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Child behaviour checklist emotional dysregulation profiles in youth with disruptive behaviour disorders: Clinical correlates and treatment implications

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ABSTRACT

Two Child Behaviour Checklist (CBCL) profiles were correlated to poor self-regulation, Deficient Emotional Self-Regulation (DESR) (elevation between 1 and 2 Standard Deviations (SD) in Anxiety/Depression, Aggression, Attention subscales), and Dysregulation Profile (DP) (elevation of 2 Standard Deviations or more). We explored youths with Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) whether these profiles are associated with specific clinical features. The sample included 57 patients with DESR profile and 41 with DP profile, ages 9 to 15 years, all assigned to a non-pharmacological Multimodal Treatment Program. No differences resulted between groups in demographic features, diagnosis ratio, and comorbidities with Attention Deficit Hyperactivity Disorder (ADHD), Bipolar Disorder (BD), and Anxiety Disorder. The DP group was associated with higher scores in Withdrawn, Social Problem, Thought, Rule Breaking, and Somatic CBCL subscales, and higher scores in Narcissism and Impulsivity (but not Callous–Unemotional (CU)), according to the Antisocial Process Screening Device (APSD). After treatment, patients with DESR improved their personality traits (Narcissistic and Callous–Unemotional, but not Impulsivity), while changes in CBCL scales were modest. Patients with DP improved scales of Attention, Aggression, Anxiety–Depression, Rule Breaking, Withdrawal, Social Problem and Thought, while personality features did not change. These results suggest diagnostic implications of CBCL profiles, and indications for targeted treatment strategies.

1. Introduction

Children with mood instability, severe irritability, aggression, temper outburst, hyper-arousal have become a challenging issue in the last two decades, as they do not completely fit any of the current diagnostic categories, including Attention Deficit Hyperactivity Disorder (ADHD), a disruptive behavior disorder (oppositional defiant disorder (ODD) or conduct disorder (CD)), and bipolar disorder (BD) (Carlson and Kelly, 1998), although they share features of all these domains. The core element in these patients is a severe dysregulation of emotions and behavior. The DSM 5 (American Psychiatric Association, 2013) has attempted to address this problem with the new diagnosis of Disruptive Mood Dysregulation Disorder (DMDD), but data are still inconclusive (Dougherty et al., 2014).

One of the most troublesome aspects in the exploration of the affective and behavioral dysregulation is the difficulty of reliable and cost-effective diagnostic measures. The Child Behavior Checklist (CBCL), one of the most frequently used instruments for assessment of developmental psychopathology (Achenbach and Rescorla, 2001), has been considered a possible diagnostic tool for identifying children with these features. A specific CBCL profile has been correlated to poor self-regulation in children and adolescents, the Deficient Emotional Self-Regulation (DESR), characterized by a moderate elevation, between 1 and 2 Standard Deviation (SD) in 3 syndrome scales (Anxiety/Depression, Aggression, Attention) (Hudziak et al., 2005). The DESR profile has been related to maladaptive behaviors in response to frustration or negative emotions, impulsivity, elevated irritability and anger, and high rates of anxiety and disruptive behaviour disorders (Biederman et al., 2009). This profile has been principally explored in youth with Attention Deficit Hyperactivity Disorder (ADHD), and a strong minority (44%) of them presented this specific profile, associated with more elevated rates of impairment in school adaptation and failure in peer relationship, when compared to youths without DESR (Biederman et al., 2012). In follow-up studies, the DESR

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profile correlated with a long-term risk of psychopathology, such as ADHD persistence in adolescence and adult age (Biederman et al., 2012), oppositional-defiant disorder (Biederman et al., 2012), bipolar disorder (Biederman et al., 2009; Faraone et al., 2005), suicidality (Holtmann et al., 2011), and poor global functioning (Biederman et al., 2009, 2012; Faraone et al., 2005). The DESR profile was thus associated with a subgroup of patients with a more severe clinical picture and poorer prognosis, but with different possible developmental trajectories.

More recently, a more severe form of the same profile has been described, with a greater elevation, more than 2 Standard Deviations (SD) in 3 syndrome scales (Anxiety/Depression, Aggression, Attention) of the CBCL, which may describe the more severe forms of dysregulated mood and behaviour. This profile was first more closely related to the pediatric bipolar disorder, and named CBCL-Pediatric Bipolar Disorder profile (CBCL-PBD) (Faraone et al., 2005; Biederman et al., 2009, 2013; Uchida et al., 2014). As several groups have questioned the relationship between this profile and the bipolar disorder diagnosis (Youngstrom et al., 2005; Volk and Todd, 2007; Holtmann et al., 2011; Mbekou et al., 2014), it has been lately named CBCL-Dysregulation Profile (CBCL-DP). The CBCL-DP profile has been explored also in youth without ADHD (i.e., general population, subjects at risk of various forms of psychopathology), and according to these studies it was associated with severe psychopathology, principally with Disruptive Behavior Disorders (DBDs) (Volk and Todd, 2007), suicidal behavior (Ayer et al., 2009), substance use disorders (Holtmann et al., 2011), with relevant affective storms, reactive aggression and often reduced need of sleep, and significant lower level of school adjustment and occupational stability (Hudziak et al., 2005; Volk and Todd, 2007). Perspective studies showed a stability of the profile and of its behavioral and affective correlates from childhood to young adult, had a greater risk for on-going comorbidity, including cluster B (borderline) and C (avoidant, dependent and obsessive–compulsive) personality disorders, and an impairment across a wide range of areas of functioning (Meyer et al., 2009; Halperin et al., 2011). Furthermore, the CBCL-DP was associated with specific temperamental features, including high novelty seeking, high harm avoidance, low reward dependence, and low persistence in tasks (Althoff et al., 2012). Another exploration of the personality traits in youth with CBCL-DP showed higher scores in hostility, impulsivity, emotional lability, callousness and grandiosity (DeCaluwè et al., 2013), indicating a possible proneness to antisocial or borderline personality disorders.

The clinical meaning of these profiles is still debated, as it can be considered a specific syndrome, or at least the early manifestation of this syndrome, based on its heritability, longitudinal stability, and consistency across countries and samples, although strong evidence is still lacking (Ayer et al., 2009). More likely, these behavioral phenotypes are not specific, and they are not due to the presence of a single disorder, but they represent a risk marker of a complex self-regulation disorder, which includes both internalizing and externalizing features (Stringaris and Goodman, 2009). This marker can give rise to personality traits and symptoms, in association with different specific disorders, predictive of later severe adult psychopathology, in which the dysregulation of affects and behavior persists at least up to young adulthood. It is debated whether the two profiles may be a useful diagnostic tool in distinguishing subgroups of youth with specific clinical and developmental features, or with different levels of deficits in an area of very high clinical importance. The role of an early and persisting deficit of self-regulation of affect and behavior as predictor of poorer outcome and a marker of severity is supported by longitudinal studies (Biederman et al., 2009; De Caluwè et al., 2013; Meyer et al., 2009; Holtman et al., 2010).

Emotional dysregulation can take different developmental trajectories, with independent associations with wide range of disorders (Holtmann et al., 2011), supporting the notion that it is not an early manifestation on a single disorder, but an antecedent and a vulnerability profile of a persisting and trans-diagnostic emotional and behavioral dysregulations. Thus, the timely detection and the exploration of these dysregulation profiles in different psychopathological domains may be helpful in distinguishing specific subgroups of patients with poorer prognosis and greater needs of intervention.

Other studies have related CBCL profiles to Disruptive Behavior Disorders (DBDs), such as oppositional defiant disorder and conduct disorder (Volk and Todd, 2007), as the emotional dysregulation is a core marker of these disorders (Frick et al., 2014, Masi et al., 2014a). However, specific studies on DESR and DP in DBDs are still lacking. The main aim of the current study is to further explore the potential clinical utility of the CBCL profiles DESR and DP in youth with DBDs, identifying two subgroups of DBDs patients, and individuating the specific clinical/personality features, socio-environmental characteristics, and specific response to a non-pharmacological multimodal treatment program. Among the personological traits, the study namely investigated the Callous–Unemotional (CU) traits, closely related with the new DSM 5 subtype of conduct disorder with limited prosocial emotions (Masi et al., 2013).

2. Methods

2.1. Sample

A consecutive sample of 108 patients referred to our hospital was included in the study: 90 males, ages 9 to 15 years, 70 with ODD diagnosis, 38 with CD diagnosis. Our hospital is a third level clinic with a national catchment for children and adolescents presenting a wide range of neuropsychiatric disorders. All patients were diagnosed according to a systematic evaluation, including historical information, prolonged observation of interactions with peers, parents and/or examiners, and a structured clinical interview according DSM-IV criteria, the Schedule of Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL) (Kaufman et al., 1997), administered by trained child psychiatrists. All the patients with current or past diagnosis of autism spectrum disorder, or any psychotic disorders, or with a Full Scale IQ below 85 according to Wechsler Intelligence Scale for Children-III (WISC-III) (Wechsler, 1991), were excluded from the study. The ethical committee of our Hospital approved the study. All patients and their families participated voluntarily in the study after written consent was obtained by parents/legal caregivers for assessment and treatments procedures.

2.2. Measures

All patients were assessed with the CBCL (Achenbach and Rescorla, 2001), a 118-item scale, completed by parents, with 8 different syndromes scales (Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Attention Problems, Delinquent Behaviour and Aggressive Behaviour), a Total Problem Score, and two broad-band scores designated as Internalizing Problems and Externalizing Problems. Regarding the CBCL profiles, 57 patients (52.7%) presented a DESR profile, defined as a score >180 but <210 resulting from the sum of Attention, Aggression and Anxious/Depressed CBCL scales (49 males, 17 [70%] with oppositional defiant disorder and 40 [30%] with conduct disorder, age range 9 to 15 years, mean age 10.3 ± 1.8 years). Forty-one patients (37.9%) presented a DP profile, defined as a score >210 on the same three scales (35 males, 14 [44%] with oppositional defiant disorder and 27 [66%] with conduct disorder, age range 9 to 15 years, mean age 10.2 ± 1.9 years). Ten patients (9.2%) did not present either DESR nor DP; the small percentage of patients not showing DESR or DP profiles did not allow any statistical analyses and then they were not included in the analyses.

As a measure of antisocial personality traits, the Antisocial Process Screening Device-Parent version (APSD) was used, it is a structured clinical interview with 20 items, with three main dimensions: Callous–Unemotional (6 items), Narcissistic (7 items), and Impulsivity (5 items) (19) (Frick and Hare, 2001). The APSD has been shown to have adequate reliability and validity in previous studies (Frick and White, 2008; McMahon et al., 2010).

The quality of familial relationships was explored using the Alabama Parenting Questionnaire (APQ) (Sheldon et al., 1996). The APQ is a 42-item measure on which parents indicate the frequency with which they implement the following parenting practices: Involvement, Positive Parenting, Poor Monitoring/Supervision, Inconsistent