What works for adolescents with borderline personality disorder: Towards a developmentally informed understanding and structured treatment model

Sune Bo\textsuperscript{a,b,*}, Janne Walløe Vilmar\textsuperscript{b}, Stefan Lock Jensen\textsuperscript{b}, Mie Sedoc Jørgensen\textsuperscript{a}, Mickey Kongerslev\textsuperscript{a,c}, Majse Lind\textsuperscript{d,e} and Peter Fonagy\textsuperscript{f}

\textsuperscript{a}Psychiatric Research Unit, Region Zealand, Denmark
\textsuperscript{b}Child and Adolescents Psychiatry, Region Zealand, Denmark
\textsuperscript{c}Department of Psychology, University of Southern Denmark, Denmark
\textsuperscript{d}Department of Psychology, University of Florida, US
\textsuperscript{e}Department of Psychology and Behavioural Sciences, Aarhus University, Denmark
\textsuperscript{f}Anna Freud National Centre for Children and Families, England

*Corresponding author: Sune Bo, Child and Adolescent Psychiatry, Region Zealand, Ny Oestergade 12, 4000 Roskilde, Denmark, Tel.: +45 21 64 62 98; FAX: +45 32 02 41
Email: subh@regionsjaelland.dk
Abstract
The efficacy of treatment of borderline personality disorder in adolescents is an underresearched area. Although increasing research in borderline personality disorder in adolescents has emerged over the last decade there is a paucity of knowledge about how treatment is adequately designed for this group of patients. As a consequence, it is currently difficult to provide evidence-based guidelines and firm recommendations for how to design and implement borderline treatment in adolescence. In this selective review we summarize the most important research findings concerning treatment for adolescents with borderline personality disorder, including a recent mentalisation-based group treatment program. We highlight pivotal developmental obstacles for psychotherapy in adolescence and integrate these into a framework for the understanding and designing of effective treatment of borderline in adolescence.

Keywords: Borderline Personality Disorder, Adolescence, Treatment, Mentalization-based treatment
1. Introduction

What works for adolescents with borderline personality disorder (BPD)? And, how do we best understand the mechanisms (theory of change) and design treatment that works for young people diagnosed with BPD? In this paper, we try to answer these questions. We do so by first selectively reviewing the current data for evidence-based treatment programs for BPD in adolescents. Next, we focus on the specific developmental issues in adolescence that might challenge the psychotherapeutic context as well as how to integrate those challenges in BPD treatment. Further, we will report and comment on a recent Danish randomized controlled trial (RCT) we conducted that compared the effectiveness of a mentalisation-based group-treatment program adolescents with BPD (MGAB) with treatment as usual (TAU) [1], and reflect on these findings in terms of implications for treatment of adolescent BPD. We conclude with a few thoughts regarding future research and directions.

2. Evidence-based treatment for adolescent BPD: What is the evidence?

Research over the last decade has shown that BPD in adolescence (a) is a valid and reliable diagnosis [2], (b) displays the same or even higher prevalence rates as in adults populations [3], (c) is associated with a marked decrease in social functioning [4], (d) is linked to individual suffering [5], (e) demonstrates high levels of comorbidity [6], and (f) represents a substantial financial burden to both the educational and the general mental health system [7]. Notwithstanding the acknowledgement and even proliferation of research on BPD in adolescence, there is a paucity of evidence on the efficacy of treatment for BPD in adolescents. The randomized controlled trials (RCTs) that have investigated the effect of psychotherapy with BPD adolescents are as follows: two studies comparing emotion regulating training (ERT) with TAU [8,9], one study investigating cognitive analytical therapy (CAT) and good clinical care [10], a fourth study examining Integrative
Borderline Personality Disorder-oriented Adolescent Family Therapy with individual drug counselling [11], another study exploring mentalization-based therapy (MBT) and TAU [12], one study comparing psychodynamic group therapy for adolescents with TAU [13], and two studies examining the efficacy of dialectical behavioural therapy for adolescents (DBT-A) - the first study comparing DBT-A to enhanced usual care [14], and the second to individual and group supportive therapy [15].

Although, these studies show reduced BPD features as a function of treatment, in none of the RCTs, save for one [12], was the experimental/active treatment arm superior to the control group in terms of alleviating BPD pathology. Also, only five of these RCTs involved follow-up assessments, making it difficult to judge the superiority of the active treatments over longer time-periods. In a recent systematic review and meta-analysis of psychotherapies for BPD in adolescence, psychotherapy was found significantly to reduce BPD pathology and self-harm, but that these effects were somewhat fleeting, disappearing at follow-up (when compared to control treatment) [16]. However, this review has been criticized on a range of methodological grounds [17], complicating any firm conclusions regarding the efficacy of psychotherapies for BPD in adolescence. However, trends point to a growing variety of psychotherapeutic treatment programs for adolescents with BPD that hold considerable potential. Nonetheless, effects are small, inflated by risk of bias, and particularly unstable at follow-up. Thus, the available research results presented here emphasize many important gaps in our knowledge concerning optimal treatment for BPD in adolescence.

3. BPD in adolescence: normative development in comparison to adult functioning

Of crucial relevance for designing treatment for adolescent BPD, is thorough knowledge about the normative adolescent development as well as awareness about the key developmental challenges pertinent to adolescence. BPD is a psychiatric condition, typically emerging and perhaps peaking in adolescence (14-17 years) [18,19]. Adolescence itself is a period
characterized by ‘BPD traits’ of high affect instability, enhanced anger, impulsivity and identity challenges [20], and a normative increase in maladaptive personality traits [18]. Many adolescents also engage in behaviours that overlap with the core features of BPD, such as self-harm [21], impulsivity, including drug use [22]. In most adolescents, however, these characteristics dissipate with time. A subset of adolescents, however, do not follow the normative decline in maladaptive personality traits, and they are the ones at risk of developing BPD. This heightened risk seems to be underpinned by a range of neurobiological characteristics, including a mismatch in the neurobiological development or maturation of the brain in adolescence, where the growth in the limbic system matures faster than that of the prefrontal cortex (PFC) [23].

Apart from the above-mentioned characteristics in the developmental course of BPD features throughout adolescence, differences between adolescents and adults should also be noted. These differences may impact the degree to which BPD treatments for adults can be applied to adolescents. For example, adults and adolescents use and activate different areas of the brain when processing emotional theory of mind stimuli [24]. Specifically, higher amygdala activation is noted in adolescents, as compared with adults, when feelings are processed. This finding aligns with the results from a study wherein adolescents and adults watched fearful faces and the activation of their amygdala was recorded. When attention was unconstrained, adolescents were more sensitive to the emotional properties of social stimuli than adults [25]. Another study showed that the willingness to engage in risky behaviour in groups is greater for adolescents compared to adults, indicating that adolescents influence each other more than adults do [26]. Furthermore, studies from Rose and colleagues [27,28], showed that participating in problem-talk and ‘co-rumination’ (i.e., extensively discussing, speculating about problems, and focusing on negative feelings), among youngsters is related to increased friendship closeness rather than social isolation. Thus, engaging in co-rumination
is a normative phase in the normal psychological as well as neurobiological development towards establishing autonomy, self-exploration and attachment to peer-groups [29].

How can we use these developmental tendencies as guidelines for designing adolescent BPD treatment? To begin, we cannot expect the same capacity to mentalize in adolescents as we encounter in adults. Therapy, therefore, should avoid complex interventions demanding higher mentalizing capacities. Secondly, communication needs to be clear and precise with adolescents, since perception and understanding of facial expressions are more often compromised (resulting in risk for misunderstandings). Additionally, and perhaps linked to the above adolescents influence each other to a larger degree than adults, underscoring the necessity of regulating group dynamics to control this tendency. Finally, slow maturation of the frontal lobes has consequences for affective and behavioural regulation. This may further emphasize the importance of a calm and stable therapeutic setting that do not over-stimulate the adolescents.

4. Mentalization-based group treatment for adolescents with BPD - is it a feasible approach?

Based on the relatively limited effectiveness reported in the research literature as well as the lack of evidence-based guidelines for treatment of BPD in adolescence, a Danish research team recently decided to test a treatment program focused on a group intervention for adolescents with BPD. This RCT-study compared MGAB with TAU for adolescents with BPD (for details see [30]). The design of the MGAB program was inspired by research suggesting that group psychotherapy generally is as effective as individual psychotherapy [31], and that group therapy for adolescents seems to be efficient [32]. For example, in a meta-analytic study including 56 studies on child and adolescent group treatment for different diagnoses and behavioural problems, results indicated that group treatment was more effective than both placebo control groups or waitlist, with an effect size of .61, suggesting that those adolescents were better off than 73% of the adolescents in the two control groups [33]. In a more recent review of group interventions for adolescents with emotional problems,
results supported the efficacy of brief closed group interventions and emphasized as essential the inclusion of parents in the treatment [34].

One of the core features of BPD is interpersonal problems, which is why structuring treatment in a group setting where current interpersonal difficulties emerge and can be dealt with in vivo, is a fundamental and effective approach in BPD treatment [35,36]. This is supported by findings from a meta-analysis including 24 studies and 1,595 participants that showed the superiority of group treatment compared to TAU for BPD patients on a range of different measures, including BPD features, suicidality, depression, anxiety and general mental health [37]. Specifically, for adolescents it has been argued that group cohesion is very important and related, even more so than for adults, to positive outcomes for a range of different conditions [38-40]. Whether this can be generalized to adolescents with BPD is still not known. Also, as noted in the literature, group interventions confer many potential advantages and clinical benefits for adolescents as well as for professionals who work with them. Not least of these are the benefits related to cost, time and therapist resources, as well as the advantages for adolescents being able to work alongside peers with comparable problems.

Prior to the RCT, the MGAB was pilot-tested in a one-year study where positive pre-post-effects were observed on a range of measures, including BPD features, the capacity to mentalize, attachment-style, and general psychopathology [41]. Similar results were reported in a more recent pilot study that investigated the efficacy of a brief MBT group program for self-harm in adolescents, where results showed a decrease in self-harming behaviour as well as on other clinical variables [42]. Despite the encouraging results from the pilot-study and generally positive findings from group-interventions with adolescents, the recent RCT-study on MGAB resulted in no statistically significant difference between the active intervention and TAU on either the primary outcome measure, the borderline personality feature scale for children (BPFS-C; [43]), nor on any of the secondary outcome
variables [1]. At end of treatment (EOT), the BPFS-C score was the same in both treatment arms (71.3) and above the clinical cut-off of 66 for the BPFS-C, and below the Minimal Clinically Important Difference (MCIT) of 12 points specified for this study [1]. The follow-up study at 3 and 12 months presented the same trends as the initial trial, although a general decrease in symptomatology and an increase in social functioning were reported at both follow-up periods [44].

5. Where do we go from here: future research and the role of the social context

How do we interpret these results [1] and what implications do these findings have for the understanding of treatment of adolescent BPD? First of all, one tempting straightforward conclusion would be that the MGAB program is not suitable for adolescents with BPD or, at the very least, that it is not superior to standard treatment. The latter seems evident and confirms what is often found in psychotherapy research, namely that specialised treatment modalities are not superior to standard treatment [45,46]. Whether the group format as a stand-alone intervention is ineffective for the treatment of BPD in adolescence is a bit more complex to determine. We have already outlined the normative challenges encountered in adolescence, including the enhanced risk of teenagers influencing each other in a negative way when placed in groups [26], the increased focus on negative emotions, including co-rumination among adolescents [27], and significantly lower thresholds for emotional reactivity and arousal [25]. It could be argued that these normative challenges run counter to treating adolescents with BPD in groups. Additionally, it has been suggested to conceptualize treatment of BPD in line with the clinical staging model [47], first introduced as a framework for understanding mental health problems by Fava and Kellner [48]. The clinical staging model is a heuristic strategy and an alternative to the conventional categorical classification system, offering better options to evaluate dimensional severity of borderline features and designing interventions according to severity and the stage of the BPD syndrome [49,50]. If the results from our RCT study
are to be interpreted in the light of the level of severity of psychopathology encountered in our sample - which was considerably higher compared to similar studies, and along the lines of the clinical staging model, it could be stated that the group-treatment approach as a stand-alone was insufficient and did not match the level of psychopathology.

According to the clinical staging model [51] and based on the severity of personality pathology and the potential “late stage” of the BPD development in our sample, we should have provided the “full MBT-package”, including conjoint individual therapy and longer treatment period (1½ year as recommended [52], instead of only 1 year as in our study). An alternative or additional option could be to include more interventions directed at the social context (i.e., family, school system, friends etc.). This would be in line with Fonagy’s recent conceptualization of the role of extra-therapeutic factors importance for the understanding of therapy outcome [53-55], specifically, how therapy is a means to generate social learning in the broader context of the patient´s life. This is accomplished through safe attachment relationships, mentalizing social systems and the formation of epistemic trust (i.e., trust in knowledge) [56]. The development of these social learning processes in the social system is essential for outcomes. The theoretical argument is that the development and changes noticed in the patient, is not due to therapy (alone), but is probably a result of the capacity of the patient to engage in and learn from other people in the social system. Enhanced mentalizing and epistemic trust create better social relationships and open for access to knowledge about others that improve personal development. Consequently, recovery is partly dependent upon what and whom the patient has access to in the social world. The role of extra-therapeutic factors in therapy have long been acknowledged [57], and research shows how the alliance with the social network is more important than the patient-therapist alliance for the outcome [58]. Thus, the limited support for the efficacy of interventions aimed at BPD in adolescents, could then be understood as a result of that the fundamental structure of the current mental health systems is inadequate for the unique
developmental and cultural needs of young people and that transformational change and service redesign is necessary. This redesign entails more focus on and interventions aimed at the social context. (see Bo, Sharp, Kongerslev, Luyten Fonagy, in prep, for further elaboration on the role of the social context for therapy).

To conclude, there are promising treatment modalities for adolescents with BPD. The studies exploring these treatment options, however, need to be replicated before firm conclusion can be drawn. Based on the available evidence, no specific treatment stands out as superior. Additionally, we need to take the developmental challenges encountered in adolescence into consideration when designing psychotherapy programs for adolescents with BPD, which includes lower threshold for emotional over-arousal, compromised mentalizing capacities and greater risk of co-influence from peers. Group-treatment, or at least The MGAB program, as a stand-alone therapeutic intervention for adolescents with BPD group appears to be inadequate or probably needs to be supplemented with individual therapy. The clinical staging model suggests that more complex and severe levels of psychopathology requires more intensive treatment efforts. A different, but not necessarily contrary track, is to focus interventions much more on the social context of the youngster’s life as suggested by Fonagy and colleagues. Maybe it is not a call for more (i.e., individual therapy, longer treatment etc.), but rather a call for something different (i.e., actually working in and with the social context) that is required for optimizing treatment of adolescents with BPD, and future research needs to design and test more comprehensive interventions for that purpose and evaluating if that is a feasible road for the field to follow in treating adolescents with BPD.
Reference


30. Beck E, Bo S, Gondan M, Poulsen S, Pedersen L, Pedersen J, Simonsen E: Mentalization-based treatment in groups for adolescents with borderline personality disorder (BPD) or subthreshold BPD versus treatment as usual (M-GAB): study protocol for a randomized controlled trial. Trials 2016, 17.

31. Burlingame GM, Seebeck JD, Janis RA, Whitcomb KE, Barkowski S, Rosendahl J, Strauss B: Outcome differences between individual and group formats when identical and
nonidentical treatments, patients, and doses are compared: A 25-year meta-analytic perspective. *Psychotherapy (Chic)* 2016, 53:446-461.


58. Quirk K, Smith A, Owen J: In Here and Out There: Systemic Alliance and Intersession Processes in Psychotherapy. *Professional Psychology: Research and Practice* 2018, 49:31-38.*The authors focus on the systemic alliance as pivotal understanding for the outcome for psychotherapy