



MSc in Clinical Psychology

Effectiveness of Brief Transdiagnostic Cognitive Behavioural Group Therapy for Mild Depression, Anxiety, and Stress in Fathers: A Pilot Study

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Foreword

This thesis is written as completion to the master in Clinical Psychology at Reykjavik University and is a part of a research that was conducted over a period of three semesters. For the first semester, the purpose was to design the research and conduct a review of the literature relating to the field of study. For the second semester, data was collected and method was defined. The third semester, more data was collected and then analysed. The third semester was used to write the thesis. The third and fourth semester was used to recruit participants. The research was carried out by two master students, conducted and designed by two master students in clinical psychology, instructed by Linda Bára Lýðsdóttir and Jón Friðrik Sigurðsson, clinical psychologists with extensive experience in delivering cognitive behavioural therapy. Hafrún Kristjándóttir, clinical psychologist, helped with statistical analysis and offered the participants consultation if needed. All the data collection took place at a local church in the Reykjavik area, Iceland. It is planned to publish this thesis in a national journal. This research was collaborated with Eva Sjöfn Helgadóttir.

Abstract

Background: Mental health of both the father and the mother is important for the psychological development and adjustment of infants. Postpartum depression has mainly been linked to women although studies show that as many as 25% of new fathers may experience postpartum depression as well, and 4.1% may experience anxiety. *Aims:* The purpose of the pilot study is to evaluate a brief transdiagnostic cognitive behavioural group therapy (TCBGT) especially designed to reduce symptoms of mild depression, anxiety, and stress for fathers and compare the outcome across different symptoms. *Method:* In total, 17 participants signed up for the study; of them, ten underwent a three-week, five-session, TCBGT. A repeated measure ANOVA was used to evaluate the effect of the treatment. *Results:* The TCBGT resulted in significant improvement on measures of symptoms of stress following the TCBGT program ($p < 0.05$). *Conclusions:* Results indicate the effect of TCBGT particularly stress symptoms in fathers during the postpartum period. The treatment was considered to be effective. Further studies should include a larger sample size and control groups to evaluate the treatment efficacy.

Keywords: Anxiety, cognitive behavioural therapy, depression, stress, transdiagnostic therapy

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When a new individual is born into the family it inevitably has a great impact on the life of this household. This change can have various effects on the individual's emotions and it can take time to adjust to it. The perinatal period, especially pregnancy, is a particularly stressful period for both men and women and some men are not sufficiently prepared to become a parent (Condon, Boyce, & Corkindale, 2004). Therefore, it is clear that this life event is often stressful and it has been shown that stressful life events can be linked causally to the onset of depression (Kendler, Karkowski, & Prescott, 1999). Perinatal depression is a serious mental health problem that affects the quality of maternal care and can have a serious impact on social, behavioural, cognitive and physical development of the infant (Ramchandani, Stein, Evans, O'Connor, & ALSPAC Study Team, 2005). Depression in fathers, after birth of their infant, has also been linked to later psychological disorders in their child (Ramchandani et al., 2008).

A large body of research has documented perinatal depression and anxiety but the focus is infrequently on the father. Meta-analyses conducted by O'Hara and Swain (1996) showed that the overall prevalence of postnatal depression was estimated to affect 13% of women, based on estimates from 59 studies. Studies on postnatal depression among fathers show that the prevalence is ranging from 1.2% to 25% in community samples (Goodman, 2004; Melrose, 2010). In one research the prevalence of prenatal depression among fathers was 10.4% and increased three to six months after the birth of the infant, ranging from 17.3% to 36.1% (Paulson & Bazemore, 2010). Three to six months after the birth of the infant, maternal depression peaks with rate of 41.6%. Depression in women has also been demonstrated as a risk factor for depression in men during the postpartum period. Men are up to 50% as likely to experience depression, if the mother is experiencing postpartum

depression (Goodman, 2004; Paulson & Bazemore, 2010). It has also been demonstrated that depressive symptoms among parents during the pre-and postpartum period are relatively consistent (Paulson, Bazemore, Goodman, & Leiferman, 2016). Studies on anxiety in men during the perinatal period are limited. One review shows that men tend to experience perinatal anxiety with the prevalence ranging between 4.1% and 16% prenatal and 2.4-18% during the postnatal period (Leach, Poyse, Cooklin, & Giallo, 2016). In the same study, it was showed that anxiety in men across the perinatal period is rather stable with possible postpartum mild decrease.

Little is known about treatments for fathers experiencing symptoms of common mental disorders in the perinatal period but researches have focused on their involvement in child-related therapy (Carr, 1988; Phares, Fields & Binitie, 2006) and family therapy (Podell, & Kendall, 2011). Cognitive behaviour therapy (CBT) has showed to be an effective form of therapy and is widely used for various mental disorders, including depression and anxiety disorders (Butler, Chapman, Forman, & Beck, 2006; Hollon, Stewart, & Strunk, 2006). It has been demonstrated that CBT can be superior to antidepressants when treating depression in adults (Barlow, Gorman, Shear, & Woods, 2000; Butler, Chapman, Forman, & Beck, 2006) and it has been established as having a posttreatment enduring effect (Hollon et al., 2005). Originally, CBT was developed as an individual therapy, but it has later been established as a group therapy, which is based on the same principles as the individual therapy (Morrison, 2001). Group CBT therapies have been shown to be effective in treating homogenous samples (Stanley et al., 2003) and has been showed to be as effective as individual CBT treatment (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012). Transdiagnostic cognitive behavioural therapy (TCBT) has been shown to be effective in treating more than one mental disorder simultaneously, such as depression and anxiety, without needing to adjust the protocol to specific diagnoses (McEvoy, Nathan & Norton, 2009), because the underlying

maintenance processes are thought to be identical or similar (Talkovsky, & Norton, 2014). TCBT has demonstrated to be as effective as an individual therapy (Farchione et al., 2012; Titov et al., 2011) and as a group therapy (Norton, 2008).

Norton (2008) examined the efficacy of a 12-week TCBGT, one session a week, for anxiety disorders. The 52 participants in the study improved over the course of treatment and the outcome was not different for any comorbid or primary diagnosis. The effect of TCBGT has also been demonstrated in an Icelandic sample (Kristjansdottir et al., 2015). A six-session TCBGT was designed to treat both anxiety and depression among patients in primary care in Iceland. The treatment significantly reduced anxiety and depression significantly among patients and the number of diagnoses did not alter the outcome. TCBGT has been established as a feasible option to treat patients with various anxiety and depressive disorders and in Iceland, patients in primary care and at the outpatient unit at the Landspítali, University Hospital have been offered this therapy since 2005. However, no TCBGT has been especially designed to improve mental health among new fathers, so, this therapy is of great importance. The purpose of this pilot study is to further develop the TCBGT offered for fathers in the primary care in Iceland, for fathers and to test its efficiency. It is hypothesised that the symptoms of depression, anxiety and stress in new fathers will be reduced after being assigned to TCBGT.

Method

Participants

The study included 17 Icelandic male participants who all had an infant under 12 months of age. Of them, ten participants attended the treatment sessions. The mean age for all 17 participants was 32.2 years (SD=6.4, range 22 to 46). Participants registered voluntarily for participation via an email participants sent after seeing the Facebook page that was especially composed for the research. Inclusion criteria was mild-to-severe symptoms of stress, anxiety,

or depression, based on their score on the Depression, Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995), being over 18 years of age, and living with the birth mother.

Research design

A within-subject test design was used. The independent variable was the TCBGT treatment itself. The dependent variables were the symptoms of depression, anxiety and stress.

Measures

Participants were asked to answer several psychometric instruments, such as the Depression, Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995), Psychological Outcome Profiles (PSYCHLOPS; Ashworth et.al, 2004), Dyadic Adjustment Scale (Spanier, 1976), Multidimensional Scale of Perceived Social Support (Zimet, Powell, Farley, Werkman, and Berkoff, 1990), Quality of Life Scale (Burckhard, Anderson, Archenholtz, and Hagg, 2003), and demographical questions designed by researchers. In this study, data from the DASS were used to evaluate symptoms of depression, anxiety, and stress and the PSYCHLOPS was used to evaluate treatment outcome.

The Depression, Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1995) is a self-report measure consisting of 42 questions related to symptoms of stress, depression and anxiety. It was applied to measure changes in depressive, anxiety, and stress symptoms of the participant throughout the treatment. Participants were asked to rate the extension to which they have experienced each symptom over the past week on a four-point severity scale, from zero to three. DASS has been validated and proven to be a reliable measure of anxiety, depression and stress, showing good overall validity (Antony, Bieling, Cox, Enns, & Swinson, 1998). The validity of the Icelandic version has been shown to be good as well (Ingimarsson, 2010).

The *Psychological Outcome Profiles* (PSYCHLOPS; Ashworth et.al, 2004) is a client-generated psychometric instrument that can also be used as an outcome measurement.

PSYCHLOPS consist of four questions concerning patients' problems, behaviour, and feelings (Ashworth et al, 2005): two questions relate to the patients' problems, one question examines their behaviour, and the fourth question relates to their feelings. Total scores are achieved by summing up the scores for the four questions. Participants were asked to describe and score problems that were most troubling to them, in their own words, at the start of treatment, in the middle, and at the end. PSYCHLOPS has been shown to be reliable (Ashworth et al., 2005), and the Icelandic version has shown to have good internal consistency, and both convergent and concurrent validity (Hedinsson, Kristjansdottir, and Olason, 2013).

Demographical questionnaire: age, marital status, relations with the mother, number of children and age, education, occupation status, financial status, drug use, prescription drugs, other treatment.

Treatment

A brief TCBGT was offered to the participants in this study (see Table 1). The therapy was developed at the Landspítali, University Hospital and, since 2005, has been offered to patients with various anxiety and depressive disorders (Kristjansdottir et. al., 2013). The therapy has been further adjusted by two master students in clinical psychology at the University of Reykjavik, instructed by experienced clinical psychologists with extensive experience in delivering cognitive behavioural therapy. The original intervention consists of six two-hour sessions spread over six weeks. The main difference between this research and previous treatment manual is the number of sessions and subject matter. This treatment was designed to treat mild symptoms of depression, anxiety, and stress among new fathers and is considered mainly as a psychoeducation. The treatment therefore only lasted five sessions instead of six, as in the previous treatment program, with the session on core beliefs being excluded to reduce complications for participants and the therapists. In this pilot study, the

treatment was delivered two times a week for two hours in total of five sessions to possibly minimize drop-out rate as much as possible. At the end of session one to four, homework assignment was introduced. Since the treatment was adapted for new fathers, the material was customised to take on problems that they could face in their everyday lives, as fathers, employees, and husbands.

Table 1.

The main objectives for each session and homework.

Session	Main objectives	Homework
Introduction	Introduction of group rules and main objectives of the research.	
1	Psycho-education about basic principles of CBT and automatic thoughts, and on the relationship between thoughts, emotions and behaviour and negative automatic thoughts.	Thought record; situation-cognition-emotion
2	Review of homework. Introduction to cognitive distortions and alternative thoughts.	Thought chart
3	Review of homework. Psycho-education about depression, anxiety, and safety seeking behaviour.	Thought chart. Identify safety seeking behaviour.
4	Review of homework. More on alternative thoughts and introduction of underlying assumptions and core beliefs.	Thought chart. Identify safety seeking behaviour.
5	Review of homework. Goal setting and relapse prevention.	

During the first session, CBT was introduced in addition to automatic thoughts, thoughts and emotions relations, and how to use the first three columns in a thought record. The use of thought records requires identifying automatic thoughts followed by any given situation and the accompanying feelings. Session two emphasized teaching participants about cognitive restructuring by identifying common cognitive distortions and re-evaluating negative automatic thoughts. During the third session, common symptoms of anxiety and depression were explained in addition to how behaviour affects depression and anxiety.

During the fourth session, the focus was on attitudes and values, and, during the final session, goals and relapse prevention strategies were emphasized. Following sessions one to four, participants were encouraged to complete homework assignments followed by session one to four that emphasized completing a thought record worksheet.

Procedures

The research was introduced on a Facebook page created for this research. This Facebook page included a detailed description of the research. Advertisement for the research was posted on the researcher's personal Facebook wall and to smaller Facebook groups. Also, the research was introduced on various public media. Participants registered for participation via email that was made for the research and could be found on the research advertisement. Prior to the sessions, each participant attended a presentation of the treatment and had to fill out the DASS, provide their background information, and signed an informed consent letter, if they agreed to participate. Participants who met study criteria were then invited to take part in the study. The introduction session took place at the Reykjavik University, but the treatment was conducted at a local church in the Reykjavik area. At the beginning of each session participants rated their symptoms of depression, anxiety, and stress on the DASS and, at the beginning of sessions one, three, and five, participants filled out PSYCHLOPS. The therapists were advanced clinical psychology graduate students that had completed a year of therapy supervision and training, and were supervised throughout by a licensed clinical psychologist.

Ethics

Permission for the study was obtained from the National Bioethics Committee in Iceland (VSNb2016070005/03.01). Prior to the sessions each participant attended a presentation of the treatment and had to fill out DASS, demographic questions, and signed an informed consent, if they agreed to participate. Participants who met study criteria were invited to

participate in the study. If the participants needed psychological treatment options, they were offered psychological consultation.

Statistical Analysis

Data analysis was done using the SPSS, version 23. Intention-to-treat (ITT) was used to analyse all outcome data, whereby the last observation carried forward method was done. To study the sociodemographic and clinical characteristics of the sample, descriptive statistics was used. First, data was screened to ensure the criteria was met. One outlier was found in the last session measuring anxiety based on the DASS. For the DASS, missing data were minimal and treated by averaging over the remaining items for relevant subscale in question. Two analyses using a repeated measure ANOVA were carried out. First, to test the hypothesis that participants respond positively to the treatment compared to their own baseline, based on the DASS scores, and types of symptoms that are differently influenced by the treatment. Finally, to analyse treatment results based on questionnaire responses to PSYCHLOPS, pre-, during- and post-therapy.

Results

Participants disposition is shown in Figure 1. Of the 17 participants who agreed to take part in the study, ten participants (58,8% of $N = 17$) initiated the treatment. A summary of symptoms based on each participant's DASS scores prior to therapy indicated that five participants had normal symptoms of depression, while four had moderate symptoms, and one had severe signs of depression. Four participants had normal symptoms of anxiety, one had mild symptoms, four moderate symptoms, and one had severe symptoms, based on their DASS scores. Three participants had normal symptoms of stress, two had mild symptoms, one had moderate symptoms, and four presented severe symptoms, based on their DASS scores.

In total, three participants had seen a psychologist previously and one was still seeing a psychologist at the time of the study. Three out of ten participants had previously been to alcohol or drug rehabilitation, and also three participants were taking antidepressants. All participants were in relationship with the mother of their infant. Five (50%) participants were under the age of 30 years, three (30%) were between 30 and 40 years, and two were 46 years of age. Half of the participants had a child under the age of six months and the other half had a child over the six months' threshold. In total, five participants had one child, four had two children, and one had three children. When looking at their education, four had only compulsory education, two had advanced level, and four had a university degree. Most of the participants were working (70%), one was on parental leave, one was a student, and one was unemployed.

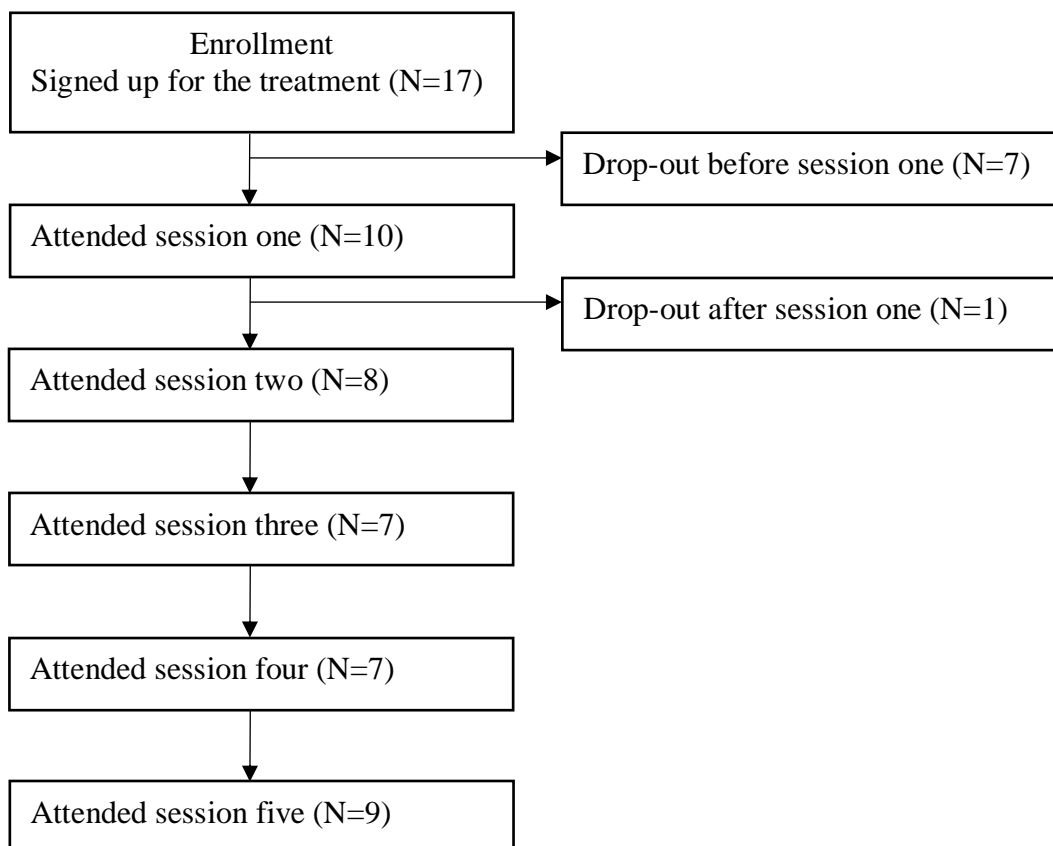


Figure 1. Flow chart of enrollment.

Analysis of the DASS mean scores one week before the treatment revealed that those attending treatment scored higher on the depression scale, the anxiety scale and the stress scale than those who did not attend, although these differences were not significant as can be seen in Table 2.

Table 2.

Descriptive statistics on symptoms of depression, anxiety, and stress by groups.

Symptoms	Mean (SD)	Sig. (2-tailed)
Depression		0.160
Completers	9.9 (7.3)	
Drop-out	5.3 (4.5)	
Anxiety		0.219
Completers	8.6 (5.9)	
Drop-out	5.3 (4.1)	
Stress		0.065
Completers	16.2 (7.4)	
Drop-out	9.3 (6.5)	

As can be seen in Table 3, mean score of depressive symptoms remained rather stable over time although the standard deviation for the last session is rather high. The mean score of anxiety symptoms decreased over time, but the mean increased slightly between sessions four and five. Finally, the mean score of stress symptoms decrease extensively from session two.

Table 3.

Means and standard deviations for each session measured with the DASS.

Symptoms	Session					
	1	2	3	4	5	6
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Depression	9.9 (7.3)	11.1 (7.2)	10.0 (8.2)	8.6 (7.8)	9.1 (7.2)	9.8 (12.2)
Anxiety	8.6 (5.9)	9.2 (7)	7.4 (7.1)	5.8 (5.5)	4.3 (4.2)	6.4 (8.3)
Stress	16.2 (7.4)	18.2 (9.6)	15.7 (8.1)	13.2 (9.5)	12.6 (8.9)	11.6 (9.3)

M: means; sd: standard deviation

Mauchly's test for depressive symptoms showed that the assumption of sphericity was violated, $\chi^2(14) = 44.486$, $p < 0.001$. Therefore, Greenhouse-Geisser corrected tests are reported ($\epsilon = .31$). The results showed that stress symptoms significantly reduced following

the treatment, $F(5, 45) = 3.195$, $p = .015$, $\omega^2 = 0.32$, and the effect size is relatively large. No significant difference was found using a post hoc test using the Bonferroni correction.

Neither depressive symptoms, ($F(1.6, 14.1) = 0.403$, $p = .627$, $\omega^2 = -0.02$) nor anxiety symptoms ($F(5, 45) = 1.309$, $p = .277$, $\omega^2 = 0.01$) were significantly affected by the treatment.

All ten participants included in the study completed the pre-treatment PSYCHLOPS questionnaire. During-treatment questionnaires were completed by six participants (60%), and post-treatment questionnaires were completed by nine participants (90%). In total, six participants (60%) completely filled out every PSYCHLOPS questionnaires. Analysis of the PSYCHLOPS total scores showed a decline between pre-treatment ($M = 3.05$, $SD = 1.24$), during-treatment ($M = 2.73$, $SD = 1.03$), and post-treatment ($M = 1.75$, $SD = 1.24$).

Mauchly's test showed that the assumption of sphericity was not violated, $\chi^2(2) = 3.21$, $p = 0.201$. Therefore, repeated measures ANOVA with a Sphericity Assumed correction was carried out. The findings revealed that the PSYCHLOPS mean scores differed significantly between time points ($F(2, 18) = 5.828$, $p = 0.011$, $\omega^2 = 0.15$) and the effect size is large. Post hoc tests using the Bonferroni correction showed no significant difference between time points although the difference between pre- and post measures was marginally significant $p = 0.062$.

For the first two questions on the PSYCHLOPS, participants could choose two specific problems that troubled them at the beginning of the treatment. Six participants (60%) chose two problems and two participants (20%) declared that other problems came up during therapy. It is possible to divide the participants' problems into two categories: problems concerning their mental wellbeing (e.g. anxiety-, depression-, and stress symptoms, binge eating, and fear of making a mistake) and problems related to their spouse (e.g. communications and parenting). A total of eight participants answered the last question in

post-therapy PSYCHLOPS: '*Compared to when you started therapy, how do you feel now?*'.

Four stated they felt a little better, two said quite a lot better, and two other much better.

Discussion

The purpose of this study was to compare the outcome of a TCBGT group therapy for fathers across symptoms of depression, anxiety and stress and to evaluate the effectiveness of the treatment. It was hypothesised that the symptoms of depression, anxiety, and stress in new fathers would be reduced after completing TCBGT. The findings also show that the treatment was effective.

The participants that underwent the brief TCBGT group therapy improved significantly on measures of stress symptoms following the treatment. No significant change was found on measures of anxiety or depression symptoms. Previous researches examining TCBGT, show that symptoms of anxiety and depressions can significantly improve after a six-week period (Kristjansdottir et al., 2015), and severity of anxiety disorders can significantly drop after 12 week of TCBGT (Norton, 2008). Therefore, it is therefore possible that the choice of delivering the treatment in a three-week period may have influenced the effectiveness. Furthermore, it is possible that the severity of the symptoms of anxiety and depression can decrease over time, which could be detected in a follow up. Severity of stress symptoms decreased between the first session and the last, from mild to normal, and a significant difference was detected between the first and the last session. This can be important when looking at symptoms of anxiety and depression. The perinatal period is a stressful period which can encourage the onset of depression (Kendler, Karkowski, & Prescott, 1999), and anxiety (Herrenkohl, 1986). Thus, it is important to measure symptoms of anxiety and depression in follow up to see if any change has resulted later on. The mean scores for each condition were approximately twice as high compared to the DASS mean score of University students in Iceland (Gudjonsson, Sigurdsson, Smari, & Young, 2009).

The postnatal period is a stressful period for parents that can affect their psychological wellbeing. That could be the reason for higher mean score on symptoms of depression, anxiety, and stress in men during the perinatal period. Thus, it is important to pay attention to the psychological wellbeing of the father as well as that of the mother.

The findings showed that the patients are responsive to the treatment, when looking at the PSYCHLOPS total scores between time points. The total score declined significantly between the first session and the last session, and most of the participants stated that the therapy made them feel better. It is important to determine outcome following treatment from a patient's perspective, away from clinician-determined domains. This allowed the participants to interpret their psychological distress and helped the clinician to capture aspects of recovery. The main problems stated by the participants were related to psychological factors and problems related to their spouse. Further TCBGT should thus focus on if these topics when planning treatments for new fathers. An Icelandic study analysed PSYCHLOPS scores, pre- and post therapy, in patients attending cognitive behavioural group therapy (Hedinsson, Kristjánisdóttir, and Olason, 2013). The results showed that the participants' total scores were similar to the participants total score in this study and so is the total score change. This highlights the importance of paying attention to the mental health of the father after the birth of his child.

There are a number of limitations that this pilot study entails. The first issue is a small sample size in which limits the power and effect size of the study. Furthermore, there was no control group and, therefore, it is hard to conclude how effective the treatment was compared to no treatment or other treatments. The absence of a control group can also limit the internal validity. Some participants stated that the duration between sessions was too short and thus they did not have enough time to finish the homework assignment before the next session. Another limitation is the impact the treatment had on other psychological factors beyond

symptoms of stress, anxiety, and depression, or beyond disorder-specific symptoms. It is possible that the decreased severity of symptoms of stress was the result of the group but not the treatment. Participants stated during treatment that meeting other fathers was helpful. Also, two master students in clinical psychology conducted the treatment, which could have had an impact on the treatment outcome. Further studies are needed on these subjects, with larger sample sizes and including control groups. In addition, it is necessary to examine if longer duration between sessions is needed.

Despite these limitations, the results of this TCBGT for fathers are promising. The results of this pilot study highlight the importance of paying attention to the mental health of new fathers.

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