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Original Article

Childhood Trauma as a Risk Factor for High Risk Behaviors in Adolescents with Borderline Personality Disorder

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Abstract

Objective: Childhood trauma is associated with many major short-term and lifelong consequences, such as deterioration of mental health, higher frequency of affective dysregulation, changes in consciousness and attention, personality disorders, etc. Therefore, this study aims to examine childhood trauma as a possible factor in the incidence of high risk behaviors in adolescents with borderline personality disorder (BPD).
Method: 120 individuals aged 12-18 years were selected based on purposive sampling and included in the research group (including 60 BPD adolescents and 60 non-BPD adolescents). After receiving ethical approval from official institutions, data was collected from the participants through demographic, childhood trauma, sexual addiction screening, eating attitudes, RAFFT, and suicidal behavior questionnaires. The collected data was analyzed using chi-square test, independent t-test, prevalence, odds ratio and correlation analyses using the SPSS V21.0 software.
Results: All adolescents with BPD had experienced some forms of psychotraumatic events in childhood. The BPD group experienced more traumatic events than the non-BPD group ($P < 0.05$). After controlling for gender, age and years of education, all differences remained significant. Furthermore, statistically significant correlations were found between the scores of the emotional abuse and eating disorders scales in the group of girls with BPD ($r = 0.788$, $P < 0.01$). Moderate correlations were discovered between emotional abuse and suicidal behaviors in boys with BPD ($r = 0.641$, $P < 0.01$). Moreover, it was found that the most significant factors in the formation of addictive behaviors among adolescents with BPD were emotional abuse ($r = 0.527$) and emotional neglect ($r = 0.513$, $P < 0.05$).
Conclusion: These findings reinforce the role of childhood trauma in the formation of BPD symptoms during adolescence. Successful detection of the earliest risk factors in the form of childhood trauma and its different forms can provide specific high risk behavior targets for early intervention.

Key words: *Adolescent; Borderline Personality Disorder; Health Risk Behaviors; Psychological Trauma*

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Interpersonal childhood trauma may have harmful effects on children's development, particularly when it comes to their psychological and emotional functioning (1). The potential adverse consequences of these effects on the psychological sphere are diverse. In particular, there is a higher risk of anxiety, depression, post-traumatic stress symptoms, dissociation, substance use, aggression, risky sexual behavior, borderline traits, antisocial, avoidant, schizotypal, and schizoid personality disorders (2). These psychological consequences may become chronic and result in high suicidality and impaired social functioning (3).

Early trauma was noted to act as a trigger for the development of several elements of borderline personality disorder (BPD), such as affective instability, emotional dysregulation, and high risk behaviors (High-risk behaviors refer to behaviors that have negative health effects, such as disordered eating, suicidal behaviors, unsafe sex, and substance abuse) (4). These traumatic experiences principally come in the form of physical, emotional, verbal, and sexual abuse; physical and emotional neglect by parents; and severe exposure to victimization by peers (5).

BPD is a serious form of psychopathology. At its core lie disturbances in the regulation of emotions, self-esteem, and interpersonal interaction (6). It is asserted that this pathology manifests in early adolescence or adulthood and entails severe subjective problems and functional deficits (7). BPD is currently diagnosed more frequently compared to previous decades, and people affected by it more commonly seek various types of psychotherapeutic and psychiatric help. Nevertheless, empirical research into the development of this personality disorder is currently very scarce (8). At present, BPD is included in the group of personality disorders, i.e. long-lasting, persistent, and unchanging patterns of behavior and internal experiences that deviate from cultural norms and lead to suffering and disability. These disorders manifest in adolescents and persist throughout a person's life (9-12).

Both the basic and applied literature have come a long way in the past few decades and now provide a new understanding of the biological correlates and substrates of BPD. In essence, the risk of BPD emerges due to the interplay of genetic susceptibility and detrimental life experiences, which may be more likely to appear in the anamnesis of these people (13). Susceptibility to BPD symptoms usually results from environmental parameters, which are mostly rooted in family background, early traumas, and childhood psychopathological traits that may usually progress into a clinical personality disorder in adolescence (14). Many researchers describe childhood trauma as a crucial risk-factor and, more importantly, a major etiological cause in the incidence of BPD (15, 16). In addition, it is worth noting that from the broad spectrum of consequences observed after childhood traumas, one of the most disturbing ones is the development of suicide ideations and high risk behaviors (17).

Some researches indicated that physical and psychological abuses are linked with subsequent suicide thoughts or attempts (18, 19). People who suffered from an interpersonal trauma in childhood are two to five times more likely to exhibit high risk behaviors or suicidal ideation than the general population (20). However, the literature is not essentially consistent in identifying a causal association between childhood traumas and high risk behaviors in adolescents with BPD.

The analysis of theoretical materials reveals three groups of factors that contribute to the occurrence of BPD: genetic, individual-psychological (lack of goals in life, dissatisfaction with self-actualization, low self-esteem, emotional instability, rigidity), and social-psychological (extreme dissatisfaction of teenagers with relationships with parents, uncertainty in interpersonal relationships with peers, etc.) factors (21). High risk behaviors in the context of BPD can manifest in various forms, including suicidal or addictive behaviors, eating disorders, and promiscuous sexual behavior, which are more common in BPD (16).

In line with the above, it is a topical task to clarify the specific associations between various types of childhood trauma and types of high risk behaviors in adolescents with BPD. Some of the previous researches have investigated the association between childhood trauma and high risk behaviors in adults with BPD (22-24), and most of the previous studies have assessed only one traumatic event in childhood (e.g., sexual abuse) or one high risk behavior (e.g., suicidality) in BPD (25, 26). Thus, the goal of the study is to determine the influence of the consequences of various psychotraumatic situations in childhood on the emergence of high risk behaviors in adolescents with BPD. For this purpose, we first assess and compare the history of childhood traumas in adolescents with and without BPD. Then, we report the prevalence of four major risk behaviors in BPD. Finally, we investigate the relationships between childhood trauma and these risky behaviors.

Materials and Methods

The study was conducted in the Herzen State Pedagogical University of Russia and the Clinical Center of the Italian Institute of Micropsychoanalysis in Moscow in 2021-2022. This study was approved by the Moscow City Independent Ethics Committee, and independent local ethics committees of clinical studies.

Research sample

In the course of the study, we conducted an assessment of 248 adolescents who referred to the psychiatric clinical center. Based on this assessment, 120 individuals aged 12-18 years were selected based on purposive sampling and included in the research group. Among them, 60 adolescents were diagnosed with BPD by a child and adolescent psychiatrist based on the

criteria of the Diagnostic and Statistical Manual of Mental Disorders (5th edition; DSM-5; American Psychiatric Association, 2013). Based on interviews conducted by psychiatrists and psychologists, the other 60 adolescents had other mild psychiatric problems and no history of risky behaviors. Since these subjects were visiting a psychiatric clinic for the first time, none of them had a history of taking psychiatric drugs or receiving psychological treatments. The sample size in each group was estimated to be 54 people based on power = 0.8, type I error rate = 0.05 and confidence interval = 95%. However, we included 120 adolescents to address potential problems (such as missing data). Therefore, our research sample included a BPD group as a case group (n = 60), and a comparison group of non-BPD subjects (n = 60). Inclusion criteria were as follows:

- being within the adolescent age range –participants falling in the 12-18 age group;
- being able to read and comprehend the data provided in the informed consent form for participation in the research ;
- signing the informed consent form for the research in person;
- understanding the instruction given in the psychological tests;

Regret of participating in the study and not completing the questionnaires were the criteria for withdrawal from the study.

After receiving ethical approval from official institutions, data was collected from the participants through demographic, childhood trauma, sexual addiction screening, eating attitudes, RAFFT, and suicidal behavior questionnaires. The objectives of the research were described to the subjects and their guardians, and informed consent was signed to participate in the study.

Measures

Childhood Trauma Questionnaire (CTQ) is a 28-item retrospective scale (five-point Likert type) that was adopted in this research to quantify childhood trauma history in a self-report manner. The CTQ-28 was developed, standardized and validated by Bernstein and Fink in 1998. It quantifies five types of psychological trauma in childhood age: emotional, sexual and physical abuses, and physical and emotional neglects. The CTQ yielded good test-retest reliability results ranging from 0.75 to 0.89, and internal consistency results ranging from 0.68 to 0.94 among adolescents in Russia and other countries (27, 28).

Sexual Addiction Screening Test (SAST) is a 28-item scale to evaluate if the subject presents behaviors of sexual addicts. It is self-report and subjects respond to the questions with yes or no. Scores 0-3 indicate no risk for sexual problems, 4-5 indicate at risk behaviors, and score 6 or higher indicates the need for further assessment and treatment. The internal consistency coefficients of this test ranged from 0.85 to 0.95, and other psychometric properties of SAST were reported to be acceptable in Russia and other countries (29, 30).

Eating Attitudes Test (EAT-26) is a frequently used 26-item, self-report scale to quantify concerns and symptoms of eating disorders. It has been shown to be useful and valid in evaluating eating disorder risk in different populations (e.g., clinical and non-clinical populations) including children and adolescents. The psychometric properties of this test have been reported as acceptable in Russia and other countries (31-33).

The RAFFT test was utilized to determine the inclination to chemical dependence in the participants. It is a clinician-administered test and consists of five questions. A score of 2 or higher indicates suspected addictive behavior in the subject. This scale has been proved to be acceptable with good psychometric properties in adolescents in Russia and other countries (34, 35).

Suicidal behavior, including suicide attempts and suicide ideation, was evaluated by two questions: ‘‘Have you ever thought about killing yourself?’’ and ‘‘Have you ever tried to kill yourself?’’ It is self-report and subjects respond to the questions with yes or no. These questions that assess suicidal behavior have been utilized in other studies on adolescents (36-38).

Data analysis

Independent t-test and Chi-squared test were administered to compare measures between the two groups. Prevalence and odds ratios with 95% confidence interval were also reported through the comparison group as the reference group. Correlation analysis was performed via Spearman rank correlation, and the results were compared with the normative indicator using Student’s t-test. Statistical processing of the data was performed using the SPSS Statistics software package 26.

Results

Background characteristics of the two groups are presented in Table 1. As shown, there was no statistical difference between the two groups in terms of age and gender compositions as well as years of education.

Table 1. Age, Gender Composition and Years of Education in Adolescents with and without Borderline Personality Disoder

Variables	BPD group (n = 60)	Non-BPD group (n = 60)	P-value
Age (mean ± SD)	15.85 ± 1.71	15.95 ± 1.46	0.730
Gender	22 male, 38 female	25 male, 35 female	0.654
Years of education	7.45 ± 2.20	8.02 ± 0.97	0.081

Assessment of the presence of various psychotraumatic events in childhood among adolescents with BPD showed that all the studied teenagers experienced some forms of psychotraumatic events in childhood (Table 2).

Table 2. Prevalence, Odds Ratios and Comparison of Childhood Traumas in Adolescents with and without Borderline Personality Disorder

Childhood trauma events	BPD group (n = 60) N (%)	Non-BPD group (n = 60) N (%)	P-value for comparison (X^2)	Adjusted OR (95% CI)[a]
Emotional abuse	46 (76.7%)	34 (56.7%)	0.020	2.28 (1.43-4.89)
Physical abuse	18 (30.0%)	7 (11.7%)	0.014	3.10 (1.86-7.12)
Harassment	14 (23.3%)	5 (8.3%)	0.024	3.05 (1.89-8.24)
Emotional neglect	26 (43.3%)	15 (25.0%)	0.035	2.01 (1.45-4.56)
Physical neglect	18 (30.0%)	8 (13.3%)	0.027	2.41 (1.23-5.47)

BPD: borderline personality disorder. OR: odds ratio. [a] Adjusted for gender, age and years of education.

76.7% of adolescents with BPD, including 63.2% of the female and 90.9% of the male participants, experienced childhood emotional abuse. Physical neglect was experienced by 30% (21.1% of the girls and 45.5% of the boys) of adolescents with BPD and physical abuse by 30% (10.5% of the girls and 63.6% of the boys) of adolescents with BPD. Sexual harassment was experienced in childhood by 23.3% of adolescents with BPD, including 36.8% of the female subjects. Chi-squared test for CTQ subscales showed that the BPD group experienced more traumatic events than the non-BPD group ($P < 0.05$). After controlling for gender, age and years of education, all differences remained significant.

Adolescents with BPD reported larger rates of all health risk behaviors than adolescents in the non-BPD group. We identified the most pronounced propensity to addictive, self-harming, and self-destructive behaviors among the BPD group. The results on high risk behaviors, to which adolescents with BPD have the highest level of propensity, indicated that only 13.3% of female and 45.4% of male adolescents in the sample did not have a pronounced predisposition to the studied forms of high risk behaviors at the time of the assessment (Table 3).

Table 3. Prevalence of High Risk Behaviors in Adolescents with Borderline Personality Disorder (n = 60)

Gender	Promiscuity	Eating disorders	Suicidal behavior	Addictive behavior (chemical addictions)
Female	4 (10.52)	12 (31.57)	4 (10.52)	8 (21.05)
Male	6 (27.27)	2 (9.09)	10 (45.45)	10 (45.45)
Total	10 (16.66)	14 (23.33)	14 (23.33)	18 (30)

Values are shown as n (%).

Furthermore, the study revealed significant correlations between the forms of psychotraumatic situations in childhood and the forms of high risk behaviors in adolescents with BPD. Statistically significant associations were found between the scores of the emotional abuse and eating disorders scales in the group of girls with BPD ($r = 0.788$, $P < 0.01$). Moderate correlations were discovered between emotional abuse and suicidal behaviors in boys with BPD ($r = 0.641$, $P < 0.01$). Moreover, it was found that the most significant factors in the formation of addictive behavior (chemical addictions) among adolescents with BPD were emotional abuse ($r = 0.527$) and emotional neglect ($r = 0.513$) ($P < 0.05$).

Discussion

In the present research, we attempted to assess the relationship between childhood traumas and high risk behaviors in adolescents with BPD. Our main finding was that health risk behaviors are prevalent in adolescents with BPD and that these adolescents report considerably larger levels of childhood traumas in comparison to controls. Previous studies in this area have also reported the alarming occurrence of a link between early childhood traumas and BPD (39). These studies suggested that there is a complicated interaction between childhood trauma, BPD and epigenetic mechanisms that negatively affect brain development and lead to different manifestations of BPD, including high risk behaviors (14, 40). In this work, all correlations between each of the forms of trauma, the total number of childhood traumas, and the scores of various forms of high risk behaviors in the sample of adolescents with BPD reached the level of at least weak correlational relationships. This finding has been confirmed in previous studies. A meta-analysis paper showed that

people with BPD were 13.91 times (95% confidence interval) more likely to have had adverse circumstances in childhood than non-clinical populations (41). Battle *et al.* found a significant correlation between childhood neglect and abuse and BPD symptoms (42). Shirley *et al.* found a specific link between sexual trauma and BPD (43). As noted in a study by Vanwoerden *et al.*, assessing the influence of inadequate parent-child boundaries on BPD in adolescence, guilt induction and psychological control seem to be related to BPD traits in adolescents with important emotional and behavioral manifestations of the disorder (44). Therefore, such a finding suggests that BPD depends on environmental factors, especially traumatic events in childhood. In fact, the human psyche is extremely flexible, adapts and reacts quickly, and provides a highly effective, self-healing system with a large margin of safety and huge reserves. However, if the number of stressors and the level of their psychotraumatic impact exceed the endurance threshold of the nervous system, if a person experiences a constant pressure of various stressors for a long time without any resolution (i.e., in the presence of polymorphic stress in the stage of accumulation), the psyche begins to fail, which manifests itself in inadequate and destructive behaviors (45).

Furthermore, multiple researches have demonstrated that BPD is correlated to maltreatment in childhood. The share of sufferers with this pathology is between 30 and 90% of patients (39, 41). Keep in mind that child maltreatment often results in severe short-term or long-term childhood trauma. However, the strict nature of this relationship between childhood maltreatment and the onset of BPD is a conflicting topic. Lyons-Ruth *et al.* showed that role confusion and disorientated child-parent behavior are observed in patients with early symptoms of BPD, such as self-harm and suicide ideation in late adolescence (39). Infurna *et al.* note that BPD patients reported less care from their parents and also increased levels of intrusiveness and excessive control from both parents. A meta-analysis study by Steele *et al.* revealed that maladaptive parenting, including such features as rejection, little warmth, little maternal satisfaction with the offspring, antagonism and rough punishment, impaired maternal communications, negative emotions declared by the mother, and maternal over-involvement and inconsistency constitute psychosocial risks for the incidence of BPD (46, 47). These findings, however, are not essentially consistent – some previous researches found no significant association between early onset of BPD and parenting style (47).

BPD comes with an enormous financial and emotional burden on patients, their families, and the health community. Considering these costs, determining factors predicting BPD should be prioritized. The strongest predictors of the borderline diagnosis are found to be sexual abuse, physical abuse in the family, and neglect by caregivers. Geselowitz *et al.* noted that negative childhood experiences, including physical and psychological traumas during preschool age, were stronger predictors of BPD symptoms in adolescents (48).

Limitation

Although the adequacy of the sample size in this study has been confirmed by statistical methods, a larger sample size can definitely contribute to the validity of the findings. In addition, due to the limitations of cross-sectional studies (such as the inability to draw a causal relationship and evaluate incidence), repeating such a study in a longitudinal or cohort form can help to better explain the results. In addition, childhood trauma may be associated with structural and functional brain damage. Therefore, performing brain tests in such studies can be important and provide new insight into the disorder. This issue is considered one of the important limitations of these studies. Finally, recall bias is another limitation of the current study that may negatively affect the obtained results.

Conclusion

The present study revealed an association between childhood traumas and high risk behaviors among adolescents with BPD. Significant correlations were obtained between various forms of childhood psychological trauma and forms of high risk behaviors in adolescents with BPD. This finding reinforces the role of childhood trauma in the formation of BPD symptoms. Emotional abuse has the strongest effect on the manifestation of such high risk behavior forms as suicide risk and suicidal behavior in boys and eating disorders in girls. Overall, emotional abuse and neglect in childhood have the greatest impact on addictive behavior (chemical addictions) in the sample of adolescents with BPD. Therefore, the successful detection of the earliest risk factors in the form of childhood psychological trauma and its different forms can provide specific high risk behavior targets for early intervention aimed at diverting the course of personality development from BPD outcomes.

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Conflict of Interest

None.

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