**Abstract**

**Background**: Guided parent-delivered cognitive behavioural therapy (GPD-CBT) is an effective low intensity treatment for childhood anxiety disorder in Western countries and can increase access to evidence-based psychological therapies. This study aimed to examine its feasibility in a Japanese sample. **Method**: Twelve children with anxiety disorders and their parents participated in the study, and ten children and parents completed the program. Participants were assessed at pre-, post-, and one month follow-up using a diagnostic interview for anxiety disorders, self- and parent-report measures for anxiety, depression, parental behaviour, and parental anxiety. **Results**: Four children (40% of completers) were free from their primary diagnoses immediately following the brief treatment, and seven children (70%) at the one month follow-up. Changes in disorder severity, child and parent reported anxiety symptoms, and child reported depression symptoms were consistent with those found in Western trials of GPD-CBT and of Japanese trials of more intensive CBT for child anxiety disorders that involves both the child and the parent. Moderate increases were also found in child reported parental autonomy behaviours; however, there were only small changes in parent self-reported anxiety.

**Conclusion**: These results support the potential of GPD-CBT to increase access to evidence-based treatments for anxiety disorders in Japanese children.

Keywords: Cognitive behavioural therapy, child, parent, anxiety, Eastern countries

**Introduction**

 Childhood anxiety disorders are common worldwide (Cartwright-Hatton, McNicol, & Doubleday, 2006; Polanczyk et al., 2015). They cause dysfunction in school and daily life (Benjamin, Costello, & Warren, 1990), and increase the risk of future mental disorders, including other types of anxiety and mood disorders (Kendall et al., 2004). Cognitive behavioural therapy (CBT) is an evidence-based therapy for treating childhood anxiety disorders. A meta-analysis of 39 randomised controlled studies for childhood anxiety disorders reported that CBT is an effective treatment with an average remission rate of 49.4% from primary anxiety diagnosis in Western countries (James, Reardon, Soler, James, & Creswell, 2020). Furthermore, CBT benefits for children with anxiety disorders has also been confirmed in Eastern countries (e.g. Ishikawa et al., 2019). However, few children with anxiety disorders access evidence based treatment, for example, in England, only 2% of children with anxiety disorders identified in the community had accessed CBT (Reardon et al, 2019). Furthermore, the failure to access professional help in the early ages results in more severe cases in both Western and Eastern countries (Wang et al., 2007). The reasons for the low rates of access include lack of trained CBT therapists, mental health services costs, time challenges for families to engage with therapy, and the stigma associated with mental health treatment (Reardon et al., 2017; Stallard et al., 2007). Hence, efficient and engaging forms of CBT are needed to increase access to evidence based treatments for children with anxiety disorders.

 One efficient form of CBT is guided parent-delivered CBT (GPD-CBT; Creswell & Willets, 2019). GPD-CBT is a low-intensity intervention for children with anxiety disorders, delivered through their parents (Creswell & Willets, 2019). Good outcomes have been achieved for children after only five and a half hours of intervention (four 1-hour face-to-face sessions and four 20-minute telephone sessions) conducted by a therapist with the parent(s) over an eight-week period (e.g. Thirlwall et al, 2013). This is substantially less time than that required for traditional CBT interventions (typically comprising 10 to 20 hours) for childhood anxiety disorder (James et al., 2020). Another advantage is that children are not required to attend the treatment sessions; thus, children’s everyday activities do not get disrupted (Thirlwall et al., 2013) and parents do not have to worry about their child ‘being made to feel they have a problem’ (e.g. Reardon et al, 2017). In addition, a previous study reported good outcomes from GPD-CBT even when the treatment is delivered by novice therapists (Thirlwall et al., 2013), reducing reliance on a limited pool of expert therapists. These advantages indicate that GPD-CBT may be a useful tool for increased access to evidence based treatment for childhood anxiety disorders.

 The effectiveness of GPD-CBT has been examined in previous studies. For example, a randomised controlled study conducted in the UK showed that more children in the GPD-CBT group recovered than children in a wait-list group, with a relative risk of 1.85 (Thirlwall et al., 2013). In addition, GPD-CBT has been shown to be more cost effective than another brief psychological treatment (solution-focused brief therapy; Creswell et al., 2017). Although GPD-CBT is a low-intensity intervention, it appears to have similar effectiveness as high-intensity CBT, including individual and group CBT delivered directly to children. Pooled data from a total of 1253 children from several (Western) research centres found no significant differences in the clinical severity of the child’s primary anxiety disorder following individual CBT, group CBT, and GPD-CBT for the treatment of primary generalised anxiety disorder, social anxiety disorder, and separation anxiety disorder (McKinnon et al., 2018). In summary, GPD-CBT is a cost-effective and effective psychological treatment to treat childhood anxiety disorders. Nevertheless, studies to date have been conducted in Western countries and the efficacy of GPD-CBT in Eastern countries is unknown.

 The nature of the relationship between children and parents differs between countries. Western countries have an individualistic culture, which emphasises autonomy and individual thoughts; whereas, Eastern countries have collectivistic cultures, which emphasise harmony within social groups (Kleinknecht et al., 1997). Parents in Western countries typically encourage children’s independent behaviours and self-expression (Bornstein, 2013). Contrastingly, parents in Eastern countries typically expect their children to master self-control and suppress their emotions to maintain social harmony (Bornstein, 2013; You & Malley-Morrison, 2000). Since GPD-CBT aims to promote children’s autonomy to overcome their problems with anxiety, specific examination is required within Eastern contexts, including whether the program is acceptable to parents.

 The purpose of this study was to conduct a preliminary examination of outcomes from and the acceptability of GPD-CBT in Japan. First, we examined response and remission regarding the child’s primary anxiety disorder. We also assessed change in anxiety and depression symptoms, as they are commonly comorbid (Essau, Conradt, & Petermann, 2000), from pre-treatment to post-treatment and one month follow-up. Since CBT directly delivered to children with anxiety disorders is similarly effective in Eastern and Western countries (Ishikawa et al., 2019), we hypothesised that GPD-CBT will have a similar effect size across these measures of response and remission. Second, we explored the change in parents’ self-reported trait anxiety and child-reported parental behaviour. In GPD-CBT, parents learn about anxiety through psychoeducation and are encouraged to promote their child’s autonomy (Creswell & Willets, 2019), so we hypothesised that parent’s trait anxiety would decrease and parental behaviour to encourage their child’s autonomy would increase following GPD-CBT. Finally, we examined the acceptability of GPD-CBT among Japanese parents.

**Methods**

 Authors have abided by the Ethical Principles of Psychologists and Code of Conduct as set out by the BABCP and BPS. This trial was approved by the Institutional Review Board of Chiba University Hospital (reference number: G2019012), and it had been registered in the UMIN clinical trials (UMIN000038324; https://rctportal.niph.go.jp/en/detail?trial\_id=UMIN000038324) before the start of the study.

**Participants**

 Twelve children and parents participated in the study, and ten children and their parents completed the program. Their characteristics are presented in Table 1. The study was conducted at the Cognitive Behavioral Therapy Center at Chiba University Hospital, and all participants belonged to Kantou area, Japan. The inclusion criteria were as follows: (1) the child’s primary diagnosis is generalised anxiety disorder, social anxiety disorder, separation disorder, panic disorder, or specific phobia according to the Anxiety Disorders Interview Schedule for DSM-IV (ADIS; Silverman & Albano, 1996), (2) the child is aged 7 to 12 years, (3) a parent can attend weekly sessions, (4) both children and parents understand the purpose of the study and have provided written consent. The exclusion criteria were as follows: Both children and parents (1) presence of psychosis, a current high risk of suicide, substance abuse or dependence, or conduct disorder/anti-social personality disorder; (2) presence of intellectual disability; and (3) presence of autism spectrum disorder. Since GPD-CBT targets elementary school-aged children, we set the age range between 7-12 in this study (consistent with Thirlwall et al., 2013).

[Insert Table 1 here]

**Measures**

**Primary outcomes**

 In this study, the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent versions (ADIS-C/P; Silverman & Albano, 1996) was administered by a clinical psychologist or a mental health nurse. The ADIS-C/P was translated by two bilingual researchers for this study. The clinical psychologist who administered the ADIS-C/P had received a one-day long training and had prior implementation experience (Ishikawa et al., 2019). This evaluator then provided training to the nurse. The clinical severity rating (CSR) from 0 to 8 was determined from the combined report of the child and parent. A CSR score above 3 indicates a clinical level of impairment. The primary diagnosis was determined by the assessor based on the CSR score. After completing the ADIS-C/P, another clinical psychologist confirmed the accuracy of the diagnosis and rated the CSR based on the recorded audio. Response was evaluated using change in CSR score and recovery from the primary diagnosis using the ADIS-IV-C/P at post-treatment and follow-up.

**Secondary outcomes**

 The Spence Children’s Anxiety Scale – Child (SCAS-C) is a child self-report measure and the Spence Children’s Anxiety Scale – Parent (SCAS-P) is a parent-report measure used to assess anxiety symptoms in children (Nauta et al., 2004; Spence, 1998). Both versions comprise 38 items reflecting the frequency of anxiety symptoms rated on a 4-point scale: 0 (never) to 3 (always). The Japanese versions have good convergent validity and internal consistency (Ishikawa, Sato, & Sasagawa, 2009; Ishikawa et al., 2014).

 The Child Depression Inventory (CDI; Kovacs, 1985) is a child-report measure comprising 27 items to assess a child’s depressive symptoms. Each item has three descriptions of depression scored from 0 to 2. Higher scores indicate higher levels of depressive symptoms. The Japanese version of the CDI has good internal consistency and convergent validity (Mashida et al., 2009).

 The Parental Bonding Instrument – Brief Current Version (PBI-BC; Klimidis, Minas, & Ata, 1992) is a child-report measure to investigate children’s perceptions of parental behaviour. The PBI-BC comprises 16 items (eight items about the father and mother, respectively) comprising two dimensions: Care/rejection and control/autonomy. Higher scores indicate higher levels of care in care/rejection and higher levels of control in control/autonomy. We only considered the score for the parent who participated in the study. The PBI-BC has shown good reliability in a previous study (Klimidis et al., 1992). The first and second authors translated the scale from English to Japanese. An independent translator from an agency conducted back-translation to ensure the quality of the translated scale.

 The State-Trait Anxiety Inventory (STAI; Spielberger, 1983) is a widely used self-report measure for assessing state and trait anxiety. We used trait anxiety items to investigate the parents’ anxiety comprising 20 items, with scores ranging from 1 to 4. The Japanese version of the STAI has adequate internal consistency and test-retest reliability (Iwamoto et al., 1989).

**Acceptability measures**

 The Client Satisfaction Questionnaire (CSQ-8; Attkisson & Zwick, 1982) was conducted with parents to assess treatment satisfaction. The CSQ-8 is an 8-item measure rated on a 4-point scale, ranging from 1 to 4. Higher scores indicating higher satisfaction with the treatment. The Japanese version of the CSQ-8 (CSQ-8J) has adequate internal consistency and criterion-related validity (Tachimori & Ito, 1999).

 To assess the acceptability of GPD-CBT, we also asked participants to answer the following five questions with scores ranging from 1 to 5: 1. Explanation comprehension, 2. Required time, 3. Degree of burden, 4. Convenience, 5. Possibility of continuation after the program.

**Treatment**

We developed a Japanese version of the GPD-CBT based on the English online version (Hill et al, 2022) as this comprised more concise text than the original book-based version (Thirwall et al, 2013). First, an independent professional translator translated the English content to Japanese. Second, Japanese clinical psychologists with expertise in CBT for anxiety disorder reviewed the translated text and made minor cultural adaptations (SO, SI). For example, the following sentence, *“Do you want to make a Marmite or a ham sandwich for your packed lunch?”* waschanged to a rice ball to make the example sentences more appropriate for Japanese participants. Third, an independent translator back-translated the culturally modified part of the Japanese text to English. Finally, an English-speaking researcher with expertise in GPD-CBT (CC) reviewed the cultural adaptation, and a final edition of the module was developed.

 In GPD-CBT, as presented in Table 2, each parent received weekly sessions lasting a total of six hours over eight weeks (five 1-hour face-to-face sessions and three 20-minute telephone sessions). Since the Japanese version of GPD-CBT is based on the online version of GPD-CBT (Hill et al., 2022), it contains one extra face-to-face session (Session 5) compared to the original book-based version (Thirlwall et al., 2013). Only parents attended the sessions and delivered the CBT techniques with their children as a homework task. Although most participants were mothers, all participants were encouraged to share the session content with other family members. The treatment was delivered by the first author (SO). During the treatment, the first author received weekly supervision from a psychiatrist specialised in CBT for anxiety disorders (ES).

[Insert Table 2 here]

**Procedure**

 Participants were recruited through clinical referrals and posters displayed at public facilities. Parents applied to participate in the study via e-mail. Thirteen children and their parents were invited to the Chiba University Hospital. Both parents and children provided written informed consent. After completion of informed assent and consent, an independent assessor (a clinical psychologist or a nurse) conducted the ADIS-IV-C/P to assess the participants’ eligibility. None of the participants had previously received CBT. Parents attended the GPD-CBT program over eight weeks, and assessments were conducted at pre-treatment (week 0), post-treatment (week 9), and one month follow-up (week 13). The trial was conducted between October 2019 and January 2021.

**Statistical analysis**

We prepared a statistical analysis plan prior to conducting the analyses. Continuous variables were expressed as mean ± standard deviation and categorical data were presented as absolute numbers and percentages. For the primary outcome (CSR), a paired t-test was used to compare the score before and after treatment. We also examined the reduction in CSR from pre-treatment to follow-up. In addition, we calculated the proportion of children who recovered from their primary diagnoses. For the secondary outcomes, we compared the SCAS-C/P, CDI, PBI-BC, and STAI scores between pre-treatment and the other two time points (post-treatment and follow-up) using the paired t-test. We also calculated Hedge’s g to report the effect size for each measure. The absolute effect size was interpreted to be small (0.20–0.49), medium (0.50–0.79), or large (0.80 and above) (Cohen, 1988). To examine the participants’ satisfaction, we estimated descriptive statistics for the CSQ-8J and the questions about utility. For the CSQ-8J, levels of satisfaction were determined by the following categories: poor (score 8-13), fair (score 14-19), good (score 20-25), or excellent (score 26-32) (Smith et al., 2014).

Statistical analyses were performed using the SAS statistical software package, Version 9.4 (SAS Institute, Cary, NC, USA).

**Results**

 Figure 1 shows the CONSORT flowchart of the study. Two pairs of parents and children did not complete GPD-CBT. Of these, one parent dropped out in session 4 due to an increase in the child’s anxiety, and another parent dropped out in session 3 because she was unable to attend the sessions due to her work.

No adverse events were reported during the study.

**Primary outcomes**

 Four children (40% of completers) were free from their primary diagnosis at post-treatment, and seven children (70%) were free from their primary diagnosis at the one month follow-up. Table 3 shows the mean and standard deviation for the outcome measures at each time point, as well as the effect size for pre-treatment to each time point. There was a large reduction in the mean CSR score which decreased by 2.9 from pre- to post-treatment (t (9) = -4.8; *p* = .001 g = -1.37), and 3.7 from pre- to follow-up-treatment (*t* (9) = -4.8; *p* = .001; *g*= -1.36)..

[Insert Table 3 here]

**Secondary outcomes**

 There were small to medium reductions in the SCAS-C and SCAS-P from pre-treatment to post treatment (SCAS-C: *t* (9) = -1.2; *p* = .263; *g* = -.34, SCAS-P: *t* (9) = -1.5; *p* = .166; *g* = -.43) and follow up (SCAS-C: *t* (9) = -2.7; *p* = .024; *g* = -.77, SCAS-P: *t* (9) = -1.6; *p* = .139; *g* = -.46) and small reductions in CDI scores from pre-treatment to post treatment (*t* (9) = -1.4; *p* = .187; *g* = -.41) and follow-up (*t* (9) = -1.3; *p* = .235; *g* = -.36). For the control/autonomy score in PBI-BC, the effect size was large for pre- to post-treatment (*t* (8) = -3.4; *p* = .010; *g* = -.99) and small for pre- to follow-up treatment (*t* (8) = -1.5; *p* = .173; *g* = -.44). The effect size for the STAI was also small for pre- to post- treatment (*t* (9) = -1.3; *p* = .233; *g* = -.36).

**Utility measures**

 The mean total score for the CSQ-8J was good, 25.4 (*SD* = 4.7). The mean scores for each utility measure were as follows: explanation comprehension (mean = 4.8, *SD* = .42), required time (mean = 4.6, SD = .7), degree of burden (mean = 4, *SD* = .94), convenience (mean = 3.7, *SD* = .95), and possibility of continuation after the program (mean = 4.4, *SD* = .7).

**Discussion**

 This preliminary single-arm study was the first to examine outcomes from and acceptability of GPD-CBT in a Japanese sample. We found a large decrease in the clinical severity of the child’s primary anxiety diagnosis after GPD-CBT which was comparable to that observed in a clinical study conducted in the UK (Hedge’s g = 1.59; Creswell et al., 2017) and in a study where CBT was directly delivered to Japanese children and their parents (Hedge’s g = 1.27; Ishikawa et al., 2019; Table 4). Although the immediate post-treatment remission rate for the primary outcome was smaller than that in previous studies of GPD-CBT (50%) and in studies where CBT was directly delivered to children suffering from anxiety disorder (50%) (Ishikawa et al., 2019; Thirlwall et al., 2013), the remission rate had increased to 70% within one month after treatment. This post-treatment improvement is consistent with other trials of GPD-CBT (e.g. Thirlwall et al., 2013) and may reflect the fact that GPD-CBT is a short program, here it only consisted of six hours of treatment, and parents are likely to need time to practice and implement the strategies in their child’s daily life. These findings are promising; however, randomised controlled trials are needed to gain robust evidence for the effectiveness of the Japanese version of GPD-CBT.

 The size of the decrease in anxiety and depressive symptoms in our study was mostly consistent with previous studies. The results showed a small to medium effect size for SCAS-C and CDI which is consistent with a prior GPD-CBT and a study of more intensive CBT conducted with Japanese children (Creswell et al., 2017; Ishikawa et al., 2019; Thirlwall et al., 2013). Unexpectedly, the effect size for parent-reported child anxiety symptoms was smaller than that reported in prior studies (Creswell et al., 2017; Ishikawa et al., 2019). Japanese mothers tend to think of themselves as less competent and fail to attribute their success in parenting to their abilities (Bornstein & Cote, 2004). Since GPD-CBT is delivered by parents, this tendency might lead parents to underestimate the change in their child’s anxiety symptoms. Since our results were limited by the small sample and lack of comparison group, further examination of change in parent-reported children’s anxiety is required.

 This was the first study to report changes in parents’ trait anxiety and parental behaviours following GPD-CBT. The effect size for parents’ trait anxiety was small. Japanese mother tends to underestimate their accomplishment and fail to attribute their improvement to themselves (Bornstein & Cote, 2004). Future studies are warranted to examine whether the small change in parents’ trait anxiety is due to Japanese culture, and additional cultural adaptation may be needed in the treatment program to encourage parents to attribute their accomplishments successfully. For parental behaviours, medium to large changes were found in child reported parental control/autonomy behaviour. This is consistent with one of the aims of GPD-CBT wherein therapists encourage parents to promote their child’s autonomy (Creswell & Willets, 2019). However, future studies with a control group are warranted to gain more conclusive evidence of the effect of GPD-CBT on parents’ behaviours.

 Our findings suggest that a Japanese version of GPD-CBT was acceptable for Japanese parents as evident in the participating parents expressing high satisfaction with the GPD-CBT program. The mean ratings of other utility measures were also high, ranging from 3.7 to 4.8 on 5-point rating items. However, the fact that there were two drop outs in this study must be considered. As such, although most parents were satisfied with the Japanese version of the GPD-CBT program, improvements and updates of the program may be needed to maximise its acceptability; for example, providing an online version that can be used from home may be more manageable for parents with other competing commitments (Hill et al, 2022).

 The major advantage of the Japanese version of GPD-CBT is that it can be delivered to children with anxiety disorders at a low cost. We delivered GPD-CBT with only six hours of therapist contact and children did not need to attend sessions. This compares to a CBT program that is more commonly delivered with Japanese children involving an average of 10 sessions with both the child and the parent (including boosters) which are each 60 to 120 minutes long (Ishikawa et al., 2019). Other potential advantages include that GPD-CBT can be delivered to children without them having to leave early or be absent from school. This is beneficial in Japanese culture which emphasises harmony within a group and does not value different behaviours from other group members (Kleinknecht et al., 1997). Although the effectiveness of GPD-CBT needs systematic examination, our results suggest that GPD-CBT may reduce child anxiety problems with greater efficiency and at lower costs compared to other CBT programs.

**Limitations**

 This study has several limitations. First, although we found a reduction in symptoms and remission from primary diagnoses, this was a small single-armed study. A randomised controlled trial with a priori power analysis to detect clinically meaningful effects is necessary to examine the efficacy of GPD-CBT for Japanese children and their parents. Second, because the follow-up was only conducted at one month post-treatment, the maintenance effects of GPD-CBT for a longer period were unclear. A future study with a longer follow-up period will provide evidence of the longer-term effects of GPD-CBT. Third, the assessors were not blinded to the stage of treatment and whether the parents completed the treatment. Assessors need to be blinded to treatment factors in future studies. Finally, this study was conducted during the COVID-19 pandemic. Since some studies have indicated that anxiety in children was elevated during the COVID-19 pandemic (Garcia de Avila et al., 2020), our study’s results may have been affected. We made some adaptations to the treatment in order to deliver it during the pandemic. For example, we used video calls instead of meeting face to face to develop step plans for exposure. However, due to pandemic-related restrictions some potential exposure situations were limited which might have led to a reduction in treatment effect. The fact that we found broadly favourable results within this challenging context is encouraging; however, an examination of outcomes and acceptability of GPD-CBT beyond the pandemic is needed.

**Conclusion**

Despite these limitations, this study suggests that a Japanese version of GPD-CBT is acceptable to Japanese parents and is a promising step towards treating children’s anxiety disorders using a low-intensity parent-delivered program. Further randomised controlled trials are required to examine the efficacy and effectiveness of GPD-CBT in Japanese parents with clinically anxious children.

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**Table 1.** Characteristics of Completers (*n* = 10)

|  |  |  |
| --- | --- | --- |
| Characteristics |  | Children |
| Age: Mean (SD) |  | 10.1 (1.6) |
| Gender: n (%) | Male | 4 (40) |
|  | Female | 6 (60) |
| ADIS primary diagnosis | Separation anxiety disorder | 2 (20) |
|  | Social phobia | 7 (70) |
|  | Generalised anxiety disorder | 1 (10) |
| Number of comorbidities | 1 | 2 (20) |
|  | 2 | 3 (30) |
|  | 3+ | 5 (50) |
|  |  | Parent |
| Age: Mean (SD) |  | 44.8 (3.58) |
| Gender: n (%) | Male | 2 (20) |
|  | Female | 8 (80) |
| Marital status: n (%) | Married | 8 (80) |
|  | Single | 2 (20) |
| Educational background | High school | 2 (20) |
|  | Undergraduate | 7 (70) |
|  | Postgraduate | 1 (10) |

*Note*. ADIS: Anxiety Disorders Interview Schedule for DSM-IV

**Table 2.** Content of GPD-CBT

|  |  |  |
| --- | --- | --- |
| Week | Content | Session format |
| 1 | Psychoeducation and case formulation | Face to face |
| 2 | Practice new approach for parental response | Face to face |
| 3 | Introduce and practice Step plan and exposure | Face to face |
| 4 | Review tasks | Telephone |
| 5 | Introduce encouragement of independence and control of worry | Face to face |
| 6 | Review tasks | Telephone |
| 7 | Introduce and practice problem-solving  | Face to face |
| 8 | Review tasks | Telephone |

**Table 3.** Mean, standard deviation, and effect size of outcomes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Pre | Post | Follow-up | Pre to post | Pre to follow-up |
| Outcome | Mean (SD) | Mean (SD) | Mean (SD) | Paired t-test | Effect size (g) | Paired t-test | Effect size (g) |
| CSR | 6.7 (0.82) | 3.8 (1.81) | 3 (2.26) | .001 | -1.37 | .001 | -1.36 |
| SCAS-C | 42.5 (21.52) | 35.6 (19.66) | 32.3 (17.07) | .263 | -0.34 | .024 | -0.77 |
| SCAS-P | 39.5 (16.55) | 28.6 (16.66) | 30.8 (11.31) | .166 | -0.43 | .139 | -0.46 |
| CDI | 17 (4.4) | 14.6 (4.9) | 14.4 (4.67) | .187 | -0.41 | .235 | -0.36 |
| Care/rejection | 2.56 (1.24) | 2.44 (1.74) | 2.67 (1.22) | .728 | -0.11 | .681 | 0.13 |
| Control/autonomy | -1.44 (2.01) | -2.67 (1.41) | -2.22 (1.72) | .010 | -0.99 | .173 | -0.44 |
| STAI | 48.3 (10.33) | 46.1 (10.19) | 47.2 (13.32) | .233 | -0.36 | .678 | -0.12 |

*Note*: CSR = Clinical Severity Rating, SCAS-C = Spence Child Anxiety Scale-Child version, SCAS-P = Spence Child Anxiety Scale-Parent version, CDI: Child Depression Inventory, STAI: State-Trait Anxiety Inventory

**Table 4.** Comparison of effect sizes for pre- to post-assessment among clinical trials

|  |  |  |  |
| --- | --- | --- | --- |
|  | Present study | Guided-parent delivered CBT by Thirlwall et al. (2013) and Creswell et al. (2017) | CBT directly delivered to Japanese children and parents by Ishikawa et al. (2019) |
|  | Hedge’s g | Hedge’s g | Hedge’s g |
| CSR | -1.37 | -1.59 | -1.27 |
| Child reported child’s anxiety symptom (SCAS-C) | -0.34 | -0.31 | -0.49 |
| Parent reported child’s anxiety symptom (SCAS-P) | -0.43 | -0.67 | -0.78 |
| Child reported child’s depressive symptom1 | -0.41 | -0.46  | -0.45 |

*Note*: We calculated Hedge’s g for the previous studies based on their sample size, mean score, and SD for pre and post.

Depressive symptoms were measured using the Child Depression Inventory (Kovacs, 1985) in the present study and Ishikawa et al. (2019), and the Short Moods and Feelings Questionnaire (Angold et al., 1995) for Thirlwall et al. (2013).



**Figure 1.** CONSORT flow chart