Is it time to rethink standard dosage of exposure-based cognitive behavioral therapy for pediatric obsessive-compulsive disorder?

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ABSTRACT

Objective: Identifying factors associated with early treatment response is important, because it can help allocate limited resources in psychiatric care more appropriately. This study examined baseline characteristics of participants with early response to exposure-based cognitive behavior therapy (CBT) for pediatric obsessive-compulsive disorder (OCD).
Method: 269 participants with OCD, aged 7–17 years, were enrolled in a 14-weeks CBT program. We identified participants with early response to treatment, (CY-BOCS total score of ≤15), by the seventh session.
Results: At week 7, 248 (92.2%) participants were assessed, 38.3% (95% CI 32.4–44.5%, *n* = 95) were identified as treatment responders. Univariate analyses showed that six baseline characteristics were significantly associated with early treatment response: young age, lower levels of symptom severity, functional impairment, internalizing- and externalizing problems, depressive symptoms, and family accommodation.
Conclusions: These results suggested that treatment plans for younger children with moderate OCD symptoms and no major comorbid disorder should include briefer and less resource demanding treatment formats than the commonly recommended and applied standard doses of 15 CBT sessions.

Obsessive-compulsive disorder (OCD) is a severe disorder affecting 0.5–3.0% of children and adolescents (Flament et al., 1988; Heyman et al., 2003). OCD may cause functional impairment, (Valderhaug and Ivarsson, 2005) and reduced quality of life for children and their families (Weidle et al., 2015). There is significant evidence for the efficacy of exposure-based cognitive behavioral therapy (CBT) for pediatric OCD (Freeman et al., 2014; Skarphedinsson et al., 2015), and several expert guidelines recommend the use of exposure-based CBT as the first choice of treatment for children and adolescents (NICE, 2005; AACAP, 2012). However, limited availability of CBT competence represents a barrier to treatment access. Currently, various research groups examine possible modifications of the CBT formats, such as CBT augmentation with d-cycloserine (Storch et al., 2016), internet-based low therapist intensity treatments (Lenhard et al., 2017), and technology enhanced treatment (Comer, 2017). Exploring empirically supported modifications of treatment programs is highly interesting in the scope of a stepped care model, allowing differentiating treatment intensity based on individual needs.

A stepped care model of health care delivery may make evidence-based treatment for pediatric mental health disorders more readily available, especially when there is a gap between limited clinical resources and the treatment needs of the patients. Stepped care models typically start with an initial low intensity treatment that is efficient, easily available, and acceptable to the patient. More intensive and

resource demanding treatments can subsequently be offered to patients who do not respond to the initial low intensity treatment. Such interventions may be more intensive in terms of clinician time, resources and costs, but necessary for the treatment of more complex cases. A stepped care model may provide a more efficient allocation of limited resources and thereby improve access to treatment for those in need of more resource demanding approaches. Although there is some support for the effectiveness of stepped care models in adults (Tolin et al., 2011), to our knowledge, no trials have evaluated such models for treatment delivery for children and adolescents with OCD.

Before developing and implementing a stepped care model, it is essential to identify those individuals who would likely benefit from shorter duration of treatment. The majority of CBT treatment studies in pediatric OCD compare baseline symptom severity with changes after completed treatment, typically consisting of twelve to sixteen weekly sessions (Piacentini et al., 2002; POTS Treatment Study Team, 2004; Torp et al., 2014). There is little knowledge about when changes occur during the course of treatment. A few studies with adults receiving CBT for anxiety and depression found that 30% of the patients showed early treatment response (55% symptom improvement by the fifth session) (Ilardi and Craighead, 1999; Tang and DeRubeis, 1999). In order to provide more personalized treatment with the right dosage, it is important to identify which possible characteristics are associated with response to a shorter duration of treatment than the standard average of fifteen CBT sessions.

Predictors are variables that are present at pre-treatment evaluations and linked with outcome, but not associated with treatment assignment (Kraemer et al., 2002). Several studies have identified predictors of treatment response to full course of CBT for pediatric OCD (Turner et al., 2018). To summarize, the following baseline characteristics were associated with poorer treatment response: the presence of comorbid disorders (Storch et al., 2008); higher levels of family accommodation (Merlo et al., 2009); high level of baseline OCD severity, high level of functional impairment, and comorbid externalizing symptoms (Garcia et al., 2010; Torp et al., 2015); higher rates of internalizing symptoms (Torp et al., 2015). Conversely, the following baseline characteristics were associated with improved treatment outcome: higher treatment expectations (Lewin et al., 2011) and greater reduction in child distress during therapy (Kircanski et al., 2014). Although, there is evidence for several factors predicting treatment response, after a full course of CBT, little is known about what characterizes patients who show an early response to treatment. A better understanding of early treatment response can help identifying those who will benefit from briefer interventions with the intention to eliminate redundant treatment sessions.

The aim of the present study was to identify characteristics of early responders to exposure-based CBT for pediatric OCD, by assessing characteristics for response at week seven (the half-way point) of a fourteen-sessions CBT-program. We hypothesized that: (1) lower levels of OCD symptom severity, (2) lower levels of OCD related functional impairment; (3) lower internalizing and externalizing comorbid symptoms; and (3) lower levels of family accommodation, would be associated with better treatment outcomes at week seven.

1. Methods

Participants were 269 patients, 7 to 17 years of age, with a primary diagnosis of OCD, and a Children Yale–Brown Obsessive Compulsive Scale (CY-BOCS) total score of 16 or higher pretreatment. The sample's demographic and clinical characteristics have previously been described in detail (Torp et al., 2014); to summarize, about an equal number of females and males participated, predominantly of Scandinavian ethnicity, and not medicated for their OCD (Table 1). Children were excluded if any of the following criteria were met: co-occurring psychiatric disorder with a higher treatment priority (e.g., psychosis) and autism, or Asperger's syndrome. Study registered in Current

Table 1
Baseline characteristics.

Age, mean (SD)	12.8 (2.7)
Sex, N (%)	
Female	138 (51.3)
Male	131 (48.7)
Family status, N (%)	
Parents living together	174 (64.7)
Divorced	91 (33.8)
Other	4 (1.5)
SES, N (%)	
Major/medium business, professional,	140 (53.4)
From skilled craftsmen to unskilled laborers	122 (46.6)
Parents Scandinavian ethnicity, N (%)	
Father	248 (92.2)
Mother	257 (95.5)
Number of co-occurring Kiddie-SADS diagnoses, N (%)	
None	160 (59.5)
One	62 (23.0)
Two	23 (8.6)
Three or more	15 (5.6)
CY-BOCS Total Score baseline, mean (SD)	24.6 (5.1)

Controlled Trials; Nordic Long-term Obsessive-compulsive disorder (OCD) Treatment Study (www.controlled-trials.com ISRCTN66385119).

1.1. Treatment protocol

An exposure-based CBT treatment manual (Weidle et al., 2014) was developed based on a study protocol by March et al. (2000), modified with extended parental participation (Piacentini et al., 2007a). The treatment consisted of fourteen sessions delivered once a week, sessions 1–3, 5, 11, and 14, were joint sessions, the remaining sessions were divided into one part with the child alone (45 min) and another part with the child and parents together (30 min). The main content of the treatment including psychoeducation, socializing to the treatment model of gradual exposure, and homework exercises was delivered during the first four sessions. The subsequent sessions mainly focused on practicing exposure, including generalizing to multiple situations (the details of these treatment procedures have been described elsewhere (Torp et al., 2014).

1.2. Procedures

The present study consists of secondary analyses of previously acquired data from participants assigned to fourteen weeks of exposure-based CBT in (Torp et al., 2014). Assessments points were baseline, week 7 (after delivery of seven CBT sessions), and week 14 (after completed treatment), by independent evaluators (IEs). After 7 weeks of treatment, participants were rated as either responders (≤ 15) or non-responders, based on their CY-BOCS total score. Early responders, who had obtained remission after exposure to all OCD symptoms already at the week 7 evaluation, followed the predetermined assessment schedule and were assessed again at week 14. Early responders with little or no obsessive-compulsive symptoms decided together with their therapist how many of the scheduled treatment sessions they should complete (from 0 to 6). The last session (session 14), was obligatory, containing relapse prevention training and information concerning the follow-up assessment. All participants received CBT in the initial stage of the NordLOTS study. Therefore, the IEs could not be blinded to the treatment condition. However, IEs were independent, as they were not involved in the treatment of the evaluated participants. A random sample of 30 (11.2%) audiotaped baseline CY-BOCS interviews, were evaluated by quality assurance (QA) raters (this procedure has been described in detail elsewhere (Torp et al., 2014).

1.3. Measures

The following instruments were used as measures for inclusion, predictors and/or of treatment outcome

The Schedule for Affective Disorders and Schizophrenia for School-Age Children – Present and Lifetime version (K-SADS-PL*)* (Kaufman et al., 1997) is a structured diagnostic interview, which assesses psychiatric disorders in children and adolescents. Previous studies have documented favorable psychometric properties with an interrater reliability of 98% agreement, and a 1 to 5-week test-retest kappa of 0.80 for any anxiety disorder diagnosis (Kragh et al., 2019; Lauth et al., 2010).

The Children Yale–Brown Obsessive Compulsive Scale (CY-BOCS) (Goodman et al., 1989) is a structured interview assessing the severity of OCD symptomatology. High internal consistency (α = .87) and good to excellent inter-rater agreement (α = .84) are reported for the total score (Scahill et al., 1997).

Socioeconomic Status (SES) (Hollingshead, 1957) is a classification of socioeconomic status, based on Hollingshead's two-factor index of social position. For the present study, SES score were dichotomized into: high SES (scores 4–5; 46.6%) and low SES (scores 1–3; 53.4%).

The Child Behavior Checklist (CBCL) (Achenbach and Rescorla, 2001) is a widely used 113-item parent-report of a wide range of emotional and behavioral problems, with well-established psychometric properties (Achenbach, 1994). Only total scores for internalizing and externalizing (transformed into *t*-scores) were used in the current analyses. In the NordLOTS sample, the internal consistency (Cronbach's α) of the CBCL total score was α = .86.

The Child Obsessive-Compulsive Impact Scale (COIS-R) (Piacentini et al., 2007b) a 33-item self and parent-report questionnaire, assesses the impact of OCD symptoms on the child or adolescent's psychosocial functioning. In the NordLOTS sample, the internal consistency of the parent and child reports was α = .94 and α = .91, respectively.

The Screen for Child Anxiety Related Emotional Disorders (SCARED) (Birmaher et al., 1997) is a 50-item child- and parent-report questionnaire which assesses the presence of anxiety symptoms (Birmaher et al., 1999, 1997). The internal consistency of the parent and the child reports in the current study was α = .92, and α = .92, respectively.

The Family Accommodation Scale (FAS) (Calvocoressi et al., 1999) is a 12 item interview assessing the family's accommodation to the child's OCD symptoms. In the NordLOTS study sample the internal consistency was α = .87.

The Mood and Feelings Questionnaire (MFQ) (Angold et al., 1987) is a rating scale of depressive symptoms. Sound psychometric properties are reported (Messer et al., 1995), with an internal consistency of α = .75–.78 (Wood et al., 1995). The internal consistency of the parent and child versions in the current study was α = .90 and α = .85, respectively.

Parental Psychopathology. Parents were asked about their own psychiatric symptoms and psychiatric diagnosis (recorded yes/no).

Family History of OCD. Parents were asked to report if any first- and/or second-degree relatives currently or previously suffered from or was diagnosed with OCD.

1.4. Data analysis

This study evaluated characteristics at baseline organized into four categories: (1) demography, (2) severity of illness, (3) co-morbid symptoms and disorders, and (4) family factors. CY-BOCS total scores, at week 7 were used as the primary measure of treatment response.

1.4.1. Missing data

This study included 269 participants of which, 248 (92.2%) completed the week 7 assessment. Multiple imputation was used to manage missing data (Little and Rubin, 2002). We evaluated whether data were missing at random, by comparing completers and non-completers on all characteristics at baseline, at week 7, and 14. No significant differences were found between the two groups, suggesting that missing data were missing at random. Data were imputed by using a sequential regression multivariate imputation algorithm (IVEware module for Statistical Software) (Raghunathan et al., 2002).

1.4.2. Statistical analysis

To evaluate potential characteristics of response, the dichotomized CY-BOCS total scores (CY-BOCS <16) at week 7 were used to determine early treatment outcome. A cut-off score of <16 has been used in previous treatment studies, including pharmacological treatment-studies, to identify response (Geller et al., 2001; Riddle et al., 2001; Storch et al., 2010). Separate logistic regression analyses were conducted on each characteristic, models were fit to the data using SAS (SAS Statistical Software [version 9.3] [SAS Institute, Cary NC]). CY-BOCS total score at baseline was not include as a covariate, to prevent Lord's Paradox (Lord, 1967). All continuous variables were centered around grand mean. All variables were grouped into five subsets: 1. Demographics, 2. OCD symptoms, 3. Comorbidity (K-SADS-PL), 4. Parental psychopathology, and 5. Family factors. An adaptive Benjamini-Hochberg false discovery rate (Benjamini and Hochberg, 1995, 2000) was used to adjust for multiple comparisons within each subset. Forward selection stepwise multivariate analyses were conducted to determine which characteristics were significantly associated with week 7 CY-BOCS total scores after controlling for other relevant characteristics. These other characteristics were chosen because they represented all dimensions measured by the 20 characteristics in the univariate analyses. First in this sequence, we added the significant demographic characteristics, subsequently the significant OCD-related characteristics, then the significant comorbidity characteristics, and lastly the significant family characteristics. A *p*-value of less than .05 (two-sided) was considered statistically significant for a characteristic to remain in the model. Linear regression model was used to evaluate whether patients with a severe OCD (CY-BOCS total score ≥24) showed significantly lager reductions in CY-BOCS score from baseline to week 7 (after 7 sessions of treatment), compared to patients with a moderate OCD (CY-BOCS score <24) (Geller et al., 2012). We also used logistic regression to evaluate whether patients with a high CY-BOCS total score had a significantly higher probability to reduce their score 30% or more from baseline to week 7.

2. Results

As previously reported (Torp et al., 2014), of the 269 included participants, 248 (92.2%) were assessed at week 7. Mean CY-BOCS total score at baseline was 24.6 (SD = 5.1), and 16.4 (SD = 7.1) at week 7, 38.3% (95% CI 32.4% − 44.5%, *n* = 95) of the participants were early responders (CY-BOCS total score of ≤15) (Torp and Skarphedinsson, 2017). Responders at week 7 continued to show a significant decrease on the CY-BOCS mean total score from week 7 to post treatment (*M* = 4.22, SE = .70, *p* < .001). Of the participants who were responders at week 7, 95% were also responders at the post treatment evaluation (week 14).

The univariate analyses showed that of the demographic variables only age was a significant predictor of treatment outcome at week 7. Indicator of severity of illness, participants with a higher baseline symptom severity according to the CY-BOCS total score, continued to have higher scores at week 7 compared to those with lower baseline scores. OCD related functional impairment rated by parents (COIS-P) and youth (COIS-C) significantly predicted response status, in that lower levels of functional impairment were associated with higher levels of improvement. Lower levels of baseline comorbidity according to parent scores on the internalizing and externalizing symptoms subscales of the CBCL predicted better treatment response at week 7. Similarly, lower levels of parent and child reported depressive symptoms (MFQ-P/

Table 2

Univariate logistic regression analyses. Predictors of responder status (CY-BOCS total score <16) after seven weekly sessions of CBT.

Predictor variables	Value	p
Demographic variables		
Gender /sex,	−0.03	.980
Age (y)	−2.11	<.035
Socioeconomic Status	0.64	.524
OCD related variables		
CY-BOCS – severity of illness	−4.21	<.001
Duration of illness	−0.78	.436
COIS Children	−2.81	<.005
COIS Parent	−3.12	<.002
Comorbid variables		
CBCL Internalizing T scores	−2.54	<.011
CBCL Externalizing T scores	−2.94	<.003
Internalizing Disorder*	−0.31	.757
Externalizing Disorder*	−0.80	.423
Other Anxiety diagnoses*	0.27	.785
Tics disorder*	−0.78	.434
SCARED Parent	−1.39	.166
SCARED Children	−1.01	.312
MFQ Parent	−3.07	.002
MFQ Child	−2.64	.008
Family variables		
Parental Psychiatric Disorders	−1.26	.209
Family history of OCD	0.63	.528
FAS	−2.12	<.034

Note: SES, Socioeconomic Status; CY-BOCS, Children's Yale Brown Obsessive Compulsive Scale; COIS P, Child OCD Impact Scale–Parent report; COIS C, Child OCD Impact Scale–Child report; CBCL Int., Child Behavior Checklist Internalizing; CBCL Ext, Child Behavior Checklist Externalizing; Internalizing/Externalizing/Other Anxiety diagnoses/Tic disorder, *Kiddie-SADS; SCARED P, Screen for Child Anxiety Related Emotional Disorders–Parent report; SCARED C, Screen for Child Anxiety Related Emotional Disorders–Child report; MFQ P,The Mood and Feeling Questionnaire–Parent report; MFQ C,The Mood and Feeling Questionnaire–Child report; FAS, Family Accommodation Scale–Parent report.

Table 3

Four step multivariate logistic regression analysis for predictors of responder status (CY-BOCS <16) after seven weekly sessions of CBT.

	OR	0,95% CI	p-value
1.			
Gender	1.018	0.61, 1.69	0.945
Age	0.902	0.82, 0.99	0.035
2.			
Gender	1.027	0.61, 1.74	0.921
Age	0.896	0.81, 0.99	0.033
Duration	0.999	0.86, 1.15	0.988
COIS P	0.973	0.96, 0.99	0.002
3.			
Gender	1.030	0.60, 1.78	0.914
Age	0.871	0.78, 0.97	0.014
Duration	1.006	0.87, 1.17	0.940
COIS P	0.983	0.97, 1.00	0.084
CBCL int	0.989	0.95, 1.03	0.569
CBCL ext	0.949	0.90, 0.99	0.043
Tic disorder	1.031	0.50, 2.11	0.933
4.			
Gender	1.008	0.58, 1.76	0.977
Age	0.863	0.77, 0.97	0.014
Duration	1.011	0.87, 1.18	0.888
COIS P	0.985	0.97, 1.00	0.138
CBCL Int	0.994	0.96, 1.03	0.761
CBCL Ext	0.949	0.90, 1.00	0.052
Tic disorder	1.026	0.50, 2.11	0.944
FAS	0.982	0.95, 1.01	0.235
Parent psych	0.621	0.32, 1.21	0.163
OCD family	1.489	0.71, 3.14	0.300

Note: OR, Odds ratio; COIS Parent, Child OCD Impact Scale–Parent report; CBCL Int, Child Behavior Checklist Internalizing; CBCL Ext, Child Behavior Checklist Externalizing; FAS, Family Accommodation Scale–Parent report; Parent psych, psychiatric symptoms or diagnosis in the family; OCD family, family members suffered or diagnosed with OCD.

C) predicted lower CY-BOCS total scores at week 7. Additionally, lower levels of family accommodation (FAS) predicted better treatment response at week 7 (Table 2).

Results from the stepwise multiple regression model indicated that only age, with younger children having lower CY-BOCS total scores, remained a significant predictor of week 7 CY-BOCS total scores after controlling for the effects of the other predictors (Table 3).

Finally, we dichotomized OCD severity at baseline in two groups: 1. Severe OCD (CY-BOCS ≥24) and 2. Moderate OCD (CY-BOCS <24). Linear regression analysis showed that there were no significant association between severity at baseline and severity at week 7 of the treatment (p = .104). The association between OCD severity at baseline (CY-BOCS ≥24 and CY-BOCS <24) and 30% or more reduction in CY-BOCS total score, between baseline and week 7 was not significant (p = .376).

3. Discussion

This study examined baseline characteristics of children and adolescents with OCD experiencing early treatment response. More than a third of participants responded already half-way into the treatment of a fourteen weeks exposure-based CBT program, They had CY-BOCS total scores less than sixteen, which is commonly considered as the threshold for subclinical level OCD. Furthermore, almost all of these early responders maintained their responder status at the post treatment evaluation.

The univariate analyses showed that less severe obsessive-compulsive symptoms, less functional impairment, less internalizing and externalizing problems, less depressive symptoms reported both by children and their parents, less family accommodation reported by the

parents, and younger age predicted early response. In the multivariate analysis, when all variables were included, age remained as the only significant characteristic. Age was not a proxy for OCD duration. Younger children were more likely to respond early also when effects of age, duration of OCD, and their interaction were considered.

Age was a significant characteristic, both in the univariate and multivariate analyses, pre-adolescent children benefitting more than adolescents. This differs from results presented in previous studies of a full course of CBT. A possible explanation for our findings and this discrepancy could be the treatment design and parents´ involvement in their child's treatment. Parents of younger children, more often attended all of their child's sessions. Consequently, they were more actively involved in the treatment in a constructive manner (Piacentini et al., 2011). Preadolescent children may therefore benefit more from such parental involvement and support than adolescents. Another explanation could be that OCD symptoms in younger children, are more amendable to change, highlighting the importance of early identification and treatment.

In line with our hypothesis and consistent with results from previous studies of a full course CBT, we found that both lower levels of OCD symptom severity and lower levels of functional impairment predicted early treatment response. It could be argued, that lower CY-BOCS symptom severity at baseline as a predictor is quite obvious, and not very informative. However, when we divided the patients into two groups at baseline (severe and moderate OCD,), severity of OCD symptoms at baseline was not associated with severity or reduction of OCD symptoms at week seven. Patients who identified as having moderate OCD did not show greater reduction of symptoms, compared to patients with severe OCD. Therefore, the relationship between pre-treatment symptom severity and response to treatment, may not only be determined by severity of the disorder, and the association between pretreatment symptoms severity and treatment response may be less

straight forward than expected. For example, factors such as insight and the ability to adapt to the treatment, may play an important role, independent of symptom severity.

Previous studies have shown that both comorbid internalizing and externalizing symptoms predicted less favorable outcomes after a full course of CBT (Garcia et al., 2010; Piacentini et al., 2002; POTS Treatment Study Team, 2004; Torp et al., 2015). These findings apply in the present study for early responders as well, underlining the need for development of a more targeted treatment or additional strategies tailored to address the specific needs of children and adolescents with OCD and high levels of co-morbid disorders and symptoms.

Last but not least, this study showed that children with a low degree of family accommodation were likely to respond early in the treatment. There was no association between parental psychopathology and treatment outcome in general. This finding underscores the importance of more intensive family involvement including psychoeducation about how to deal with the child's OCD, when levels of accommodation are high.

3.1. What are the clinical implications of these findings?

Shown in this study, and in line with previous studies, nearly 40 percent of patients enrolled in CBT programs will respond and improve early (within the first 7 sessions). From a clinical perspective, these might be those young children, who grasp the therapeutic message, collaborate in the exposure-based CBT, experience fast improvement, all leading to early treatment response. According to our data, these patients were characterized by younger age, less sever OCD, less comorbidity, and lesser degree of family accommodation. Consequently standard CBT treatment programs should include an evaluation of response to treatment after seven sessions or even earlier with an anticipation that a substantial number of patients, and especially the younger children with less severe OCD, will respond early and can be referred to follow up programs. Treatment planning should include a stepped care approach, starting with an initial brief intervention followed by an assessment to determine who is in need of further treatment.

3.2. Strengths and limitations

This study enabled examination of the early effects of exposure-based CBT in a large sample of children and adolescents with OCD without medication confounders. However, the results should be interpreted with consideration of certain limitations.

Generalizability to other populations and ethnicities is limited, because of the homogeneous socio-demographic factors of the population in the Nordic countries. Our sample comprised relatively highly educated families of Caucasian origin. Due to lack of a treatment control group in our study, we cannot attribute treatment effects exclusively to the effects of exposure-based CBT. Other variables, such as environmental factors may also have influenced our findings (Chambless and Hollon, 2012). The design of this study was prospectively, but early response to treatment was analyzed retrospectively. Therefore, it is a possibility that the improvement and the responder-status were maintained by ongoing sessions from week eight to fourteen. Based on the analysis of the total treatment course, with most responders maintaining their treatment gains, it is likely that early responders may also follow this pattern of response. However, this question must be investigated in future studies.

4. Conclusion

Four out of ten pediatric patients with moderate to severe OCD evidenced early treatment response. Characteristics of early response were younger age, less severe OCD, lower rates of comorbid disorders and symptoms, and lower levels of family accommodation. These results suggest a reconsideration of the duration of standard treatments which usually consist of fifteen sessions to all pediatric OCD patients. CBT programs should include evaluation of response after seven sessions or earlier, with the intention to refer those early responders to follow up programs. By identifying children and adolescents who are likely to respond early in the treatment and offering the adequate dose of exposure-based CBT, we may be able to more optimally utilize clinical resources. This may contribute to save valuable therapist time, which could be allocated to patients in need of longer and more intensive treatments. Further studies should aim at identifying a more precise set of criteria for deciding who should be offered shorter treatment.

Declaration of Competing Interest

None.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.psychres.2019.112600.

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