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Investigating emotional regulation, aggression, and self-esteem in sexually abused adolescents

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ABSTRACT

Objectives: Child sexual abuse is a global problem with an increased risk of developing psychopathology. In recent studies, it was studied that children and adolescents who experienced sexual abuse have emotion regulation difficulties. We aimed to investigate some features of sexually abused adolescents by studying emotion regulation, aggression, and self-esteem.

Methods: One hundred four adolescents seeking treatment after sexual abuse to Bursa Yuksek Ihtisas Training and Research Hospital Child Monitoring Center and 91 control group were included. Participants were given to complete the personal information form, the adolescent emotion regulation scale, the reactive-proactive aggression scale, and the Rosenberg self-esteem scale

Results: It was determined that adolescents who were sexually abused used more internal dysfunctional and external dysfunctional emotion regulation while the control group used more external functional emotion regulation. While there was no difference between both groups regarding aggression, self-esteem was found to be lower in abused adolescents. Self-injurious behavior was higher in adolescent victims of sexual abuse. Aggression was found to increase as dysfunctional emotion regulation increased.

Conclusions: It was found that sexually abused adolescents had more difficulty in regulating their emotions and exhibited more self-injurious thoughts and behaviors but there was no difference between them and the control group in terms of aggression. We found that dysfunctional emotion regulation increased aggression in the study group.

Keywords: Sexual abuse, adolescent, emotion regulation, aggression

Child sexual abuse (CSA) is a common condition all over the World. Although the prevalence of CSA is estimated to be 11.8% worldwide, it is said that this rate is between 7.6% and 8.0% in men and 15.0% and 19.7% in women. The child's age, level of development, type of abuse, and social support can affect the level of psychological impact and the effects of abuse can last until adulthood [1].

Aggressive behavior occurs with different purposes and functions and is divided into reactive and proactive aggression. Aggression in the form of threat, provocation, and defensive response is defined as reactive aggression, while aggression aimed at achieving a goal or gain (for example, its material, physical, or

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social status) is defined as proactive aggression [2]. Anger in sexually abused children is seen even years after the abuse [3]. For this reason, aggressive behavior can be observed as a result of anger in abused children.

Emotions are affective elements that occur in people's lives as a result of complex interactions of biological, psychological, and environmental factors. It is also responsible for adapting to new situations. This also defines the ability to regulate emotion. This skill is influenced by temperament, neurological, physiological, and cognitive processes, and the family environment [4]. Emotion regulation is closely related to mental health in children and adults. Emotion regulation deficiencies or dysfunctions are theoretically and empirically closely related to psychopathology at all ages. For example, it is a risk factor for psychopathologies such as anxiety disorders, mood disorders, substance use, and post-traumatic stress disorder [5].

Sexual abuse in childhood and adolescence is associated with the severity of post-traumatic stress disorder, depressive symptoms, and emotional regulation difficulties [6]. Several studies investigating emotion regulation competencies in children who have been victims of interpersonal trauma have found that mistreatment is associated with a reduced ability to regulate one's emotions [7]. It has also been suggested that childhood sexual abuse can also inhibit a child's ability to identify and express emotions [8]. Sexual abuse has the potential to compromise socio-emotional development, which can lead to increased vulnerability to difficulties regulating emotions [9]. In addition, emotion regulation is thought to play a key role in several psychological disorders in victims of sexual abuse [10]. In this study, we aimed to contribute to existing knowledge by determining the self-esteem, emotion regulation skills, and aggression levels of sexually abused adolescents.

To our knowledge, there is no study investigating the relationship between emotional regulation and proactive and reactive aggression behaviors of sexual abuse experienced during adolescence. Also, different functional subtypes of aggressive behavior (eg, reactive or proactive) have not been systematically investigated. In this study, we aimed to examine the emotion regulation skills, self-esteem, and proactive and reactive aggression levels of sexually abused adolescents.

METHODS

Study Population

The sample group of the study consisted of 104 adolescents who were evaluated for sexual abuse at the Health Sciences University Bursa Yuksek Ihtisas Training and Research Hospital Child Monitoring Center (CİM) between February 2016 and July 2016. The control group of the study consisted of 91 adolescents from a high school in Bursa province, with similar characteristics to the patient group in terms of socioeconomic level, age, and gender. Verbal and written informed consent was obtained from the adolescents and their parents who agreed to participate in the study. Inclusion criteria in the study group were defined as being exposed to sexual abuse and accepting the study, and exclusion criteria were determined as having a psychotic and chronic physical illness. Inclusion criteria in the control group were defined as not having a known psychiatric illness or chronic physical illness and accepting the study.

Tools

Personal Information Form

It is a form prepared by the researchers for this study that includes sociodemographic characteristics of adolescents, such as age, gender, number of siblings, educational status of parents, occupation of parents, family type, income level, and occupation.

Emotion Regulation Scale for Adolescents

The original scale was developed by Phillips and Power (2007) to determine adolescents' emotion regulation skills. Consisting of four sub-dimensions, internal functional emotion regulation, external functional emotion regulation, internal dysfunctional emotion regulation, and external dysfunctional emotion regulation, the scale is a 5-point Likert type and consists of 18 items [11]. It is a scale suitable for use in adolescents. The Turkish validity and reliability study was conducted by Duy and Yildiz [12].

Reactive-Proactive Aggression Scale

The Reactive-Proactive Aggression Scale is a scale developed to measure reactive and proactive ag-

gression in children and adolescents. There are 23 items on the scale, 11 of them measure reactive aggression and 12 of them measure proactive aggression [2]. The Turkish validity and reliability study was conducted by Baş and Yurdabakan [13]. The Turkish adaptation of the scale was carried out with secondary and high school students.

Rosenberg Self-Esteem Scale

The scale, which was created by M. Rosenberg, and the Turkish validity and reliability study done by Çuhadaroğlu, assess self-esteem. It is a self-report scale consisting of 63 multiple-choice questions and has 12 subscales. In this study, only the first 10 items of the scale were used to assess self-esteem. If the total score obtained from the first 10 questions is 0-1, it indicates high self-esteem, 2-4 indicates medium and 5-6 indicates low self-esteem [14].

Ethics statement

The ethics committee approval of the research was given by the Clinical Research Evaluation Committee of SBU Bursa Yüksek İhtisas Training and Research Hospital. (Decision date / No: 27.01.2016/ 2011-KAEK-25 2016/02-09)

Statistical Analysis

The data obtained in this study were analyzed with the IBM SPSS Statistics version 22 package program. While investigating the normal distribution of the variables, Shapiro Wilks was used because of the number of units. While examining the differences between the groups, The Mann-Whitney U Test was used because the variables did not come from a normal distribution. Bonferroni test was used for pairwise comparison. Pearson correlation coefficient was calculated between variables. While interpreting the results, 0.05 was used as the significance level; It was stated that there was a significant difference in the case of $p < 0.05$ and there was no significant difference in the case of $p > 0.05$.

RESULTS

There was no statistical difference between the two groups in terms of age and gender among the adolescents included in the study. When the school attendance status of the adolescents was examined, it was seen that there was a significant difference between the two groups and that the whole healthy group attended school. Parents ' education levels were significantly lower in the study group than in the control group. Again, the number of divorced parents in the study group was significantly higher. In the study group, 23 (19.2%) adolescents had suicidal thoughts, 11 (9.2%) adolescents had suicide attempts, and 5 (4.2%) adolescents had self-destructive behaviors after the incident, while the control group had no suicidal thoughts, attempts, or self-destructive behaviors (Table 1).

Table 2 shows that there is a statistically significant difference between the groups in terms of "external dysfunctional emotion regulation" and "internal dysfunctional emotion regulation" scores ($p < 0.05$). The scores of the study group in both areas are significantly higher than that of the control group. In terms of "external functional emotion regulation" scores, the control group scored significantly higher than the research group ($p < 0.05$). It was found that the study group most often used “internal dysfunctional emotion regulation”, while the control group most often used “external functional emotion regulation” (Table 2).

There was a statistically significant difference between the groups in terms of self-esteem scores ($p < 0.05$). The "self-esteem" of the control group is significantly lower than that of the research group. There was no statistically significant difference between the groups in terms of aggression scale scores ($p > 0.05$) (Table 3).

When we look at the correlations of the study group between the scales; there was a moderate relationship between “external dysfunctional emotion regulation” and “proactive aggression”, and a strong and positive relationship between “reactive aggression” (($r = 0.502$; $p = 0.001$), ($r = 0.723$; $p = 0.001$) respectively). Finally, a moderately positive relationship was found between “internal dysfunctional emotion regulation” “reactive aggression” and “total aggression” ($r = 0.504$, $p = 0.001$ and $r = 0.531$, $p = 0.001$; respectively).

DISCUSSION

In our study, it was determined that adolescents who were victims of abuse used dysfunctional emotion reg-

Table 1. **Frequency distribution table of demographic information by groups**

	Study group (n = 120)	Control group (n = 113)	Total (n = 233)	*p* value
Age (years) (Mean ± SD)	14.75 ± 1.60	15.32 ± 3.99	15.03 ± 3.02	0.154
Gender, n (%)				0.627
Male	7 (5.8)	5 (4.4)	12 (5.2)	
Female	113 (94.2)	108 (95.6)	221 (94.8)	
School status, n (%)				**< 0.001**
Does not go to school	20 (16.7)	0 (0)	20 (8.6)	
Middle school	36 (30.0)	27 (23.9)	63 (27.0)	
High school	58 (48.3)	63 (55.8)	121 (51.9)	
Other	6 (5.0)	23 (20.4)	29 (12.4)	
Mother's educational status, n (%)				**< 0.001**
No education	27 (22.5)	7 (6.2)	34 (14.6)	
Primary school	73 (60.8)	85 (75.2)	158 (67.8)	
High school and above	20 (16.7)	21 (18.6)	41 (17.6)	
Father's educational status, n (%)				**< 0.001**
No education	17 (14.2)	2 (1.8)	19 (8.2)	
Primary school	76 (63.3)	64 (56.6)	140 (60.1)	
High school and above	27 (22.5)	47 (41.6)	74 (31.8)	
Family status, n (%)				**< 0.001**
Parents together	76 (63.3)	107 (94.7)	183 (78.5)	
Divorced	37 (30.8)	4 (3.5)	41 (71.6(	
Broken	7 (5.8)	2 (1.8)	9 (3.9)	
Suicidal ideation, n (%)	23 (19.2)	0 (0)	23 (9.9)	**< 0.001**
Suicide attempt, n (%)	11 (9.2)	0 (0)	11 (4.7)	**< 0.001**
Self-injurious behavior, n (%)	5 (4.2)	0 (0)	5 (2.1)	**0.060**

t test, Pearson Chi square, Fisher-exact test were used

Table 2. **The difference between groups in terms of the scale of emotion regulation**

	Study group (n = 120) Mean ± SD	Control group (n = 113) Mean ± SD	*p* value
Internal functional emotion regulation	12.83 ± 3.39	13.36 ± 1.56	0.124
External dysfunctional emotion regulation	9.19 ± 3.61	7.23 ± 1.51	**< 0.001**
Internal dysfunctional emotion regulation	14.01 ± 4.25	10.44 ± 2.38	**< 0.001**
External functional emotion regulation	9.33 ± 3.09	12.75 ± 1.98	**< 0.001**

The Mann-Whitney U test was used. SD = standard deviation

Table 3. The difference between groups in terms of aggression and the Rosenberg scale

	Study group (n = 120) Mean ± SD	Control Group (n = 113) Mean ± SD	*p* value
Self-esteem	1.69 ±0.94	1.18 ± 0.73	**< 0.001**
Proactive aggression	1.76 ± 2.80	1.88 ± 2.61	0.709
Reactive aggression	8.75 ± 4.80	8.14 ± 4.31	0.374
Total aggression	9.57 ± 6.26	9.96 ± 6.55	0.598

The Mann-Whitney U test was used. SD = standard deviation

ulation strategies more than the control group, their self-esteem was lower and there was no difference between them and the control group in terms of aggression levels. They also had a higher tendency to self-harm in the abuse group. We also found that dysfunctional emotion regulation strategies increase aggression levels.

When a child is exposed to maltreatment such as physical abuse, sexual abuse, and neglect, they may have difficulty regulating emotions. Difficulty regulating emotions is both a result of trauma and a predictor of psychopathology. The data of our study support the literature in this regard [15]. When the literature is examined, it has been shown in many studies that child, adolescent, and adult sexual abuse victims have difficulty regulating emotions [5, 16]. Langevin *et al*. [5] reported that preschool children who were sexually abused, especially boys, had lower emotional regulation competencies than children who were not abused. In another study, by Berzenski [17] it has been reported that children who have been sexually abused have poorer emotion regulation skills and exhibit more abstinence and social difficulties than children who have not been abused. It has been reported that emotion regulation competence is associated with social difficulty and withdrawal behavior [17].

Wolff *et al*. [18] emphasized that intense emotional dysregulation poses a high risk for non-suicidal self-harming behavior and therefore emotional dysregulation should be well understood in treatment. Therefore, therapeutic interventions that focus on emotional awareness, expression of emotions, anger management, and the ability to empathize with others will be more beneficial than treatments that focus solely on PTSD symptoms [19].

According to Paulus *et al*. [20], symptoms of child sexual abuse include irritability, temper tantrums, and aggressive behavior, especially offensive content in younger children's games. In another study, they reported that children who were sexually abused in preschool had deficiencies in emotional regulation. It has been found that this deficiency causes more internalized behavior problems, however, it partially mediates the relationship between externalized behavior problems [8]. This shows that no matter what developmental period children have been sexually abused, they develop emotion regulation skills and as a result related behavioral problems.

Abused children may be at risk for problems with aggression. It has been found that sexually abused adolescents are more aggressive in both their own and their parents' evaluations, the younger the child, the more negative life events and the higher the dysfunction in the family, the higher their aggression [21]. It has been suggested in studies that the aggressive tendencies of both men and women are linked to sexual abuse. While there are studies suggesting that women are more aggressive, there are also studies that find the opposite [22, 23]. In contrast to the findings in other studies, no difference was found between the groups in the current study. The fact that the victims experienced abuse in adolescence and that we did not question the control group's experiences of trauma other than sexual abuse may have revealed this finding.

Ford *et al*. [24] found results parallel to our study. In a sample group of 397 children with severe emotional disorders, it was determined that reactive aggression behaviors were associated with a history of physical abuse but not sexual abuse in children with reactive aggression behaviors. Girls are equally likely to be classified as reactively aggressive regardless of their history of physical abuse, but boys with a history of physical abuse are 50% more likely to be classified as reactively aggressive than boys without a history of

physical abuse. It was found that proactive aggression was not associated with a history of physical or sexual abuse [24]. The lack of association between sexual abuse and reactive or proactive aggression maybe because it is consistent with research suggesting that sexual abuse primarily involves internalization, resolution, and developmental problems, not aggression [25]. More research is needed to determine whether the risk or severity of reactive and proactive aggression changes if sexual abuse and physical abuse occur together. The findings of this study show that sexual abuse does not affect the relationship between reactive and proactive aggression. . There are studies in the literature showing that dysfunctional emotion regulation increases aggression [26-28]. It was also found that emotion regulation affected reducing aggression [29, 30], and those who could not functionally regulate their emotions resorted to violence more frequently [31]. The research findings are similar to the literature.

Many studies have shown that there is a relationship between sexual abuse and low self-esteem in children [32]. In our study, the self-esteem of the victims of sexual abuse was found lower than the control group. This finding is consistent with the results of many studies in the literature [23, 32].

Child sexual abuse poses a risk for emotional and behavioral disorders. It has been noted that this, in turn, occurs due to the stigma, shame, powerlessness, self-blame, and personal violation that accompany sexual victimization [22]. One of these problems is self-harming behavior. Exposure to sexual abuse in childhood, the number, and severity of abuse are associated with suicidal attempts at an advanced age. However, aggressive or hostile behavior can also be a result of the traumatic experience associated with high levels of emotional distress from the abuse. It has been found that almost all victims of sexual abuse have attempted suicide at least once in their lifetime and are 2.2 times more likely to attempt suicide in their lifetime than those who have not been sexually abused [33]. While suicidal ideation, suicide attempt, and self-harming behaviors were observed in abused adolescents in our study, such behaviors were not observed in the healthy group. It has been stated that young people exposed to sexual abuse may be at higher risk of post-traumatic stress symptoms, self-harming behaviors may be particularly striking and the role of emotional dysregulation in this relationship between sexual abuse and, self-harm has been emphasized [34].

Limitations

When the limitations of our study are examined; the use of self-report scales in the study may reduce the objectivity of the data. A scale questioning the traumatic experiences of the control group was not used and the intelligence levels of the adolescents participating in the study were evaluated by clinical observation. Another limitation of our study is that the characteristics of sexual abuse are not detailed. It is important that the emotional regulation difficulties of children who are victims of abuse are well evaluated and taken into account in treatment attempts. In this way, children's self-harming thoughts and behaviors can be reduced and their self-esteem can be increased.

CONCLUSION

It has been determined that adolescents with a history of sexual abuse have more difficulty in regulating their emotions and they have more self-harming thoughts and behaviors. However, it was determined that there was no difference between the group with a history of sexual abuse and the healthy group in terms of aggression. We found that dysfunctional emotion regulation increases adolescents' aggression levels.

Authors' Contribution

Study Conception: MEU, ZÇ; Study Design: ES, ZÇ; Supervision: N/A; Funding: N/A; Materials: N/A; Data Collection and/or Processing: ES, ZÇ; Statistical Analysis and/or Data Interpretation: HŞ; Literature Review: MEU, HŞ; Manuscript Preparation: MEU, HŞ and Critical Review: ES.

Conflict of interest

The authors disclosed no conflict of interest during the preparation or publication of this manuscript.

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