4).

Regarding our aim to culturally adapt the procedures and materials, the results showed that psychologists and participants did not express difficulty with the content, instructions or forms included in the manuals. However, to meet the needs of each case, we adapt some items related to VAW and medical, legal, and psychosocial services, and each intervention was personalized. To protect the interests of the participants, they were asked about their preferred means of safe communication. However, we requested two additional contacts of trusted people for all participants, entrusted to report any situation involving the case, abandonment, or the safety of the participant.

*Table 4*
Results of the questionnaire on safety and acceptability.

| Variable | Type of comment |
|---|---|
| Feasibility | • The form of mood was difficult during the first few sessions because there were more depressive symptoms; as the intervention progressed, it became easier.<br>• Apply skills that were learned in therapy when there was a sense of sadness and violence.<br>• Scheduling activities that included taking steps to avoid violent events helped improve low mood. |
| Acceptability | • The components of the therapy comprise situations of violence in which they are the victims of violence.<br>• Family and friends perceived compelling actions to combat depression and violence.<br>• Behavioral contracts were helpful in receiving help from others to complete their activities. |
| Satisfaction | • The therapeutic relationship was very important.<br>• After therapy, there was a perception of feeling better.<br>• Experience a sense of pride after participating in activities. |
| Comprehension | • Therapy was easy to understand.<br>• The forms were easy to understand.<br>• The language used in the therapy was easy to understand. |
| Safety | • Having a support network and safety plan make me feel like I can feel better.<br>• Carrying out the consultation when my partner goes to work gives me a sense of security.<br>• Performing the tasks before the session helps my partner not to perceive that I requested help |

## Discussion

Through this telehealth pilot study, our objective was to evaluate a culturally adapted online BATD in the context of VAW and during the COVID-19 pandemic.

In our study, the participants showed significant reductions in depressive symptoms and increased behavioral activation after BATD. In their trial, Bolton et al. (2014) argued that BATD can be an option for survivors of domestic violence; therefore, their results are consistent with ours. Our findings are also in line with the studies by Patel et al. (2017, 2019), who described that women experiencing VAW may benefit from BAT because it can improve their activation levels and decrease depressive symptoms.

In Lehmann and Bördlein (2020), the culturally adapted intervention in the Latino population focusses on contextualizing the client's problems in terms of environmental factors due to its idiographic approach, considering personal values and problem-solving strategies, to modify depressive disorder. Understanding the process by which these adaptations have been made and the specific nature of cultural adaptations can inform psychological treatments for specific populations from diverse cultures (Chowdhary et al., 2014). These results match the favourable effect on the measures of individual differences observed in 10 participants in an online intervention to improve adherence to treatment (Quijada-Ruelas et al., 2020).

Regarding possible forms of application of the BATD, we consider that an online format is necessary due to the unique health circumstances created by the COVID-19 pandemic and future public health emergencies. Indeed, research shows that telehealth interventions for women experiencing VAW can be effective when they are culturally adapted (Arroyo et al., 2017) and bolstered by social and legal support (Asadi et al., 2020). In our study, we adjusted the BATD by training, at intervention onset, both participants and psychologists in the use of the digital platforms relevant for the intervention.

In this pilot study, we also evaluated the usefulness of BATD for women with depressive symptoms and those experiencing VAW. We modify the treatment, we make cultural adaptations to telehealth for the context of violence; specifically, we educated participants on psychological concepts of violence, types, and the cycle of violence; provided them with help lines in the event of any risk situation; prepared a safety plan to deal with situations of extreme and severe violence; and finally, based on a functional analysis of their behavior, we actually provided them with access to medical and legal services. As stated by Kanter et al. (2008) and Santiago-Murillo et al. (2008), culturally adapted BAT can be effective for the Latino population, mostly because it enables the ideographic and solution-centred approach of this intervention to be coupled with a sensitive consideration of the values in the Latino culture. This approach was also shown to be effective in the Latino population and in the context of women (Collado et al., 2014, 2016; Kanter et al., 2010, 2015).

Researchers studying COVID-19 and VAW have predicted an increase in mental health symptoms, particularly depression, and violence-related events

due to the COVID-19 pandemic (Sánchez et al., 2020; Su et al., 2021). Our results evidence of the BATD can lead to improvements in behavioral activation, at least to a point that is sufficient to activate the patient in the short term, and in depressive symptoms, as previously demonstrated (Collado et al., 2014, 2016; Kanter et al., 2010, 2015; Pinzón & Bianchi, 2023). This study provides a valuable contribution to the scarce literature on TBI in mental health while considering the barriers of accessibility of people to care and support services in the context of vulnerability, violence and health emergencies.

Furthermore, to evaluate the acceptability and safety of treatment, we administered a questionnaire with five open questions, to which 100% of the participants responded positively. Regarding acceptability, the participants indicated that at the beginning the tasks were complex because of the pandemic situation and sometimes because of the economic resources to carry out activities. Completing the mood form was difficult at first due to low mood, but improved as therapy progressed.

In general, the participants identified with the treatment because it helped to solve problems they were experiencing in relation to their partner and the activities helped to improve their mood. Also, the skills learnt in the process helped them feel better at times when they were in discomfort. In relation to safety, the professionals suggested that having a support network and a safety plan generates a situation of wellbeing and protection, as well as doing the tasks before the session helps the partner not to perceive that "I am asking for help". Finally, the importance of carrying out therapeutic sessions when the couple was not nearby, and in a private space, was identified to avoid violent or critical events.

This pilot study was conducted in 2020 and introduced cultural adaptations to telehealth. Telehealth interventions can be viable options owing to their shown characteristics of accessibility, scope of application, and cost-effectiveness and because they can help mitigate symptoms associated with mental health in contexts of vulnerability (Sánchez et al., 2020; Su et al., 2021). This was one of the first pilot studies to examine behavioral activation levels (through BATD) and depressive symptoms among women in the context of VAW and during the COVID-19 pandemic. The BATD was preliminarily shown to be an acceptable and cost-effective treatment, and to be safe for use in a violence- related risk group with depression. This evidence contributes to the literature on treatments for depression during the COVID-19 pandemic and in future situations of vulnerability and health emergency.

Specifically, our results show that BAT was effective in treating depression and that BATD should undergo technological adaptations when applied to vulnerable populations; specifically, our findings demonstrate that stakeholders should conduct the intervention using electronic devices and low data consumption applications, provide psychological education about violence and its characteristics for participants, keep various channels of communication open for participants, and provide appropriately telephone lines and resources for participants to reach out during emergencies.

Further, amid the BATD, participants should be able to perform enjoyable and relevant activities based on their personal values, be able to activate social support networks, seek employment, and refer to corresponding medical, legal, or shelter services if needed. This is because such activities may provide the foundation upon which participants can recover their well-being as well as eliminate the avoidance behaviors upkeep their depressive symptoms and the cycle of violence. At the public policy and private levels, we recommend that TBI care be implemented by public and private organizations and care institutions, as this type of intervention may enable stakeholders to provide protection for women vulnerable to violence during the COVID-19 pandemic or in similar critical situations that put the mental health of the population at risk.

Nonetheless, we deemed that changes must be introduced to task assignment and session scheduling for the BATD in vulnerable populations in the context of a public health emergency. For example, although the BATD is usually designed to be completed within three months, stakeholders should be aware that this period may be extended by up to a month owing to situations involving confinement and the dynamics of violent relationships. Although in this research, the participants indicated that therapy was useful in resolving the violence situation, it is necessary in future research to delve more deeply into the aspects of how this resolution was achieved concretely or in what way therapy helped.

Future studies should compare the outcomes of BATD with those of standard treatments, confirm its efficacy, and assess whether cultural adaptation of BATD can increase activation and reduce depressive symptoms. Specifically, future researchers should analyse data by type of violence, perpetrator of violence (a possible moderating variable), and whether this intervention contributes in any way to the dynamics of violence, as well as other socio-demographic variables and comorbidities (e.g. post-traumatic stress and suicidal ideation). Larger sample sizes might also help researchers to determine the clinical significance of this treatment and estimate effect sizes; for this reason, the results are not generalizable and should be interpreted with caution. We also suggest that researchers try to identify other measures of treatment adherence, as these may ensure more rigorous adherence and fidelity testing. Our findings suggest the need for a phase II RCT to assess treatment effectiveness.

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