Research report

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Family Connections: Results of the first application of the Program in Brazil

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Abstract
The Family Connections Program is an alternative for improving family relationships, depressive symptoms and overwhelmed feelings in family members of individuals with Borderline Personality Disorder (BPD). Twenty family members of individuals diagnosed with BPD participated in the study. The effect of the program was evaluated on the family members and, indirectly, on the respective relatives with BPD. Quality of life, psychopathological symptoms, emotional dysregulation, burden, depressive, anxiety and stress symptoms, quality of family relationship and family resilience were applied pre and post-intervention and three months after the ending of the program. As a significant result, there was a reduction in objective burden ($p = 0.006$) in family members who participated in the program and improvement in family resilience according to diagnosed relatives ($p = 0.041$). It was concluded that although the program was effective for the study participants in some aspects, it is necessary a cultural adaptation of the protocol.
Keywords: Family Connections; borderline personality disorder; family relationships.

***Family Connections:* Resultados da Primeira Aplicação do Programa no Brasil**

Resumo
O Programa *Family Connections* é uma alternativa para a melhora das relações familiares, dos sintomas depressivos e da sensação de sobrecarga em familiares de indivíduos com Transtorno de Personalidade *Borderline* (TPB). Participaram do estudo 20 familiares de indivíduos com TPB. O efeito do programa foi avaliado sobre os familiares e, indiretamente, sobre os respectivos parentes com TPB. Qualidade de vida, sintomas psicopatológicos, desregulação emocional, sobrecarga, sintomas depressivos, de ansiedade e de estresse, qualidade da relação familiar e resiliência familiar foram aplicados pré e pós-intervenção e três meses após o término do programa. Como resultado significativo, notou-se redução da sobrecarga objetiva ($p = 0{,}006$) nos familiares que participaram do programa e melhora na resiliência familiar segundo os parentes diagnosticados ($p = 0{,}041$). Concluiu-se que, apesar de o programa ter sido efetivo para os participantes do estudo em alguns aspectos, faz-se necessária uma adaptação cultural do protocolo.
Palavras-chave: Family connections; distúrbio da personalidade borderline; relações familiares.

***Family Connections*: Resultados de la primera aplicación del Programa en Brasil**

Resumen
El Programa *Family Connections* es una alternativa para mejorar relaciones familiares, los síntomas depresivos y la sensación de sobrecarga en familiares de individuos con trastorno límite de la personalidad (TLP). Participaron en el estudio 21 familiares de personas diagnosticadas con TLP. Se evaluó el efecto del programa en los familiares y, indirectamente, en los respectivos familiares con TLP. La calidad de vida, los síntomas psicopatológicos, la desregulación emocional, la sobrecarga, los síntomas depresivos, de ansiedad y de estrés, la calidad de la relación familiar y la resiliencia familiar fueron evaluados antes y después de la intervención, y tres meses después de finalizado el programa. Como resultado significativo, hubo una reducción en la sobrecarga objetiva ($p = 0{,}006$) en los familiares que participaron en el programa y una mejora en la resiliencia familiar según los familiares diagnosticados ($p = 0{,}041$). Se concluyó que, aunque el programa fue efectivo en algunos aspectos, se necesita una adaptación cultural del protocolo.
Palabras clave: Family Connections; trastorno límite de la personalidad; relaciones familiares.

Introduction

Relatives and people close to individuals with Borderline Personality Disorder (BPD) often experience overload, internalizing symptoms, and interpersonal and financial problems resulting from the search for clinical improvement of the family member with BPD (Hoffman et al., 2005; Hoffman et al., 2007; Sutherland et al., 2020). Since a large part of the crises of emotional dysregulation in BPD arise from interpersonal situations (Fitzpatrick et al., 2021), family interventions are critical because they enable the development of new skills in situ. Considering the need to alleviate the suffering of family members of people with BPD, the Family Connections (FC) program was developed. FC is a free program based on Dialectical Behavior Therapy (DBT), which promotes education, skills training, and support aimed at family members of individuals with BPD (Hoffman et al., 2005; Hoffman et al., 2007; Guillén et al., 2020).

With a total duration of 12 weeks and 2 hours per meeting, up to 12 families per group can participate in the FC program. The program has six modules, in the following order: (1) Introduction: information and research on BPD; (2) Psychoeducation: development of BPD, available treatments, comorbidity, and initiation into emotional reactivity and dysregulation; (3) Individual and relationship skills: self-management of emotions, mindfulness skills, decreasing vulnerability to negative emotions and emotional reactivity; (4) Family skills: modifying family interactions and acceptance skills in relationships; (5) Accurate and effective self-expression (how to validate); and (6) Problem-solving: defining problems effectively, collaborative problem-solving, knowing when to focus on acceptance and when to focus on change (Hoffman et al., 2005; Hoffman et al., 2007). In addition to practical exercises and homework in all modules, the program also offers a forum where participants can build a support network. Although health professionals can apply the program, the proposal is for it to be carried out by family members of people with BPD who have already taken part in FC. In order to lead FC meetings, it is necessary to undergo training offered exclusively by professionals from the National Education Alliance for Borderline Personality Disorder (NEABPD).

Data from studies published in recent years indicate that the FC program effectively reduces objective overload (observable experience, referring to daily responsibilities) and subjective overload (internal experience, referring to psychological distress). It also reduces symptoms of depression, anxiety, bereavement, and emotional dysregulation in family members and increases the sense of mastery and the quality of family relationships (Fernández-Felipe et al., 2021; Hoffman et al., 2005; Hoffman et al., 2007; Miller & Skerven, 2017; Rajalin et al., 2009; Wilks et al., 2017). It is important to note that previous surveys also indicate that the participants generally rated the FC program as satisfactory. Recent research by Fernández-Felipe et al. (2021) indicates that family members use the strategies learned in the program, especially those related to validation and acceptance.

A systematic review aimed at exploring the clinical usefulness of interventions developed for relatives of people with BPD was carried out by Guillén et al. (2020). 1,746 studies were found, of which 11 were selected based on the inclusion criteria. Of these, two training programs are psychoeducational (Pearce et al., 2017; Grenyer et al., 2018), 2018), one based on mentalization (Bateman & Fonagy, 2018), and the others on DBT (Ekdahl et al., 2014; Flynn et al., 2017; Hoffman et al., 2005, 2007; Liljedahl et al, 2019; Miller & Skerven, 2017; Regalado et al., 2011; Wilks et al., 2017). All the interventions proved effective, even with different formats and clinical settings. Among the eight studies based on DBT, the most empirically supported is the Family Connections (FC) training.

In the literature review for this study, we found no articles that applied any program with or without skills training for family members of individuals with BPD in Brazil. Cultural differences arising from the country of residence can directly interfere with the viability and effectiveness of a program, considering the subjects taught and how it is administered. The research also does not investigate the indirect effects of the programs or skills training on relatives diagnosed with BPD. This could indicate the generalization of the skills learned to the family environment and the benefit for both the participants and their relatives with BPD. Therefore, this study describes the first application of a program for relatives of people diagnosed with BPD in Brazil, the Family Connections program, and it is also the first study in which the program's effect on relatives diagnosed with BPD will be analyzed.

The primary aim of this study was to assess the effect of FC on psychiatric symptoms, burden, and quality of life in family members of individuals diagnosed with BPD. The secondary objectives are to evaluate the effect of this training on the quality of

the family relationship both in the family members participating in the program (i.e., family members of people diagnosed with BPD) and in their respective relatives with BPD. Based on the results found in the literature, the hypothesis put forward by the authors is that after the intervention, family members of individuals with BPD will experience positive changes in terms of family relationships and will show a decrease in their scores for perceived objective and subjective burden, psychiatric, depressive and anxiety symptoms, as well as an increase in their scores for quality of life and emotional regulation. The authors hypothesize that after the intervention, family members of individuals with BPD will experience positive changes in terms of family relationships and will show a decrease in the scores for the perception of objective and subjective burden, psychiatric, depressive, and anxiety symptoms, as well as an increase in the scores for quality of life and emotional regulation measures. Likewise, although the literature has never evaluated the impact of these changes on relatives diagnosed with BPD, it is believed that behavioral changes in the behavior of family members will lead to changes in the family relationship of patients with BPD. This premise is in line with the understanding of behavior analysis that changes in an individual's external environment lead to changes in the individual's own behavior (Skinner, 2003).

Method

Participants

Figure 1 below illustrates the sample size in each phase of the study. Twenty family members of people diagnosed with BPD were selected based on publicity via social networks and screening data from the Dialectical Behavioral Therapy Laboratory (DBT-Lab), a project linked to a research group that aims to offer free DBT treatment to people on low incomes. The FC program was only applied to family members of individuals diagnosed with BPD. However, relatives with BPD also participated in the research by answering personal information and pre- and post-intervention and follow-up questionnaires.

To be included in the program, participants had to have at least one relative diagnosed with BPD (proven by a psychiatric certificate) aged 18 or over. Both the family members and the patient with BPD had to freely agree to answer the pre- and post-intervention and follow-up questionnaires, be over 18 years old and of

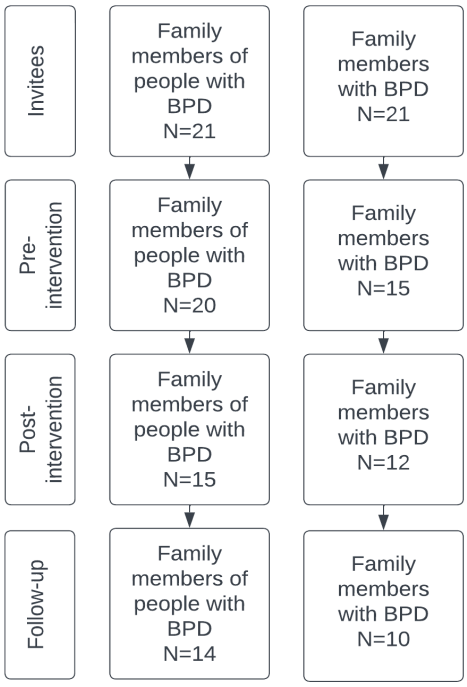

Figure 1. Number of participants who answered the questionnaires

Brazilian nationality, be literate, be able to answer the questionnaires used, express an interest in taking part in the study and be available to attend the skills training group offered in person.

The following exclusion criteria were used for family members to take part in the program: family members who had a diagnosis of schizophrenia or showed psychotic symptoms (even if they did not meet diagnostic criteria for any disorder), who had suicidal ideation or attempted suicide in the last 12 months and who had already undergone or were undergoing treatment in DBT.

Of the 20 participants in the program, 14 were women (70%) and six men (30%), of whom 11 were mothers (55%), three were fathers (15%), two sons (10%), two husbands (10%), a grandmother (5%) and a sister (5%) of people diagnosed with BPD. The age ranged from 22 to 72, averaging 53.15 years *(SD* = 13.56). Fifteen family members (75%) lived with the diagnosed individual. Ten participants (50%) took part in the training alone, i.e., without other family members, and ten took part with another family member, more specifically husband and wife (two pairs), fathers and sons (three pairs, one of which had a father in one group and a son in another). Of the 16 relatives diagnosed with BPD, 11 were women (68.75%), and five were men

(31.25%). The ages ranged from 18 to 54, with an average age of 32 (SD = 13.12).

Fifteen program participants stayed until the last meeting, of whom 20% (three participants) missed more than three meetings, 13.5% (two people) in Group 1, and 6.5% (one person) in Group 2. Concerning the questionnaires, 20 participants answered pre-intervention, 15 post-intervention, and 14 follow-up. Of the relatives diagnosed, 15 answered the questionnaires in the pre-intervention, 12 in the post-intervention, and 10 in the follow-up (see Figure 1).

Instruments

a) *Online Screening Form* - OSF. The form was drawn up by the primary author of the article, totaling 30 open and multiple choice questions, asking for personal information (e.g., "Do you live together with the family member with Borderline Personality Disorder - BPD?"; "Are you currently in therapy?"), of the relative diagnosed with BPD (e.g., "What is the full name of the family member diagnosed with Borderline Personality Disorder - BPD?"; "Please give the telephone number of the family member diagnosed with Borderline Personality Disorder - BPD") and availability to participate.

b) *General data form*. The form was drawn up by the primary author of the article, totaling ten questions, open-ended and multiple-choice questions, requesting personal information from the family member diagnosed with BPD, whose relative was selected to participate in the program (e.g., "How long ago did you receive the diagnosis?"; "Are you undergoing any treatment?".

c) *World Health Organization Quality of Life* - WHOQOL-bref (Portuguese translation: Fleck et al., 2000). Free-to-use questionnaire with a five-point Likert scale ranging from 1 "not at all" to 5 "completely", containing 26 questions assessing the general quality of life (first two questions) and quality of life in four domains: physical, psychological, social relations, and environmental. The reliability obtained in this application of the WHOQOL-Bref is shown in Table 3 of this study.

d) *Brief Symptom Inventory* - BSI (Portuguese translation: Canavarro, 1999). An adapted symptom Checklist 90 (SCL-90-R) validated for the Portuguese population. A free, 5-point Likert scale response inventory, ranging from "never" to "very often," containing 53 questions that assess psychopathological symptoms and emotional disturbance. The reliability obtained for each application of the BSI instrument is shown in Table 3 of this manuscript.

e) *Difficulties in Emotion Regulation Scale* - DERS (Portuguese translation: Cancian, Souza, Silva, Machado, & Oliveira, 2019). A free-to-use Likert-type questionnaire with a 5-point scale, ranging from 1 "almost never" to 5 "almost always," containing 36 questions that assess emotional regulation. The reliability obtained for the applications of the DERS scale in this study can be seen in Table 3.

f) *Family Burden Interview Scale - FBIS-BR* (Portuguese translation: Bandeira, Calzavara, & Varella, 2005). A free-to-use Likert-type scale with a 4-point scale ranging from 1 "not at all" to 4 "very much" and a 5-point scale ranging from 1 "not at all" to 5 "every day," with 70 questions assessing the degree of objective and subjective burden on family members of psychiatric patients. The reliability values of the FBIS-BR scale applications in this study are shown in Table 3.

g) *Family Adaptation and Cohesion Scale IV* - FACES IV (Portuguese translation: Santos, Bazon, & Carvalho, 2017). Self-reported scale with a 5-point Likert response key, ranging from 1 "strongly disagree" to 5 "strongly agree" in the first 52 questions and from 1 "very dissatisfied" to 5 "extremely satisfied" from questions 53 to 62, made up of 62 questions assessing cohesion, flexibility, communication, and family satisfaction. Concerning internal reliability, studies on the psychometric qualities of the Brazilian version still need to be finalized. Table 2 shows the reliability values obtained after applying the FACES IV instrument.

h) *Depression Anxiety and Stress Scale* - DASS-21 (Portuguese translation: Vignola & Tutti, 2014). Free to use Likert-type response scale with a 0 to 3 point scale, where 0 is "does not apply at all" and 3 is "applies a lot, or most of the time," containing 21 questions that assess levels of stress, depression, and anxiety based on the description of behaviors

and sensations experienced in the seven days prior to the application. The reliability obtained for the factors of the DASS-21 scale in this study is shown in Table 3.

i) *Family Strengths Questionnaire* - FSQ (Melo & Alarcão, 2011). A free questionnaire with a 5-point Likert scale, ranging from 1, "not at all similar," to 5 "totally similar ", made up of 29 questions that assess family resilience. The reliability of the Portuguese version of the FSQ, assessed by Cronbach's alpha, is 0.95. The instrument used in this research has been validated for Portuguese in Portugal. Minor changes were made, replacing words and expressions that differ in Brazilian Portuguese: "toda gente", "resolvemo-lo", "sítios," and "nos podem" with "todo mundo", "o resolvemos", "lugares" and "podem nos", respectively. The *alpha* values for each application of the FSQ are shown in Table 2.

j) *Evaluation of the Intervention by the Participants* - EIP. Translation and free adaptation by the author herself of "Evaluación del curso," material containing 11 open questions about the training (e.g., "Which of the topics is most important to you?"; "Was the information in the material clear?") taken from the handout "Temas Básicos de Psicología y Entrenamiento en Habilidades para Familiares y Allegados de Personas con Instabilidad Emocional" by Pechon and Stoewsand (n.d.), presented at the Argentinian DBT Forum.

Ethical considerations

Per Resolution 466/2012 of the National Health Council of the Ministry of Health on the participation of humans in research, the participants were guaranteed the right to know about the procedures and the minimum risks to which they would be subjected; to be able to withdraw from the research at any time without any harm; and that the information obtained would not expose the identity of any individual (from the Informed Consent Form - ICF). The project was submitted to the Brazil Platform for approval by the Research Ethics Committee.

Procedure

The OSFs were analyzed to select the family members who could participate in the program. Then, the first author of this study contacted the family members who could not participate, justifying why, and the relatives diagnosed with BPD from the selected families to confirm their agreement to participate in the research. Two groups were set up, one with 11 and the other with nine family members of individuals diagnosed with BPD (G1 and G2, respectively), based on the availability of the participants.

One week before the start of the intervention, all study participants (i.e., family members of individuals with BPD and relatives diagnosed with BPD) read and signed the ICF and answered the WHOQOL-bref, BSI, DERS, FBIS-BR, FACES-IV, DASS-21 and FSQ questionnaires (family member of individual with BPD) or the general data form, FACES-IV and FSQ (relative with BPD). At this first meeting, a psychiatric certificate confirming the diagnosis of BPD had to be handed to the researcher.

The following week, skills training for the FC program began at a research and clinical psychology center in São Paulo (SP), where the first author of this article is based. The intervention took place weekly, with each meeting lasting 2 hours for 12 weeks, with one group in the morning (G1) and the other in the afternoon (G2) on the same day of the week. The program was conducted by the first author of this study in partnership with two psychologists (one in each group) with experience in conducting DBT skills training and who, like the first author, had undergone FC leader training.

The following week after completing the training, both the relatives of people diagnosed with BPD and the relatives with BPD were asked to answer the same set of questionnaires, in addition to the EIP (answered only by the relatives who took part in the program). The researcher who conducted the program got back in touch within three months to ask everyone to return and answer the questionnaires again to obtain follow-up measures.

At the first skills training meeting, each participant was given the official FC program handout, which was already translated into Portuguese. The workbook is only available to people registered to do the FC program or leadership training on the NEABPD website (www.borderlinepersonalitydisorder.org) and on the website of the FCBrasil organization (http://fcbrasil.org.br/quemsomos.html), created in 2019 to regulate the practice of the FC program in the country. The material contains information on the content taught and tasks requested during the period in which the participant was undergoing skills training. The program

was applied according to the original format and protocol, based on the leaders' workbook (also available on the NEABPD website, with a version translated into Portuguese prepared by the primary author of this article together with another professional).

Data Analysis

The data collected was tabulated using Microsoft Excel and analyzed using SPSS version 22 (IBM Statistics). Initially, all the variables were tested for normal distribution using the Shapiro-Wilk test. All variables with a normal distribution (i.e., $p > 0.05$ in the Shapiro-Wilk test) were analyzed using parametric calculations.

Given that the initial characteristics of the family members participating in the program and of the relatives with BPD can attenuate or potentiate the effects of the intervention, the groups were compared concerning the family relationship measures FSQ and FACES-IV. Multivariate Analyses of Variance (MANOVAs) 2 x 4 (2 = family members participating in the program and relatives with BPD x 4 = factors of the FSQ or FACES-IV scales) were applied to compare the groups concerning each of the factors of the scales since the correlation between factors was greater than 0.5. MANOVA was also chosen to avoid using multiple t-tests and to reduce the chances of statistical error.

Analyses of Variance (ANOVAs) of 3 x 4 repeated measures (3 = pre-intervention, post-intervention, and follow-up; 4 = factors from the FSQ or FACES-IV scales) were used to evaluate the effect of the intervention on family members participating in the program and relatives with BPD. To understand the specific contribution of the treatment on each group, the analyses were carried out separately for relatives participating in the program and relatives with BPD.

To evaluate the effects of the intervention on psychiatric symptoms (BSI; DERS; DASS-21), quality of life (WHOQOL-bref) and family burden (FBIS-BR) in family members participating in the program, ANOVAs and Friedman tests for repeated measures were applied. Post-hoc analyses were used when significant differences were obtained in the repeated measures analyses. Significance levels were reported for all analyses, and effect sizes were reported for analyses with a p-value of less than 0.05.

Finally, treatment adherence was analyzed based on the number of participants who remained until the eighth meeting of the program as a percentage. The choice of the eighth meeting is related to data from naturalistic studies, which indicate that clinical improvements in psychotherapy tend to occur by the eighth session (Baldwin et al., 2009). Non-parametric Mann-Whitney tests were applied to better characterize the participants who did not adhere to the treatment in relation to the pre-intervention characteristics.

Results

Quality of the Family Relationship Pre-Intervention

Table 1 shows the pre-intervention descriptive data of family members participating in the program and relatives with BPD concerning family relationship variables and the results of the MANOVA used to compare the groups. The results for the FSQ instrument indicated no initial differences between the groups pre-intervention ($F(5, 29) = 0.653$, $p = 0.662$; Wilk's $\Lambda = 0.899$; partial $\eta^2 = 0.101$). Similarly, the results comparing the groups to the factors of the FACES-IV scale showed only a difference close to the level of significance in the pre-intervention ($F(4, 27) = 2.594$, $p = 0.059$; Wilk's $\Lambda = 0.722$; partial $\eta^2 = 0.278$).

Intra-group comparison of family variables

Repeated ANOVA measures indicated that the family members participating in the program did not show significant improvements in the FSQ ($F(2, 26) = 1.252$, $p = 0.303$; partial $\eta^2 = 0.088$) and FACES-IV ($F(2, 24) = 0.415$, $p = 0.665$; partial $\eta^2 = 0.033$) scores over time. There were also no interactions between time and factors from the FSQ ($F(3.013, 37.172) = 2.174$, $p = 0.106$; partial $\eta^2 = 0.143$) and FACES-IV ($F(4.281, 51.376) = 0.678$, $p = 0.620$; partial $\eta^2 = 0.053$) in family members participating in the program.

However, in relatives with BPD, there was a significant effect of treatment time on FSQ scores ($F(2, 18) = 3.837$, $p = 0.041$; partial $\eta^2 = 0.299$), with a significant difference from pre-intervention to follow-up (M = 33.050, EPM = 2.299). There was a significant difference from pre-intervention (M = 28.625, EPM = 1.653) to follow-up (M = 33.050, EPM = 2.464) and a high effect size (partial $\eta^2 = 0.299$). This result indicates that relatives with BPD had a general improvement in the scores of the factors of the FSQ instrument. However, there was no effect of the intervention on the variables of the FACES-IV instrument of relatives with BPD ($F(2, 18) = 0.557$, $p = 0.583$; partial $\eta^2 = 0.058$). There were also no interactions between treatment time and subscales of the FSQ ($F(2.870, 25.828) = 1.618$, $p = 0.211$; partial $\eta^2 = 0.152$)

Table 1.
Descriptive data and comparison of FSQ and FACES-IV scores between groups

Variable	Family members		Relatives with BPD		
	Average	SD	Average	SD	p-value
FSQ					
Positive family organization	42,55	11,97	39,80	12,63	0,516
Positive family beliefs	26,55	8,57	23,40	7,84	0,273
Positive resource management, family support and problem solving	21,55	5,67	19,20	4,91	0,209
Positive emotions	25,20	7,79	22,73	7,57	0,355
FACES - IV					
Cohesion	24,11	5,78	23,71	7,17	0,963
Flexibility	20,28	6,55	19,43	6,49	0,717
Communication	32,50	7,64	28,21	9,69	0,172
Satisfaction	26,50	8,50	25,57	10,18	0,780

and the FACES-IV (F (6, 54) = 1.811, $p = 0.164$; partial $\eta^2 = 0.167$) in relatives with BPD. Table 2 shows the descriptive data for the FSQ and FACES-IV scales for each group at the three intervention periods.

Effects of the intervention on psychiatric symptoms, quality of life, and burden

When the family members who took part in the program were compared over the three intervention periods concerning psychiatric symptoms, quality of life, and family burden, few significant effects were observed. The descriptive results of the analyses and the significance level found for each statistic are shown in Table 3. There was a significant reduction in the scores of the factor *difficulty engaging in goal-directed behaviors* of the DERS scale (F (2, 26) = 4.400, $p = 0.023$; partial $\eta^2 = 0.253$) from pre- to post-intervention. The overall objective burden score of the FBIS-BR scale also showed a significant reduction from pre- to post-intervention (F (2, 26) = 6.294, $p = 0.006$; η^2 partial = 0.326), while the overall subjective burden score showed a reduction close to the significance level (F (2, 26) = .281, $p = 0.057$; η^2 partial = 0.202).

Adherence to treatment

In all, around 70% (N = 14) of the family members of people diagnosed with BPD who were invited to take part in the program joined the intervention. When participants who adhered to the intervention were compared to those who did not (N = 6), significantly higher scores were found in the adherent group in the following pre-intervention factors: objective daily living assistance from the FBIS scale (U = 16, $p = 0.033$, $r = - 0.48$; adherents: Med = 30.5; non-adherents: Med = 17); physical domain of the WHOQOL-bref scale (U = 14.5, $p = 0.020$, $r = - 0.51$; adherents: Med = 3.1; non-adherents: Med = 2.55); and environmental domain (U = 8, $p = 0.03$, $r = - 0.63$; adherents: Med = 3.7; non-adherents: Med = 2.8) of the WHOQOL-bref scale.

Quantitative results of the EIP questionnaire

The quantitative responses to the EIP questionnaire were analyzed by percentage. More than 50% of the participants would like more information about the content discussed in module 6 (Problem Solving) and consider it to be the most relevant. The participants noticed changes in both their own behavior (93.4%) and in that of their family (93.4%), as well as in family interaction (73.33%). All of them would recommend the training to others, and 86.66% would like to do it again.

Discussion

The main objective of this study was to evaluate the effect of the Family Connections (FC) program on psychiatric symptoms, burden, and quality of life in the family members of individuals with BPD. In addition,

Table 2.
Descriptive data for the FSQ and FACES-IV instrument scores

DV	Pre-intervention	Post-intervention	Follow-up	Pre-intervention (α)	Post-intervention (α)	Follow-up (α)
	Average (SEM)	Average (SEM)	Average (SEM)			
Family members						
FSQ						
Positive family organization	43,50 (3,26)	45,86 (2,55)	46,14 (2,89)	0,92	0,89	0,93
Positive family beliefs	26,57 (2,25)	27,79 (1,78)	26,71 (2,24)	0,91	0,86	0,95
Positive resource management, family support and problem solving	22,64 (1,44)	23,79 (1,16)	22,86 (1,67)	0,79	0,82	0,91
Positive emotions	25,36 (2,11)	27,57 (1,64)	27,64 (2,08)	0,92	0,87	0,94
FACES - IV						
Cohesion	24,07 (1,46)	25,54 (1,19)	25,08 (1,05)	0,84	0,78	0,79
Flexibility	21,54 (1,58)	21,98 (1,28)	21,00 (1,38)	0,81	0,77	0,85
Communication	32,69 (2,20)	32,77 (1,87)	32,92 (1,90)	0,91	0,89	0,91
Satisfaction	26,46 (2,43)	27,46 (2,33)	26,85 (2,14)	0,95	0,94	0,96
Relatives with BPD						
FSQ						
Positive family organization	43,50 (2,63)	50.00 (3.81)[a,b]	48.60 (3.39) [a,b]	0,96	0,89	0,89
Positive family beliefs	25,50 (1,85)	30.30 (2.67) [a,b]	29.60 (2.70) [a,b]	0,88	0,91	0,90
Positive resource management, family support and problem solving	20,40 (1,28)	23.40 (2.17) [a,b]	24.80 (1.77) [a,b]	0,71	0,84	0,77
Positive emotions	25,10 (1,51)	28.90 (2.97) [a,b]	29.20 (2.41) [a,b]	0,91	0,94	0,91
FACES - IV						
Cohesion	26,10 (1,32)	26,20 (1,72)	25,20 (2,25)	0,90	0,86	0,92
Flexibility	21,00 (1,80)	22,30 (2,21)	23,20 (1,96)	0,88	0,84	0,86
Communication	30,40 (2,38)	33,20 (2,83)	29,60 (3,35)	0,90	0,90	0,92
Satisfaction	27,10 (2,58)	30,40 (3,26)	27,90 (3,33)	0,96	0,95	0,961

Note. SEM: Standard Error of the Mean. [a,b] *Post hoc* analyses indicated a trend towards improvement in all the factors of the FSQ scale from pre- to post-intervention and *follow-up.* α: Cronbach's Alpha values for each factor analyzed.

we sought to assess the effect of FC on the quality of family relationships, both in terms of the perception of family members of individuals diagnosed with BPD and the perception of the diagnosed relatives themselves. It was observed that soon after the end of the program, family members of people diagnosed with BPD showed significant improvements in terms of objective overload and emotional dysregulation, partially confirming the initial hypothesis. The findings did, however, confirm the second hypothesis that the diagnosed relatives,

Table 3.
Comparison between means of symptomatology measures for family members participating in the training

DV	Pre-intervention	Post-intervention	Follow-up	*p*	*Pre-intervention (a)*	*Post-intervention (a)*	*Follow-up (a)*
	Average (SEM)	Average (SEM)	Average (SEM)				
DERS							
Non-acceptance	9,00 (2,11)	8,50 (1,93)	8,00 (1,96)	0,479	0,88	0,69	0,91
Difficulty in acting according to objectives	16,78 (1,31)	14,00 (0,88)	15,57 (1,32)	0,023[a]	0,81	0,70	0,86
Difficulty controlling impulses#	12,00 (2,21)	10,00 (1,64)	9,50 (2,14)	0,212	0,86	0,40	0,84
Lack of emotional awareness	16,79 (1,61)	15,57 (1,14)	16,07 (1,31)	0,577	0,87	0,71	0,80
Limited access to emotional regulation strategies#	16,00 (2,21)	12,50 (1,75)	15,00 (2,04)	0,408	0,85	0,91	0,91
Lack of emotional clarity#	8,50 (2,18)	8,50 (1,86)	8,00 (1,96)	0,657	0,87	0,82	0,80
			FBIS-BR				
Overall objective score	2,63 (0,27)	1,96 (0,16)	2,30 (0,29)	0,006 [b]	0,90	0,84	0,95
Overall subjective score	2,42 (0,25)	2,04 (0,22)	2,31 (0,26)	0,057	0,88	0,88	0,93
DASS-21							
Depression#	13,00 (2,25)	6,00 (1,75)	9,00 (2,00)	0,328	0,82	0,71	0,85
Anxiety	14,00 (2,68)	9,57 (2,04)	13,29 (2,92)	0,161	0,89	0,85	0,92
Stress#	10,00 (2,21)	5,00 (1,86)	7,00 (1,93)	0,513	0,89	0,89	0,93
BSI							
General symptom index#	1,11 (2,10)	0,75 (2,03)	0,66 (1,87)	0,793	0,97	0,97	0,98
Index of positive symptoms#	1,63 (2,11)	1,44 (1,93)	1,63 (1,96)	0,872			
WHOQOL-BREF							
Perceived quality of life#	3,00 (1,64)	3,00 (2,18)	3,50 (2,18)	0,096	Single item	Single item	Single item
Satisfaction with health#	3,00 (1,96)	3,00 (1,75)	4,00 (2,29)	0,266	Single item	Single item	Single item
Physical Domain#	3,10 (1,68)	3,10 (2,25)	3,80 (2,07)	0,262	0,72	0,78	0,79
Psychological domain	3,24 (0,16)	3,56 (0,15)	3,36 (0,20)	0,216	0,69	0,70	0,82
Social relations	2,96 (0,25)	2,99 (0,27)	3,16 (0,25)	0,454	0,79	0,74	0,83
Environment	3,68 (0,17)	3,79 (0,15)	3,78 (0,16)	0,797	0,83	0,83	0,84

Note. SEM: Standard Error of the Mean; # Non-parametric analyses of repeated measures were carried out in these cases; a Post hoc analyses indicated significant differences from pre- to post-intervention ($p = 0.009$), but not from pre- to follow-up ($p = 0.279$) or from post- to follow-up ($p = 0.079$); [b] Post *hoc* analyses indicated significant differences from pre- to post-intervention ($p = 0.003$), but not from pre- to follow-up ($p = 0.120$) or from post- to *follow-up* ($p = 0.092$). α: Cronbach's Alpha values for each factor analyzed.

even if they did not take part in the skills training, showed positive changes in their perception of family relationships, a new finding in the literature.

Although we are working with a small sample size, this is the first study to show that the FC intervention for family members can also improve aspects of family quality perceived by relatives with BPD from pre-intervention to follow-up. This result is significant since FC training was originally created to benefit family members of people with BPD (Hoffman et al., 2005; Hofmann et al., 2007). The improvement found in the self-report of the quality of the family relationship in relatives diagnosed with BPD after the intervention may indicate a mechanism of change for both family members and patients; the improvement in the relationship in both groups may inflate the effect of the FC program by reciprocally reinforcing the behavior of family members and patients. Future interventions with the FC program could reveal, over time, the extent to which improvements in the quality of the family relationship of patients with BPD impact the improvement of the relationship observed by family members.

Regarding the effect of the intervention on psychiatric symptoms, quality of life, and family burden, significant reductions were observed in certain subscales of the instruments applied. Family members' perception of objective burden showed a significant drop and a high effect size, while subjective burden came close to the significance level. A reduction in the *difficulty engaging in goal-directed behaviors* subscale of the DERS scale was also observed in family members. Considering the studies mentioned in the introduction, it is understood that the results found were close to those reported in the literature concerning improved levels of overload (Hoffman et al., 2005; Hoffman et al., 2007; Miller & Skerven, 2017; Rajalin et al., 2009) and a significant increase in emotional regulation (Wilks et al., 2017). It is important to note that no changes were found in depressive symptoms, anxiety, or quality of life, as observed in the studies by Hoffman et al. (2005), Rajalin et al. (2009), and Wilks et al. (2017). The absence of effects on internalizing symptoms may indicate that the FC program acts on characteristics linked more to the attenuation of overload and the regulation of emotions. Furthermore, analyzing the results obtained in the follow-up, it is possible to notice a tendency to return to the baseline of objective overload, which corresponds to the results found in Hoffman et al. (2007) and differs from the continuous improvement obtained in this factor in Hoffman et al. (2005).

Specifics of the intervention can help to understand the results. Throughout the skills training, both groups (G1 and G2) created WhatsApp groups with the leader and co-leader to notify them of absences and delays and share videos, reflections, and experiences beyond the weekly meeting. After the end of the training, the participants asked to join the two WhatsApp groups to continue meeting each other. This shows that the FC fulfilled one of its functions, which is to create a support network among family members of people with BPD. Maintaining relationships with other people who experience similar suffering favors a space for exchange and acceptance, free of judgments and stigmas, making the individual's environment less aversive and, consequently, reducing or keeping their pain stable (Hoffman et al., 2005; Hoffman et al., 2007). Some relatives with BPD showed improvement after the intervention with their family members. However, they also experienced significant external events, such as pregnancy and changes in medication, which may have influenced the effect of the FC program. In the post-intervention period, family members of people diagnosed with BPD reported having felt changes both in the relationship and in their own behavior. Although the questionnaires only showed changes in the family strength of relatives with BPD, in objective overload and in one domain of emotional dysregulation.

In the last two weeks of the intervention, the participants expressed their feelings over the finishing of the group and wanted to continue learning. G2 asked the researcher who conducted the program for a "refresher" so that they could feel more equipped with the information and skills to act as co-leaders and leaders later on. Given that 13 participants (86.66%) would like to take part in the FC again, it was hypothesized that the program's time may not have been enough for the family members taking part in the program to feel like masters of the skills. The fact that they want to do the program again does not necessarily mean that they do not approve of it since 100% of the participants who answered the questionnaire would recommend it to other people. It is important to note that the intervention was not evaluated on participants who did not complete the skills training (N = 6). The adherence analysis suggests that the participants who remained until *follow-up* (N = 14) had more significant *assistance in objective daily life* and a better quality of life assessed in the *physical* and *environmental* domains of the WHOQOL-bref. In future studies using the FC program, it is understood that family members who are in better

physical health, who can easily access the intervention site, and who can assist with daily tasks may benefit more effectively from the program.

Some limitations can be observed in this study. Since the same person applied both the program and the instruments, the bond created between the researcher and the participants throughout the intervention may have contributed to the social desirability responses in the questionnaires applied. In the follow-up collection, the EIP was not reapplied, which would have been important to check whether there had been a change in opinions regarding the importance of the content of the modules, as well as in the perception of continuous change in the relationship, in themselves and in the family member. Another important limitation of the work concerns the adherence of the applicators to the FC program since none of the professionals involved in the program's application evaluated their fidelity to the procedure. Monitoring the participants' use of skills throughout the intervention could have been used to assess whether or not the improvement or worsening of family members was associated with the use of the skills trained in the program. The absence of a control group limits the interpretation of the data and may indicate an effect of time rather than the intervention. Finally, using the Portuguese version of the BSI and the FSQ scale, which have not been adapted and validated for the Brazilian population, hinders interpreting the results linked to these instruments.

Given the scarcity of data found regarding studies in the area, the information gathered is essential for expanding research in this field to improve the effectiveness of FC and help reduce the suffering of relatives and caregivers of patients with BPD. The results observed in this research show that the FC program is an alternative for welcoming family members of people with BPD in Brazil and can be effective in improving the quality of the family relationships of relatives with BPD in the Brazilian population. As the studies by Rajalin et al. (2009), Miller and Skerven (2017), and Wilks et al. (2017) show, modifications to modules 1 and 2 of the FC program can make the intervention beneficial for family members of people with other psychiatric diagnoses. Obtaining similar data to foreign studies when replicating the FC program in Brazil with Brazilian participants suggests that the FC program may be generalizable to this population. Future research could propose a cultural adaptation of the FC program for the Brazilian population, understanding that the 12-week program in the structure presented may not have been enough for family members of individuals with BPD to reduce their psychiatric symptoms, improve their quality of life or know how to deal with their relative diagnosed with BPD. Collecting data with a larger, more homogeneous sample can also provide more consistent results, as can applying scales after each meeting. This can help evaluate the program's effectiveness by breaking down which content contributes most to the participant's expected change.

This first application of the Family Connections program in Brazil allows us to conclude that the program was effective for the participants in the study in reducing the feeling of overload and partly in emotional regulation, as well as fostering a support network among family members of people with BPD. The study also presents the effect of FC on relatives with BPD, which has never been evaluated before. Despite the significant changes, a cultural adaptation of the protocol is necessary based on the results, reconsidering the program's structure to improve the other variables studied.

References

Baldwin, S. A., Berkeljon, A., Atkins, D. C., Olsen, J. A., & Nielsen, S. L. (2009). Rates of change in naturalistic psychotherapy: contrasting dose-effect and good-enough level models of change. *Journal of consulting and clinical psychology*, *77*(2), 203–211. https://doi.org/10.1037/a0015235

Boritz, T. Z., Sheikhan, N. Y., Hawke, L. D., McMain, S. F., & Henderson, J. (2021). Evaluating the effectiveness of the Family Connections program for caregivers of youth with mental health challenges, part I: A quantitative analysis. *Health expectations: an international journal of public participation in health care and health policy*, *24*(2), 578–588. https://doi.org/10.1111/hex.13205

Bandeira, M., Calzavara, M.G. P., & Varella, A. A. B. (2005). Escala de Sobrecarga dos familiares de pacientes psiquiátricos – FBIS-BR: Adaptação transcultural para o Brasil. *Jornal Brasileiro de Psiquiatria, 54*, 206-214. https://www.ufsj.edu.br/portal2-repositorio/File/lapsam/Artigos%20digitalizados/Escala%20FBIS-BR.PDF

Bateman, A., & Fonagy, P. (2018). A randomized controlled trial of a mentalization-based intervention (MBT- FACTS) for families of people with borderline personality disorder. *Personality Disorders:*

Theory, Research, and Treatment, 10(1), 70–79. https://doi.org/10.1037/per0000298

Canavarro, M. C. S. (1999). Inventário de sintomas psicopatológicos B.S.I. In M. R. Simões, M. M. Gonçalves & L. S. Almedida (Eds.), *Testes e Provas Psicológicas em Portugal,* (vol. II, pp. 87-109). Braga: SHO/APPORT.

Cancian, A. C. M., Souza, L. A. S., Silva, V. H. P., Machado, W. L., & Oliveira, M. S. (2019). Psychometric properties of the brazilian version of the Difficulties in Emotion Regulation Scale (DERS). *Trends in Psychiatry and Psychotherapy, 41,* 18-26. https://doi.org/10.1590/2237-6089-2017-0128

Ekdahl, S.; Idvall, E.; Perseius, K. (2014). Family skills training in dialectical behavior therapy: The experience of the significant others. *Archive of Psychiatrics Nursing, 28*, 235–241. https://doi.org/10.1016/j.apnu.2014.03.002

Fernández-Felipe, I., Díaz-García, A., Marco, J. H., García-Palacios, A., Guillén, V. B. (2021). Family Connections, a DBT-based program for relatives of people with borderline personality disorder during the COVID-19 pandemic: A focus group study. *International Journal of Environmental Research and Public Health, 19*, 79. https://doi.org/10.3390/ijerph19010079

Fitzpatrick, S., Liebman, R. E., & Monson, C. M. (2021). The borderline interpersonal-affective systems (BIAS) model: Extending understanding of the interpersonal context of borderline personality disorder. *Clinical psychology review*, *84*, 101983. https://doi.org/10.1016/j.cpr.2021.101983

Fleck, M. P. Louzada, S., Xavier, M., Chachamovich, E., Vieira, G., Santos, L., & Pinzon, V. (2000). Aplicação da versão em português do instrumento abreviado de avaliação da qualidade de vida "WHOQOL-bref". *Revista de Saúde Pública, 34,* 178-183. https://doi.org/10.1590/S0034-89102000000200012

Flynn, D., Kells, M., Joyce, M., Corcoran, P., Herley, S., Suarez, C., … & Groeger, J. (2017). Family connections versus optimized treatment-as-usual for family members of individuals with borderline personality disorder: Non-randomised controlled study. *Borderline Personality Disorder and Emotion Dysregulation, 4*, 18. https://doi.org/10.1186/s40479-017-0069-1

Grenyer, B. F. S., Bailey, R. C., Lewis, K. L., Matthias, M., Garretty, T., & Bickerton, A. (2018). A randomized controlled trial of group psychoeducation for carers of persons with borderline personality disorder. *Journal of Personality Disorders, 33*(2), 214–228. https://doi.org/10.1521/pedi_2018_32_340

Guillén, V.; Díaz-García, A.; Mira, A.; García-Palacios, A.; Escrivá-Martínez, T.; Baños, R.; Botella, C. (2020). Interventions for Family Members and Carers of Patients with Borderline Personality Disorder: A systematic review. *Family Process, 60*, 134–144. https://onlinelibrary.wiley.com/doi/epdf/10.1111/famp.12537

Hoffman, P. D., Fruzzetti, A. E., Buteau, E., Neiditch, E. R., Penney, D., Bruce, M., . . . Struening, E. (2005). Family Connections: A program for relatives of persons with borderline personality disorders. *Family Process, 44*, 217-225. https://doi.org/10.1111/j.1545-5300.2005.00055.x

Hoffman, P. D., Fruzzetti, A. E., & Buteau, E. (2007). Understanding and engaging families: An education, skills and support program for relatives impacted by borderline personality disorder. *Journal of Mental Health, 16*, 69-82. https://doi.org/10.1080/09638230601182052

Lildejahl, S., Kleindienst, N., Wangby-Lundh, M., Lundh, L., Daukantaite, D., Fruzzetti, A., Westling, S. (2019). Family Connections in different settings and intensities for underserved and geographically isolated families: A non-randomised comparison study. Borderline Personality Disorder and Emotion Dysregulation, *6,* 14. https://doi.org/10.1186/s40479-019-0111-6

Melo, A., & Alarcão, M. (2011). Avaliação de processos de resiliência familiar: Validade e fidelidade do Questionário de Forças Familiares. *Mosaico, 48,* 34-41.

Miller, M. L., & Skerven, K. (2017). Family skills: A naturalistic pilot study of a family-oriented dialectical behavior therapy program. *Couple and Family Psychology Research and Practice, 6*, 79-93. https://estudogeral.uc.pt/bitstream/10316/36414/1/Avalia%c3%a7%c3%a3o%20de%20processos%20de%20resili%c3%aancia%20familiar.pdf

Pearce, J., Jovev, M., Hulbert, C., McKechnie, B., McCutcheon, L., Betts, J. et al. (2017). Evaluation of a psychoeducational group intervention for family

and friends of youth with borderline personality disorder. *Borderline Personality Disorder and Emotion Dysregulation, 4*, 5–10. https://doi.org/10.1186/s40479-017-0056-6.

Rajalin, M., Wickholm-Pethrus, L., Hursti, T., & Jokinen, J. (2009). Dialectical Behavior Therapy: Based skills training for family members of suicide attempters. *Archives of Suicide Research, 13*, 257-263. https://doi.org/10.1080/13811110903044401

Regalado, P., Pechon, C., Stoewsand, C., & Gagliesi, P. (2011). Familiares de personas con trastorno límite de la personalidad: Estudio pre-experimental de una intervención grupal. *Revista Argentina de Psiquiatría, 22*, 245–252. https://www.fundacionforo.com/uploads/pdfs/vertex.pdf

Santos, P. L., Bazon, M. R., Carvalho, A. M. P. (2017). Family Adaptability and Cohesion Evaluation Scale IV (FACES IV): adaptação brasileira. *Avaliação Psicológica, 16*, 120-127. http://dx.doi.org/10.15689/AP.2017.1602.01

Sutherland, R., Baker, J., & Prince, S. (2020). Support, interventions and outcomes for families/carers of people with borderline personality disorder: A systematic review. *Personality and mental health*, *14*(2), 199–214. https://doi.org/10.1002/pmh.1473

Skinner, B. F. (2003). *Ciência e Comportamento Humano.* (J. C. Tordorov, R. Azzi, Trad.; 11 ed.). Martins Fontes. (Original text published in 1953)

Vignola, R., & Tutti, A. (2014). Adaptation and validation of the Depression Anxiety and Stress Scale (DASS) to Brazilian Portuguese. *Journal of Affective Disorders, 155*, 104-109. https://doi.org/10.1016/j.jad.2013.10.031

Wilks, C. R., Valenstein-Mah, H., Tran, H., King, A. M. M., Lungu, A., & Linehan, M. M. (2017). Dialectical Behavior Therapy skills for families of individuals with behavioral disorders: Initial feasibility and outcomes. *Cognitive and Behavior Practice, 24*, 288-295. https://doi.org/10.1016/j.cbpra.2016.06.004

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