EFFECTIVENESS TRIAL OF PSYCHOANALYTIC PSYCHOTHERAPY FOR CHILDREN AND ADOLESCENTS WITH SEVERE ANXIETY SYMPTOMS IN A NATURALISTIC TREATMENT SETTING

KATHARINA WEITKAMP, JUDITH K. DANIELS, ANETTE BAUMEISTER-DURU, ANDREA WULF, GEORG ROMER and SILKE WIEGAND-GREFE

Background The aim of the study was to look at symptom changes in naturalistic outpatient psychoanalytic child and adolescent psychotherapy for anxiety disorders in Germany.

Methods (1) The first treatment period of the psychodynamic intervention group (<25 sessions) was compared with a minimal supportive treatment (waiting list) control group, and (2) the effects of long-term psychoanalytical treatment (>25 sessions) were analysed using a longitudinal observational design. A total of 86 children and adolescents (4–21 years) were in the treatment group and 35 in the minimal supportive treatment control group. Questionnaires were administered at the beginning and end of treatment, as well as at 6- and 12-month follow-up (FU).

Results When comparing the first treatment period with the minimal supportive treatment control group, both groups improved significantly with small effect sizes and no significant group differences. Both parents and patients reported moderate symptom improvements at the end of therapy (parent: d=0.58; patient: d=0.57), which were stable at FU and increased from the patient perspective (parent: d=0.37; patient: d=0.80).

Conclusions The results suggest that anxiety symptoms significantly decreased during the treatment period and remained stable at FU. Due to the study design we could not rule out alternative explanations like regression to the mean.

KEY WORDS: PSYCHOANALYTIC PSYCHOTHERAPY, ADOLESCENTS, CHILDREN, ANXIETY, EFFECTIVENESS, NATURALISTIC STUDY

BACKGROUND
Anxiety symptoms are widely prevalent in children and adolescents (Gosmann et al., 2015; Polanczyk et al., 2015). In a longitudinal community sample (Great Smoky
Mountain Study) the predicted cumulative prevalence of an anxiety disorder by the age of 16 was 12.1% for girls and 7.7% for boys (Costello et al., 2003). Slightly higher rates have been reported for a German sample of adolescents with a lifetime prevalence of 18.6% (Essau et al., 2000). These rates are worrisome because professional help-seeking in affected youth is low (only 18.2%) (Essau et al., 2000) and about 50% show stability of psychiatric pathology over 5 years (Esser et al., 2000). As stated in the World Health Organization’s initiative on mental health, there is, apart from the societal costs, ‘an ethical responsibility to the most vulnerable young people, who can have their full developmental potential thwarted’ (Kieling et al., 2011, p. 1516). Thus it is necessary to have effective interventions available to treat anxiety disorders.

Although psychoanalytic psychotherapy is a prevalent treatment method in Germany (about 48.7% of youth psychotherapists in Germany have a psychoanalytic training background) (Bundesregister der Kassenärztlichen Bundesvereinigung, 2011), it has not yet been sufficiently evaluated (Midgley & Kennedy, 2011). The rationale for treating anxiety disorders with psychoanalytic therapy is the understanding that anxiety disorders are primarily disorders of the affect and emotions. The anxious child or adolescent feels flooded with anxiety. In process research of adult therapy, findings suggest that psychodynamic elements of therapy seem particularly linked to outcome independent of therapy dose (Ablon & Jones, 1998; Benecke, 2014; Jones & Pulos, 1993). Specifically, early transference interpretations and a focus on affects and emotions proved relevant (Ablon, Levy & Katzenstein, 2006; Coombs, Coleman & Jones, 2002; Hilsenroth et al., 2003). Both techniques are central to psychoanalytical therapies.

Only a number of studies have been carried out to evaluate psychoanalytic therapies in young people, however they vary in study quality, with many limitations due to the retrospective nature of some studies, lack of control groups or lack of test power (Midgley & Kennedy, 2011; Palmer, Nascimento & Fonagy, 2013). A review of evidence-based psychotherapies for children and adolescents reported moderate effect sizes on the treatment of anxiety disorders, but these effect sizes were no longer evident during follow-up (FU) assessments at least 6 months after therapeutic intervention had ended (Reynolds et al., 2012). However, the vast majority of the reviewed studies evaluated treatments based on cognitive behaviour therapy (CBT), which is currently the standard treatment and most studied therapy method for anxiety disorders. A meta-analytic overview of short-term psychodynamic treatments included three studies on anxiety symptoms with an aggregated pre–post within-group effect size of Hedges’ $g = 0.78$ (Abbass et al., 2013).

A first methodologically sound study on the efficacy of psychoanalytic therapy for youth patients with anxiety compared 25 sessions of psychoanalytic psychotherapy with a waiting list control group (Kronmüller et al., 2005). The outcome criterion was an expert rating on a global impairment scale. Impairment was significantly reduced with a large effect size of $d = 1.42$. Though helpful for some of the anxiety patients, the authors concluded that about 40% of their patients needed longer or more intense treatment. However, parent reports of child psychopathology yielded only small
effect sizes for both the control and the intervention groups. Another study on separation anxiety compared usual care with psychodynamic psychotherapy (11 sessions) (Muratori et al., 2005). Fourteen children were in the psychodynamic group and another 10 in the control group which received no treatment or other treatment in community services. Parent ratings of internalizing symptoms indicated a significant reduction in the psychoanalytical group post therapy and at 2-year FU, but no significant reductions were observed in the usual care group.

The aim of the current study was to further our understanding of the evidence base for psychoanalytic treatments of child and adolescent anxiety disorders. There is an increasing interest as to what extent the efficacy of psychotherapy may be translated into clinical effectiveness in routine practice (Weisz et al., 2013), which can be addressed by a naturalistic study design such as that used here. Hence, the current study aimed to replicate previous results and extend findings to the naturalistic setting, including long-term treatment options. First, in contrast to the above-mentioned studies, the current study has been designed to assess naturally occurring therapy duration, since psychoanalytic therapy in Germany is usually longer in duration with a maximum of 180 sessions for adolescents and 150 sessions for children reimbursed by the German health insurance companies. Second, an anxiety disorder-specific questionnaire rated by patients (from the age of 11 years) and parents is employed as the primary outcome measure instead of a global therapist rating. We chose the patient- and parent-rated anxiety score as the primary outcome because it is (1) a dimensional rather than a dichotomous criterion (Wissenschaftlicher Beirat Psychotherapie, 2010), (2) follows a consumer-focused approach, and (3) circumnavigates the documented unreliability of psychiatric diagnosis (Aboraya et al., 2006). Furthermore, quality of life (QoL) was included as a secondary outcome. Therefore, the aim of the study was to test whether psychoanalytic therapy leads to a decrease in anxiety symptoms and an increase in QoL, and whether these potential therapy effects remain stable across a 1-year FU period. Our research questions were as follows: (1) Do anxiety symptoms and QoL improve in the first treatment period (25 sessions) of the intervention group compared with a waiting list control group (minimal supportive treatment)? (2) Do anxiety symptoms and QoL improve significantly across the long-term treatment period, and (3) remain stable during the FU period? (4) Is diagnostic status significantly reduced from pretreatment to 1-year FU?

METHODS

Procedure

The study was designed as a partly controlled, dual-perspective effectiveness study in a naturalistic setting: while the first 25 sessions were controlled by minimal supportive treatment (waiting list), the evaluation of the long-term treatment was implemented as a longitudinal observational study. The study is characterized as naturalistic, since treatment allocation was not randomized. In the first part of the
study, the first treatment period (25 sessions, 6.13 months) was compared with the minimal supportive treatment control group (five supportive sessions, 2.94 months). In the second part of the study, the effects of long-term psychoanalytical treatment (>25 sessions) were analysed using a longitudinal observational design. The current study was part of a larger study which also looked at the effectiveness of psychoanalytical therapy for children and adolescents with severe externalizing or depressive disorders (Weitkamp et al., 2014, 2017).

The therapists were contacted via the Vereinigung analytischer Kinder- und Jugendlichen-Psychotherapeuten (VaKJP; Association of Analytical Child and Adolescent Psychotherapists). The 26 participating therapists (21 female, 81%) all had a university degree in social pedagogy, education science or psychology, and had completed board-certified degrees on psychoanalytical child and adolescent psychotherapy. The therapists had on average 12 years (SD = 6.15) of working experience. There were between one and nine patients per therapist (average of three patients).

The patients received individual psychoanalytic psychotherapy, which was predominantly child focused, complemented by parent sessions, usually in a ratio of 4:1. The interventions were based on Anna Freud (1949) and Winnicott (1958). In the minimal supportive treatment (waiting list) control group, 76.5% of the patients received a limited number of bridging sessions (up to eight sessions) by the therapist in order to stabilize and support the patient and the family during the waiting period. These sessions focused on current problems rather than on underlying conflicts. Patients received confirmation to start therapy after the waiting list period. Since the aim of the study was to evaluate psychoanalytic psychotherapies as they are delivered in a naturalistic setting, no new therapy manual was imposed on the therapists. However, four of the therapists wrote a field manual precisely defining the actual applied practice of psychoanalytic psychotherapy in children and adolescents with anxiety disorders for three age groups: pre-school age, latency and adolescence (Baumeister-Duru et al., 2013). All experienced psychotherapists participating in the study were educated at psychoanalytic institutes with the same psychoanalytic standards. The manual is based on the common agreement of psychoanalytic psychotherapy of children and adolescents (as taught in Germany). The manual continued to develop while the authors discussed their therapeutic work, and presented and discussed it in several circles of experienced psychoanalytic therapists. There was also a close cooperation with Hans Hopf, a psychoanalytic psychotherapist who is a well known authority on psychoanalytic therapy of children and adolescents in the psychoanalytic community in Germany and the author of several books. The aim of the authors of the manual was to present a realistic representation/reflection of psychoanalytic treatment as it is practiced. Therapy was carried out once or twice per week. With regard to children and also adolescents suffering from anxiety disorders, a certain dynamic typically develops whereby parents attempt to protect their child from supposedly frightening and overwhelming experiences and situations, leading to a symbiotic and overprotecting relationship where he or she identifies with the fears and anxieties of his or her parent. Any aggressive or separating tendencies will be projected into the world outside, which in turn will be experienced as threatening and overwhelming. In the
analytic work, it is necessary to work within the therapeutic relationship. The therapist encourages development in the realms of separation and individuation. It is therefore desirable that the child, within the framework of the containing and understanding setting of the therapeutic relationship, is allowed to have the experience that aggressive and separating behaviours neither damage the Other nor the relationship, and the child’s sense of Self does not have to suffer. Typically, only when a trusting therapeutic relationship has been established can the patient begin to express and demonstrate aggressive feelings which the therapist picks up in a sensitive way, offering interpretations to enable the experience that it is possible to think of and find a language to speak about these inner states of tension and conflicting emotions which together may be experienced as bearable. In addition to the psychotherapeutic sessions with the child, the parents were seen regularly (1:4) in separate sessions. Here the main issues were the parental biography, the parental psychological mechanisms in handling their own anxieties and aggression, as well as familial patterns and apparent defence mechanisms and projections to the child. Adherence to the code of practice was checked with a retrospective treatment fidelity checklist filled out by the therapists at the end of treatment for each patient. The participants were not recruited actively but presented themselves at the participating private practices during the study period. Patients were excluded from study participation if they were under 4 or over 21 years of age, had acute suicidal tendencies or current psychotic presentation based on the clinical judgement of the therapists, or had an insufficient command of the German language. At the beginning of outpatient therapy, both patients and parents were asked to participate in this study by the therapist. Additionally, families received written information and signed an informed consent form. Assessments took place at the beginning and end of each individual therapy session. Additional assessments were carried out after 25, 50, 70, 120 and 150 sessions for children and after 25, 50, 90, 140 and 180 sessions for adolescents. FU assessments were carried out 6 and 12 months after the end of therapy. To establish the patients’ diagnoses at the beginning of treatment and 1 year after the end of treatment, semi-structured diagnostic interviews were carried out by a trained psychologist using the Schedule for Affective Disorders and Schizophrenia for School-Age Children – Present Episode (K-SADS-P) (Chambers et al., 1985; Delmo et al., 2001). For younger patients, only parents were interviewed; for patients 11 years and older, both parents and children were interviewed; and for adolescents aged 15 years and older, only the adolescents were interviewed.

Between September 2007 and June 2010, 393 families with a child or adolescent aged between 4 and 21 years and diagnosed with a psychiatric disorder received psychotherapeutic treatment and were approached for participation. Recruitment of intervention patients ended in June 2010. The waiting list control group was formed depending on therapeutic vacancies. Thus, naturally occurring waiting periods were utilized. Randomization was not feasible in this naturalistic setting, since therapists working in their own practices would give appointments according to their capacity. The waiting list period was planned to be 3 months. As naturally occurring waiting times were rather rare during the recruitment phase, inclusion of waiting list patients continued until October 2012. Thus, 54 minimal supportive treatment (waiting list) patients and 177 intervention patients were included.
patients form the complete sample of the effectiveness trial (see flow chart in Figure 1). For the 185 non-participants, therapists filled out a completely anonymous sheet with basic data. No significant differences between participants and non-participants emerged for age and sex of the patient, family status, and global level of functioning. The study was approved by the ethics committee of the Medical Board Hamburg.
Participants

For the current analyses, only children and adolescents (aged 4–21 years) were selected who showed clinical levels of anxiety symptoms rated either by the parents or the child/adolescent on the Screen for Child Anxiety Related Emotional Disorders (SCARED, cut-off > 15) (Birmaher et al., 1997). According to this definition, out of the total sample, 86 intervention and 35 minimal supportive treatment (waiting list) patients were identified as having severe anxiety symptoms (see Figure 1). In terms of agreement, 81% were rated as severely anxious by both parents and patients, 9.5% were above the cut-off only from the parents’ perspective, and 9.5% only from the patients’ perspective. Bivariate correlation between parent and child ratings was $r = 0.40, p \leq 0.010$. The remaining patients suffered from depressive, externalizing or other disorders, and their data are published elsewhere (Weitkamp et al., 2014, 2017). For the current analyses, the patient sample of the pre–post completer group consisted of 58 children and adolescents (67.4% of the total intervention patients who were identified as having severe anxiety symptoms). Eight patients (9.3%) discontinued their treatment. Twenty-two patients (25.6%) terminated their study participation, although they continued their treatment. For the 58 complete cases, data were collected from 48 parents and 39 patients. Thus, data from both perspectives were available for a subsample of 29 (50%) patients. Consequently, the results from different perspectives overlap only to a certain degree. General characteristics of the sample are shown in Table 1. Five participants were on antidepressant medication (5.8%) and one participant was on a psychostimulant (1.2%). Diagnosis was established by the attending therapist and additionally via a K-SADS interview conducted by four trained psychologists. Twenty-four of the 86 intervention families (27.9%) did not agree to participate in the diagnostic interview or could not be contacted. K-SADS diagnoses for the available patients in the intervention group ($n=62$; 72.1%) were mixed: anxiety disorders ($n = 38$; 61.3%: phobic $n = 10$, social phobia $n = 9$, generalized anxiety disorder $n = 11$, obsessive compulsive disorder $n = 8$, separation anxiety $n = 6$, other mixed anxiety disorder $n = 1$, comorbid anxiety disorders $n = 6$), depressive disorders ($n = 33$; 53.2%), adjustment or post-traumatic stress disorders ($n = 16$; 24.2%), externalizing disorders ($n = 16$; 25.8%) and other disorders ($n = 22$; 35.5%), such as eating disorders, enuresis, encopresis or tics. Comorbidity was high ($n = 55$; 88.7%). Consequently, more than a third of the sample scoring above the cut-off on the SCARED rated by parents or patients were formally diagnosed with a psychiatric diagnosis other than anxiety disorders by an independent clinician.

In the minimal supportive treatment control group, 29 of the 34 families (85.3%) completed the questionnaires at both measurement points. Of those 29 families, data from 21 patients and 18 parents were collected. Data from both perspectives were thus available only for a subsample of 11 (37.9%) minimal supportive treatment patients. The waiting list and intervention groups did not differ significantly on any of the reported characteristics (between $p \geq 0.137$ and $p \geq 0.696$) and all participants were diagnosed with at least one mental disorder by their therapists (see Table 1).
Instruments

The instruments for the current analyses were taken from a broader assessment battery. Anxiety and QoL were assessed at each measurement point.

Anxiety was assessed with the SCARED (Birmaher et al., 1997; Plass, 2011). The 38 items of the SCARED consist of short and simple statements in the first person or, for the parent version, statements referring to the child. Each item is scored on a scale from 0 = not true or hardly ever true, to 2 = true or often true. The five subscales are panic/somatic (13 items); generalized anxiety (9 items); separation anxiety (8 items); social phobia (4 items); and school phobia (4 items). By summing across relevant items, subscale scores and a total score can be obtained, with higher values indicating higher degrees of anxiety. Psychometric properties are good, with an internal consistency of $\alpha = 0.93$ (Birmaher et al., 1997). The SCARED proved reliable in differentiating anxiety from other affective disorders in clinically referred youths (Muris et al., 2004).

Psychiatric diagnosis was established in a twofold way. First, the K-SADS-P was used (Chambers et al., 1985; Delmo et al., 2001). The K-SADS is a semi-structured interview guideline covering ICD-10 and DSM-IV diagnoses of child and adolescent psychiatric disorders. The interview needs to be carried out by a trained expert and takes about 1.5 hours to complete. In the present study, the K-SADS interview was carried out by four psychologists (two MSc, two BSc) who had undergone K-SADS training. Second, the therapist providing the treatment noted the psychiatric diagnoses according to their clinical interviews at the beginning of treatment based on the initial assessment prior to treatment.

Table 1: General characteristics of the sample

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Waiting list/CC (n = 29)</th>
<th>Therapy/CC (n = 58)</th>
<th>Therapy/ITT (n = 86)</th>
<th>Waiting list vs. therapy/CC</th>
<th>Therapy CC vs. ITT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>12.76 (3.40)</td>
<td>13.02 (4.34)</td>
<td>13.51 (4.42)</td>
<td>0.668</td>
<td>0.149</td>
</tr>
<tr>
<td>Gender (female)</td>
<td>62.1%</td>
<td>69.0%</td>
<td>69.8%</td>
<td>0.458</td>
<td>0.811</td>
</tr>
<tr>
<td>Living with both parents</td>
<td>44.0%</td>
<td>47.3%</td>
<td>48.8%</td>
<td>0.561</td>
<td></td>
</tr>
<tr>
<td>Functioning (CGAS)</td>
<td>57.43 (10.44)</td>
<td>56.20 (10.79)</td>
<td>55.18 (11.31)</td>
<td>0.408</td>
<td>0.199</td>
</tr>
<tr>
<td>Anxiety disorder (K-SADS)</td>
<td>60.0%</td>
<td>54.4%</td>
<td>50.0%</td>
<td>0.636</td>
<td>0.366</td>
</tr>
<tr>
<td>Comorbidity (≥2 diagnoses)</td>
<td>80.0%</td>
<td>80.7%</td>
<td>79.8%</td>
<td>0.942</td>
<td>0.686</td>
</tr>
<tr>
<td>Patient report only</td>
<td>13.8%</td>
<td>17.2%</td>
<td>22.1%</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Parent report only</td>
<td>27.6%</td>
<td>32.8%</td>
<td>29.1%</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Patient and parent report</td>
<td>58.6%</td>
<td>50.0%</td>
<td>48.8%</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

Note: CC = complete cases; CGAS = Child Global Assessment Scale; ITT = intention to treat, K-SADS = semi-structured diagnostic interview.

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The treatment fidelity checklist was developed for this study based on a fidelity checklist for psychodynamic treatment of attention-deficit hyperactivity disorder (Leuzinger-Bohleber et al., 2009). Following factor analysis and reliability checks, the checklist comprises 15 items with two subscales. Each item is scored on a five-point Likert scale ranging from 1 = never to 5 = very often. There are seven items on behavioural techniques like teaching specific coping techniques or practicing target behaviour (present sample: Cronbach’s $\alpha = 0.82$), and eight items on psychodynamic techniques like linking current feelings to experiences in the past (present sample: Cronbach’s $\alpha = 0.86$). The item means are the scale scores (range 1–5). The ratings were made by the therapist at the end of treatment.

Analyses

A detailed description of the analyses is available in the supplement (see online supporting information¹).

To control the potential bias of missing values, the complete case (CC) analyses were complemented with intention-to-treat (ITT) analyses in the form of expectation maximization imputation (EM) of missing data as a robust and unbiased technique to handle data attrition (European Medicines Agency, 2010; Salim et al., 2008). All the following calculations were carried out separately for the patient and parent perspectives. We treated both perspectives equally, even though for adolescents and for less observable symptoms like anxiety, more weight might be given to the young persons’ accounts of their situation. The primary outcome was the anxiety symptoms as rated by patients and/or parents. The secondary outcome was QoL (see online supplement).

In the first part of the study (study 1), we assessed the comparison between the minimal supportive treatment/waiting list period and the first treatment period (25 sessions) with a repeated measures ANOVA with anxiety symptoms as the dependent variable and time as well as group (minimal supportive treatment/waiting list vs. intervention) as independent factors. A small number of patients were in the waiting list group and went on to be part of the intervention group. For the analyses, we considered these cases as wait list cases only in order to avoid dependent data.

In the second part of the study (study 2), we looked at the change in anxiety symptoms across long-term treatments: we analysed anxiety symptom ratings for the pre, post and FU phases. For this, we calculated mixed linear models with the imputed dataset (ITT analyses).

For ease of understanding, we report the results as repeated measures ANOVAs with the change in anxiety symptoms as the dependent variable and time as the independent variable. The mixed linear models yielded similar results, which are presented in the online supplement.

The level of significance was set to the conventional $\alpha = 0.05$ unless otherwise specified. Effect sizes were interpreted following established conventions (Cohen, 1988). Effect sizes $d$ were calculated in accordance with Durlak (2009). Additionally, a twofold criterion for clinically significant (CS) and reliable change was calculated (reliable change index, RCI). RCI was calculated in accordance with Jacobson and
colleagues (1999) and Wise (2004). Each individual may be classified as ‘Recovered (passed both CS and RCI criteria), Improved (passed RCI criteria alone), Unchanged/Indeterminate (passed neither), or Deteriorated (passed RCI in the negative direction)’ (Wise, 2004, p. 52). Both perspectives were joined together favouring improvement and deterioration over improved/unchanged ratings.

Diagnostic status at pre-treatment and at 1-year FU was compared via contingency tables with a McNemar test for dependent samples. To control for potential bias due to the substantial dropout rates, we conducted dropout analyses of interview attendance on patient characteristics like age, gender, anxiety diagnosis, comorbidity status, anxiety symptoms (SCARED), and anxiety symptom reduction across measurement points. ANOVAs were executed with FU interview attendance as the independent variable. The nominal variables gender and comorbidity status were analysed with contingency tables. Data analyses were carried out using SPSS 18.0.

RESULTS

Thirteen percent of the patients received short-term therapy (up to 25 sessions) and 87% engaged in long-term therapy (>25 sessions). On average, patients had 94.04 sessions of therapy (range 8–300; SD = 58.57) over a period of 25.70 months (SD = 14.16). On the fidelity checklist, the therapists retrospectively reported that they never or rarely used behavioural techniques [behavioural subscale: mean (M) = 1.59, SD = 0.58] and sometimes or often used psychodynamic techniques (psychodynamic subscale: M = 3.70, SD = 0.55). A paired t-test between the behavioural and dynamic subscales yielded a significant difference with a large effect (t = 17.982; p < 0.001; d = 2.52). Fifty-six percent of the patients met with the therapist twice a week; the remaining patients once a week. FU took place 1 year after the end of therapy (on average at 12.03 months, SD = 1.29).

Study 1: Comparison of Minimal Supportive Treatment/Waiting List Period and Initial Therapy Period

The waiting list period was on average 2.94 months (SD = 0.92). A total of 76.5% of the patients in the waiting list control group received bridging sessions with the therapist to stabilize and support the patient when necessary. The number of bridging sessions ranged from 1 to 8 (M = 5.0, SD = 3.53). Thus, the comparison group needs to be regarded as minimal supportive treatment rather than a no-treatment comparator. For the intervention patients, duration of the initial therapy phase of 25 sessions was on average 6.13 months (SD = 2.96).

ANOVA with repeated measures and group factor (minimal supportive treatment vs. intervention) was conducted with anxiety symptoms as the dependent variable for patient and parent perspectives. As can be seen in Table 2, both minimal supportive treatment and the first treatment period led to a significant decrease in anxiety symptoms with small effect sizes. This was true for parent and patient reports. The interaction term (group*time) did not reach significance.
Study 2: Change in Anxiety Symptoms across Therapy and FU

The changes over time for the anxiety symptom scores are presented in Table 3 and are also given in more detail in the mixed model analyses in the supplement. 

**Patients** The mixed-model analysis of the patient-rated anxiety symptoms showed that during the therapy period anxiety symptoms improved significantly. This effect increased significantly in the 6-month FU and remained stable up to the 12-month FU

Table 3: Change in anxiety symptoms over beginning of therapy, end of therapy and 1-year follow-up for parent and patient informants (intention-to-treat, imputed dataset, repeated measures ANOVA)

<table>
<thead>
<tr>
<th>Anxiety (SCARED)</th>
<th>Beginning of therapy (t1)</th>
<th>End of therapy (tE)</th>
<th>6-month follow-up (FU1)</th>
<th>12-month follow-up (FU2)</th>
<th>Statistical significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient</strong></td>
<td>M = 27.36, SD = 12.95</td>
<td>M = 18.72, SD = 11.77</td>
<td>M = 14.49, SD = 8.37</td>
<td>M = 15.62, SD = 11.14</td>
<td>Δ t1–tE* Δ t1–FU1* Δ t1–FU2* Δ tE–FU1* Δ tE–FU2*</td>
</tr>
<tr>
<td><strong>Parent</strong></td>
<td>M = 21.05, SD = 10.46</td>
<td>M = 13.37, SD = 9.32</td>
<td>M = 9.10, SD = 6.33</td>
<td>M = 15.35, SD = 13.62</td>
<td>Δ t1–tE* Δ t1–FU1* Δ t1–FU2* Δ tE–FU1* Δ FU1–FU2*</td>
</tr>
</tbody>
</table>

Note: Parent n = 67, patient n = 62; * = p ≤ 0.05; Δ = difference.
(see Table 3 and online supplement Table 4). Pre–post effect sizes (Cohen’s $d$) were $d = 0.57$ for the CC and the ITT sample. Pre–FU effect sizes were $d = 0.72$ (CC) and $d = 0.80$ (ITT).

Parents The mixed-model analysis of the parent-rated anxiety symptoms showed that during the therapy period anxiety symptoms improved significantly. This effect increased significantly at the 6-month FU, but reversed itself at the 12-month FU measurement point to values comparable to the end of therapy (see Table 3 and online supplement Table 5).

In terms of reliable change and clinical significance, 51.7% of the CC sample may be considered as recovered (passed both CS and RCI criteria), 17.2% as improved (passed RCI criteria alone, may have started in the normative range), 20.7% as unchanged/indeterminate (passed neither), and 10.3% as deteriorated (passed RCI in the negative direction) according to either parent or patient report.

**Change in Diagnostic Status from Pre-therapy to 1-year FU**

At the 1-year FU, 27 patients (43.5%) diagnosed with a K-SADS interview at the beginning of therapy could be re-diagnosed. Another four patients (6.5%) are currently still in the 1-year FU phase. The remaining 31 patients (50.0%) could not be interviewed at FU. Different reasons accounted for non-participation: complete study dropouts, families moved and/or could not be contacted, young people working or travelling abroad, or simply refused to participate. At the 1-year FU, 12 of the 27 interviewed patients (44.4%) no longer fulfilled the criteria for any psychiatric diagnosis compared with none at the beginning of therapy. Seven patients (25.9%) still had a diagnosed anxiety disorder at the 1-year FU; this compares to 60.9% of the CC sample at the beginning of therapy. Diagnoses were phobias ($n = 3$), emotional disorders of childhood ($n = 3$), and mixed anxiety and depressive disorder ($n = 1$). Comorbidity status was reduced to five patients (18.5%) compared with 79.8% at commencement of therapy. To establish the significance of the different frequencies at pre-treatment and at 1-year FU, contingency tables were calculated for the dependent samples. These tests yielded significant differences for comorbidity ($p < 0.001$) and anxiety diagnosis ($p < 0.001$).

The dropout analyses yielded no significant differences between the FU interview participants and non-participants for age, gender, comorbidity status, pre-treatment anxiety symptoms, and patient-rated anxiety reduction.

**DISCUSSION**

In this naturalistic study we looked at short- and long-term psychoanalytic therapy in child and adolescent therapy in terms of target symptom reduction of anxiety and increase in QoL (for results of QoL, see online supplement). Due to ethical and practical reasons, a 3-month waiting list period was compared with the first treatment period (about 6 months) of the intervention group. During this period of time, the minimal supportive treatment (waiting list) group and the intervention group reported symptom reduction with small effect size (study 1). The waiting list and intervention
group did not differ significantly during this period. Initial symptom improvements during the waiting list period might be due to the initial relief to get help and the supportive interaction with the particular therapist who would later work with the patient in-depth and aimed to build a therapeutic alliance from the start. This might be different in other studies in which the waiting list period is independent of later treatment. In view of high persistence rates of anxiety symptoms into early adulthood (Valevski et al., 2001), sustained effects of the bridging sessions are questionable.

Both parents and patients in the intervention group reported moderate symptom improvements at the 1-year FU (study 2). These results were comparable for the CC and the ITT analyses. After the end of therapy, symptom reduction continued, with a slight drop at the 1-year FU. However, patients themselves rated a slightly more favourable outcome at the 1-year FU compared with the parents. Since internalizing symptoms like anxiety are less readily observable than, for example, externalizing symptoms, it might be argued that more weight should be given to the patients’ self-ratings. Comorbid externalizing and depressive symptoms did not influence anxiety reduction in the patient reports. However, the parent informants noted less anxiety symptom reduction if the patient showed low levels of externalizing symptoms and high levels of depressive symptoms compared with low levels of depressive symptoms (see supplement). This could mean that in patients with internalizing symptoms only, depressive symptoms might have masked the anxiety improvement, or alternatively, therapies with additional depressive symptoms have not been as successful. Therefore, the effect of depressive symptoms alone was not significant.

In a review of the effectiveness of treatments, Lee and colleagues suggest comparing effectiveness results with benchmarks from meta-analyses on the efficacy of anxiety disorders (Lee, Horvath & Hunsley, 2013). In meta-analyses on the efficacy of CBT for mixed anxiety disorders, In-Albon and Schneider (2007) reported a complete rate of 84.9% and an improvement rate of 72.1% at the end of therapy. In the current sample, rates were comparable, with a 90.7% therapy completer rate and a 68.9% improvement rate according to reported symptom reduction. Even though this is a tentative conclusion, it is worth noting that the naturalistic results were comparable to those in efficacy studies which usually show higher improvement rates. To our knowledge, no benchmark data on sustained therapy effects 1 year after therapy are currently available. In our study, diagnostic status results at 1-year FU suggested that about 44% of the patients did not have any psychiatric disorder. These follow-up results of a sustained positive effect of the psychoanalytic treatment 1 year after the end of therapy seem quite promising and could also be seen as a validation of the questionnaire measures. However, the dropout analyses suggest that this result might be positively biased. Although some of the participants could not participate in the interview due to work and travel or studies abroad, which could be interpreted as rather positive developmental trajectories, a number of participants simply refused to take part in the interview for unknown reasons. In these cases, one reason might have been potentially less improvement over the course of therapy and FU.

In a previous efficacy trial (Kronmüller et al., 2005), parents reported only small effect sizes after short-term psychodynamic therapy. Additionally, 40% of the sample
needed longer treatment according to an expert impairment rating. The current findings seem to support the need for longer-term psychodynamic-based treatments to achieve beneficial effects that persist for longer FU periods.

Early therapy discontinuation was quite low (3.5%, <15 sessions). Another 20% terminated prematurely but after receiving considerable amounts of therapy (>15 sessions). In a recent German study on dropouts from outpatient treatment, an attrition rate of 25% was reported, with half of the cases dropping out within the first 20 sessions (Cinkaya, Schindler & Hiller, 2011). The rather low early dropout rate might be ascribed to the specific sample. Anxious patients might show higher continuation rates than for instance patients with dominant externalizing symptoms.

Even with such extensive therapy, deterioration of symptoms was reported by two of the adolescents (10% of patient ratings), which is comparable to the rates reported in the adult psychotherapy literature (5–10% negative effects) (Lambert & Ogles, 2004). Hence, our finding seems to be fairly typical of psychotherapy in general, but negative effects of, or in spite of, therapy should always be a cause for concern. However, based on symptom changes it cannot be concluded whether the deterioration was due to the course of the individual disorder or a negative therapy effect. More research is needed in order to understand why some children and adolescents deteriorate during treatment. The ITT analyses showed that even with the inclusion of dropouts and patients who might not have benefitted from therapy as much, therapy was on average beneficial with sustained improvements over longer FU periods.

In the mixed model analyses (see online supplement for more details), the therapist factor yielded no significant estimate of variance. This might suggest that all of the therapists showed the same level of competence and consistency, likely due to their shared postgraduate training and ongoing supervision. Alternatively, this might be explained by a methodological issue – some therapists only had one patient which might have been a problem for the statistical software. The naturalistic data clearly have some strengths and limitations. First, the sample was not randomized to the treatment and waiting list control group as only naturally occurring waiting periods were studied. The two groups differed significantly at the first measurement point on the patient ratings of anxiety, with $d = 0.47$ (with the intervention group reporting more symptoms), suggesting that group allocation might have been biased due to treatment urgency. The different time periods between the waiting list and intervention group further limit the explanatory power of the results. Additionally, therapy duration within the intervention group varied greatly, leading to large differences in therapy doses. Another limitation was the fact that waiting list control patients did get some support from the therapists during the waiting list period, which is why we termed this group ‘minimal supportive treatment’. This means that the comparator group might be better understood as a minimal treatment group rather than an untreated control group.

Unfortunately, we did not get structured diagnostic interviews for the complete sample. However, it is interesting to note that less than a third of the sample scoring
above the cut-off on the anxiety measure were not formally diagnosed with an ICD-10 anxiety disorder. The small sample size prevented us from comparing patients with and without a diagnosis of an anxiety disorder. As comorbidity was high in this naturalistic sample, anxiety symptoms might have been deemed secondary in these cases. However, it can be argued that this approach was closer to the clinical reality and the patients’ and families’ needs. Even in cases where a child or adolescent did not meet the diagnostic criteria for a full-blown anxiety disorder, the burden of anxiety symptoms was in the clinical range and, together with another psychiatric diagnosis, justified treatment. Future studies should discuss the effect of a specific diagnosis vs. symptom severity as inclusion criteria.

Furthermore, there were a number of treatment dropouts and study non-completers which may have biased the results. However, a post hoc analysis of both groups at the beginning of treatment showed no significant differences between the completers and the dropouts. Due to the small sample size of the short-term psychotherapies, no differential analyses between short-term and long-term treatments were possible. Another limitation is the retrospective nature and possible lack of objectivity of the treatment fidelity measure, which was rated by the therapists at the end of treatment. Ideally, independent ratings by additional trained clinicians should be acquired throughout the therapeutic process. However, due to the naturalistic approach of this study such assessments were not available. Thus, the fidelity measure can only be seen as a rough indicator of therapeutic adherence. Future studies should try to combine a naturalistic approach with stricter measures of treatment fidelity.

Although these limitations pose a risk to the internal validity of the results, the external validity of this study was good: naturalistic access paths, unselected patients, no strictly manualized treatments, and ‘real-world’ therapists in their own private practices.

CONCLUSION

The results show that psychoanalytic therapy can be successfully implemented and tested in a naturalistic setting. In the first treatment period psychoanalytic therapy had no advantage over minimal supportive treatment. Thus, specific therapy interventions did not yield stronger effects than the unspecific effects of minimal supportive treatment within the first phase of therapy. Across the whole long-term therapy period, anxiety symptoms were significantly reduced in the sample of children and adolescents with severe anxiety symptoms. Particularly noteworthy is the stability of the improvement effects over time. Due to the study design this positive development could not be controlled for alternative explanations like regression to the mean or maturation.

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NOTE

1. Supporting Information may be found online in the supporting information tab for this article.

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