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# NON-SUICIDAL SELF-INJURY IN CHILD AND ADOLESCENT PSYCHIATRIC INPATIENTS: CLINICAL CORRELATES AND HEMATOLOGICAL FINDINGS

## *Çocuk ve Ergen Psikiyatri Kliniğinde Yatan Hastalarda Kendine Zarar Verme: Klinik Korelasyonlar ve Hematolojik Bulgular*

Merve OKUYUCU[1], Selma TURAL HESAPÇIOĞLU[2,3], Mehmet Fatih CEYLAN[2,3], Cafer Doğan HACIOSMANOĞLU[3], Seda KANOĞLU YÜKSEKKAYA[4]

**Afiliasyon / Affiliation:**
[1]Ministry of Health Doğubayazıt Dr. Yasar Eryilmaz State Hospital, Department of Child and Adolescent Psychiatry, Ağrı, Türkiye.

[2]Ankara Yıldırım Beyazıt University Faculty of Medicine, Department of Child and Adolescent Psychiatry, Ankara, Türkiye.

[3]Ministry of Health Ankara Yıldırım Beyazıt University Yenimahalle Education and Research Hospital, Department of Child and Adolescent Psychiatry, Ankara, Türkiye.

[4]Binali Yıldırım Unıversity Mengücek Gazi Training And Research Hospital, Department of Child and Adolescent Psychiatry, Erzincan, Türkiye.

**Sorumlu Yazar / Correspondence:**
Specialist Doctor Merve OKUYUCU
Ministry of Health Doğubayazıt Dr. Yasar Eryilmaz State Hospital, Department of Child and Adolescent Psychiatry, Ağrı, Türkiye
E-mail: merveokuyucu06@gmail.com

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## ABSTRACT

**Objective:** Non-suicidal self-injury (NSSI) is a prevalent concern in child and adolescent psychiatry, often serving as a maladaptive coping mechanism. Despite its frequent occurrence in psychiatric inpatient settings, limited research has examined its clinical and biological correlates, particularly hematological parameters. This study investigates the prevalence of NSSI, its psychiatric and sociodemographic associations, and hematological parameters in a psychiatric inpatient population. **Method:** This study included psychiatric inpatients aged 10–18 years. Psychiatric evaluations were conducted using the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL-DSM-5). Participants were classified into NSSI and non-NSSI groups.. **Results:** NSSI was observed among hospitalized adolescents, with self-cutting as the most frequent method. The primary motivations were distress (63.9%) and coping with difficulties (13.9%). Adolescents with NSSI had higher rates of sexual abuse exposure ($p = 0.0001$) and suicide attempts ($p < 0.0001$). depressive disorder was the most common diagnosis ($p = 0.03$), with 70.2% of NSSI individuals having at least one comorbid psychiatric disorder. Hematological analyses showed significantly lower ferritin levels in the NSSI group ($p = 0.01$), while other markers did not differ. Logistic regression identified sexual abuse exposure, suicidal behavior, and low ferritin levels as predictors of NSSI. **Discussion:** NSSI is highly prevalent among psychiatric inpatients and is strongly associated with sexual abuse history, psychiatric comorbidities, and low ferritin levels. Screening for abuse history, suicidality, and iron metabolism disturbances may enhance risk assessment. Future research should explore the mechanistic role of iron metabolism in NSSI.

**Keywords**: Comorbidity, Ferritin, Self-Injurious Behavior, Sexual Abuse.

## ÖZET

**Amaç:** İntihar girişimi içermeyen kendine zarar verme davranışı (KZVD), çocuk ve ergen psikiyatrisinde yaygın bir sorundur ve sıklıkla uyumsuz bir başa çıkma mekanizması olarak görülmektedir. Psikiyatri yataklı servislerinde sık gözlemlenmesine rağmen, klinik ve biyolojik belirleyicileri, özellikle hematolojik parametrelerle ilişkisi yeterince araştırılmamıştır. Bu çalışma, psikiyatri yatış hastalarında KZVD prevalansını, ilişkili psikiyatrik sosyodemografik faktörleri ve hematolojik parametreleri incelemeyi amaçlamaktadır. **Yöntem:** Bu çalışmaya, Çocuk ve Ergen Psikiyatrisi Yataklı Servisi'nde yatan 10–18 yaş arası hastalar dahil edilmiştir. Psikiyatrik değerlendirme, Çocuklar İçin Duygudurum Bozuklukları ve Şizofreni Tarama Programı kullanılarak yapılmıştır. Katılımcılar, KZVD öyküsü olanlar ve olmayanlar olarak iki gruba ayrılmıştır. **Bulgular:** Hastaneye yatırılan ergenlerde en yaygın yöntemi kendini kesme olarak bulunmuştur. Ana motivasyonlar huzursuzluk (%63,9) ve zorluklarla baş etme (%13,9) idi. KZVD grubu, cinsel istismara maruz kalma ($p = 0,0001$) ve intihar girişimi ($p < 0,0001$) açısından anlamlı derecede daha yüksek oranlara sahipti. En yaygın psikiyatrik tanı depresif bozukluk idi ($p = 0,03$) ve KZVD grubundakilerin %70,2'sinin en az bir eş tanısı mevcuttu. Hematolojik analizler, KZVD grubunda ferritin seviyelerinin anlamlı derecede düşük olduğunu gösterdi ($p = 0,01$), ancak diğer hematolojik parametrelerde fark saptanmadı. Lojistik regresyon analizinde, cinsel istismar öyküsü, intihar girişimi öyküsü ve düşük ferritin düzeyleri KZVD için anlamlı yordayıcılar olarak belirlendi. **Tartışma:** KZVD, psikiyatri yatış hastalarında yaygın olarak görülmekte olup, cinsel istismara uğrama, intihar girişimi öyküsü ve düşük ferritin düzeyleri ile güçlü ilişkiler göstermektedir. İstismar öyküsü, intihar davranışı ve demir metabolizması bozukluklarının taranması risk değerlendirmesini geliştirebilir. Gelecekteki çalışmalar demir metabolizmasının KZVD üzerindeki olası mekanistik rolünü daha ayrıntılı olarak araştırmalıdır.

**Anahtar Kelimeler**: Cinsel istismar, Ferritin düzeyleri, İntihara yönelik olmayan kendine zarar verme, Psikiyatrik komorbiditeler.

## INTRODUCTION

Non-suicidal self-injury (NSSI) is defined as the deliberate and often repetitive damage to one's own body without suicidal intent or posing a life-threatening risk (American Psychiatric Association, 2013; Herpertz, 1995; Klonsky, 2007a). It is primarily used as a coping mechanism to alleviate emotional distress, often by shifting focus from psychological stress to physical sensations (Klonsky, 2011; Nock, 2009; Taliaferro et al., 2019; Wilkinson et al., 2011). Other motivations include self-punishment, seeking attention, or attempting to communicate distress (Klonsky, 2011; Nock, 2009; Wilkinson & Goodyer, 2011). Several theoretical models have been proposed to explain NSSI in adolescents, most of which highlight its function in emotional regulation. The prevalence of NSSI among children and adolescents varies widely, with estimates ranging from 6% to 22% (Lim et al., 2019; Taylor et al., 2018). Systematic reviews suggest that adolescent lifetime prevalence rates range from 7.5% to 46.5% (Jacobson & Gould, 2007; Rojas-Velasquez et al., 2021). The prevalence increases in child and adolescent psychiatric inpatient units, reaching up to 50% (Kaess et al., 2013). The onset of NSSI typically occurs between the ages of 12 and 14, though the behavior may persist into adulthood (Cipriano et al., 2017; Daukantaitė et al., 2021; Kiekens et al., 2023). Cutting, scratching, and hitting are among the most frequently reported methods of self-injury in adolescents (Brown & Plener, 2017; Klonsky, 2011). NSSI is frequently comorbid with psychiatric disorders, including Major Depressive Disorder (MDD), Post-Traumatic Stress Disorder (PTSD), conduct disorders, and substance use disorders (Brown & Plener, 2017; Jacobson & Gould, 2007; Muehlenkamp & Gutierrez, 2007). Among these, MDD is the most commonly diagnosed condition in adolescents engaging in NSSI, with prevalence rates ranging from 41.6% to 58% (Jacobson & Gould, 2007; Nock et al., 2006). Furthermore, a well-established association exists between NSSI and suicide attempts, with specific risk factors—such as a prolonged history of self-injury, engagement in multiple methods, and a reduced experience of physical pain—contributing to an increased likelihood of suicidal behavior (Chesin et al., 2017; Mars et al., 2019; Nock et al., 2006). Beyond psychiatric comorbidities, adverse childhood experiences have been strongly linked to NSSI (Jacobson & Gould, 2007; Maniglio, 2011). A systematic review of 71 studies identified emotional abuse as a significant risk factor, with childhood sexual abuse also being frequently associated with engagement in self-injurious behaviors (Liu et al., 2018). Recent research has begun to explore potential biological markers distinguishing individuals who engage in NSSI from those who do not. While studies in adolescent populations remain limited, preliminary findings suggest alterations in hematological parameters, such as elevated monocyte-to-lymphocyte ratio (MLR) and platelet-to-lymphocyte ratio (PLR), among adolescents with NSSI (Zheng et al., 2022). Furthermore, anemia and deficiencies in key micronutrients have been implicated in the pathophysiology of mood disorders and suicidal behavior. A study investigating late-life depression (LLD) found that serum ferritin, folate, vitamin B12, red blood cell count, hemoglobin, hematocrit, mean platelet volume, and plateletcrit levels were significantly lower in LLD patients compared to healthy older adults (Li et al., 2024). Moreover, reduced serum folate and vitamin B12 levels were negatively associated with suicide attempts, suggesting a potential role for these biomarkers in assessing suicide risk (Li et al., 2024). Although direct evidence linking these findings to NSSI remains scarce, these results highlight the need for further research into the biological underpinnings of self-injurious behaviors in different age groups. Understanding the risk factors and clinical characteristics of NSSI is essential for developing targeted prevention and intervention strategies (Wilkinson & Goodyer, 2011). However, studies investigating the prevalence, psychiatric comorbidities, and underlying mechanisms of NSSI among hospitalized children and adolescents remain scarce. This study aims to address this gap by examining the prevalence of NSSI, associated psychiatric disorders, sociodemographic characteristics, hematological parameters, methods of self-injury, and underlying motivations in a child and adolescent psychiatry inpatient population.

## METHODS

### Subjects

This retrospective study evaluated patients who were hospitalized in the Child and Adolescent Psychiatry Department of Ankara Yıldırım Beyazıt University Yenimahalle Education and Resarch Hospital. Assessments were conducted under the supervision of experienced child and adolescent psychiatrists and/or professors. All participants were assessed for psychiatric disorders using the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version, based on DSM-5 criteria (K-SADS-PL-DSM-5) (American Psychiatric Association, 2013; Kaufman et al., 2016). Those with a history of NSSI were included in the case group, while those without a history of NSSI were included in the control group. Exclusion criteria for both groups included: 1) age younger than 10 years or older than 18 years. The study was conducted at the inpatient department of the Child and Adolescent Psychiatry Clinic of Ankara Yıldırım Beyazıt University Yenimahalle Education and Resarch Hospital. Approval was obtained from the Ethics Committee of Ankara Yıldırım Beyazıt University Yenimahalle Education and Resarch Hospital (protocol number: 47, approval date: 2019). The study adhered to the principles of the Declaration of Helsinki as revised in 2000, ensuring the welfare and rights of the participants.

### Data collection tools

#### Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Version (K-SADS-PL-DSM-5)

The K-SADS-PL-DSM-5 is a semi-structured diagnostic interview, revised by Kaufman et al. (2016), designed to assess psychopathology in children aged 6 to 18 years based on DSM-5 diagnostic criteria (Kaufman et al., 2016). Certified child psychiatrists administer the interview, incorporating information from both parents/caregivers and the child to ensure a comprehensive evaluation of each symptom across various psychiatric disorders. The Turkish adaptation of this scale was conducted and its validity was examined by Unal et al. (2019).

### Socio-demographic data form

As part of routine clinical practice, clinicians administered a socio-demographic data collection form to all inpatients. This comprehensive form includes detailed information such as the patient's date of birth, school attendance, relationships with peers and teachers, socio-demographic characteristics of the patient and their family, parental marital status, personal and familial medical and psychiatric history, developmental milestones, history of NSSI and suicide attempts, as well as data on exposure to abuse (physical, psychological, sexual), neglect, bullying, and substance use.

### Statistical analyses

The data obtained from participants were analyzed using SPSS (The Statistical Package for the Social Sciences) version 22.0. Descriptive statistics were presented as frequencies and percentages. The chi-square test was used to assess relationships between categorical variables, including gender, age, length of hospitalization, history of suicide attempts, psychiatric diagnoses, and exposure to sexual abuse. Since the data did not follow a normal distribution, the Mann-Whitney U test was applied for comparisons between independent groups. Logistic regression analysis was conducted to identify predictors of NSSI. A p-value of $<0.05$ was considered statistically significant.

## RESULTS

The most frequently observed form of NSSI among patients was self-cutting, with distress being the most commonly reported reason. The methods and reasons for NSSI are presented in detail in Table 1.

**Table 1.** Methods and Reasons for NSSI

| **Method of Self-Injury** | **n** | **%** |
|---|---|---|
| Cutting | 68 | 63.0 |
| Hitting oneself | 12 | 11.1 |
| Head banging | 11 | 10.2 |
| Biting nails to the point of bleeding | 9 | 8.3 |
| Hair pulling | 4 | 3.7 |
| Punching a wall | 3 | 2.8 |
| Pinching oneself | 1 | 0.9 |
| **Reason for Self-Injury** | | |
| Distress | 69 | 63.9 |
| Coping with difficulties | 15 | 13.9 |
| To get what they want | 11 | 10.2 |
| Due to psychotic symptoms | 8 | 7.4 |
| To attract someone's attention | 5 | 4.6 |

NSSI: Non-Suicidal Self-Injury.

A comparison between individuals with NSSI and the control group revealed significant differences in exposure to sexual abuse (p=0.0001) and history of suicide attempts (p<0.0001). Additionally, depression was identified as the most prevalent psychiatric disorder among individuals with NSSI (p=0.03). The socio-demographic characteristics and psychiatric diagnoses of individuals with and without NSSI were compared, and the findings are presented in Table 2. It shows that multiple diagnoses could be assigned to the same patient in Table 2.

**Table 2.** Comparison of Sociodemographic Characteristics Between Individuals With and Without NSSI

| Variables | | Without NSSI | With NSSI | $X^2$ or t | p |
|---|---|---|---|---|---|
| **Gender** | Girl | 68 (49.6%) | 72 (66.7%) | 7.153 | **0.007** |
| | Boy | 69 (50.4%) | 36 (33.3%) | | |
| **Age (years, mean ± SD)** | | 14.5±2.4 | 14.5±2.0 | -0.719 | 0.47 |
| **Hospitalization Duration (days, mean ± SD)** | | 24.6±16.3 | 30.7±16.0 | -3.535 | **<0.0001** |
| **Suicide Attempt** | | 27 (19.7%) | 50 (46.3%) | 19.810 | **<0.0001** |
| **Psychiatric Diagnoses** | | | | | |
| **Depression** | | 51 (37.2%) | 55 (50.9%) | 4.618 | **0.03** |
| **Bipolar Affective Disorder** | | 32 (23.4%) | 20 (18.5%) | 0.846 | 0.35 |
| **Conduct Disorder** | | 31 (22.6%) | 33 (30.6%) | 1.967 | 0.16 |
| **PTSD** | | 11 (8%) | 10 (9.3%) | 0.117 | 0.73 |
| **Psychotic Disorders** | | 19 (13.9%) | 11 (10.2%) | 0.763 | 0.38 |
| **ASD** | | 11 (8%) | 10 (9.3%) | 0.117 | 0.73 |
| **Anxiety Disorders** | | 19 (13.9%) | 22 (20.4%) | 1.832 | 0.17 |
| **Conversion Disorder** | | 8 (5.8%) | 6 (5.6%) | 0.009 | 0.92 |
| **OCD** | | 6 (4.4%) | 3 (2.8%) | 0.438 | 0.51 |
| **Eating Disorders** | | 7 (5.1%) | 3 (2.8%) | 0.839 | 0.36 |
| **Substance Use Disorders** | | 7 (5.1%) | 13 (12.0%) | 3.866 | **0.04** |
| **ADHD** | | 35 (25.5%) | 33 (30.6%) | 0.755 | 0.38 |
| **ID** | | 36 (26.3%) | 35 (32.4%) | 1.103 | 0.29 |
| **Tic Disorders** | | 2 (1.5%) | 1 (0.9%) | 0.142 | 0.71 |
| **History of Sexual Abuse** | | 12 (8.9%) | 26 (24.3%) | 10.709 | **0.001** |
| **Incest** | | 3 (2.2%) | 4 (3.8%) | 0.507 | 0.477 |

NSSI: Non-Suicidal Self-Injury; PTSD: Post-Traumatic Stress Disorder; ASD: Autism Spectrum Disorder; OCD: Obsessive-Compulsive Disorder; ADHD: Attention-Deficit/Hyperactivity Disorder; ID: Intellectual Disability.

The distribution of patients is presented based on the number of comorbid psychiatric diagnoses, indicating that the majority had multiple diagnoses, with two diagnoses being the most common (40.8%). Further details are provided in Table 3.

**Table 3.** Distribution of Patients by the Number of Comorbid Psychiatric Diagnoses

| Variables | n | % |
|---|---|---|
| Patients with one diagnosis | 73 | 29,8 |
| Patients with two diagnosis | 100 | 40,8 |
| Patients with three diagnosis | 50 | 20,4 |
| Patients with four diagnosis | 19 | 7,8 |
| Patients with five diagnosis | 1 | 0,4 |
| Patients with six diagnosis | 2 | 0,8 |

Ferritin levels were found to be significantly lower in individuals with NSSI (p=0.01). Comparisons of iron, total iron-binding capacity, hemoglobin, ferritin, vitamin D, vitamin B12, and folic acid levels between adolescents with and without NSSI are presented in Table 4.

**Table 4.** Iron, Iron Binding Capacity, Hemoglobin, Ferritin, Vitamin D, Vitamin B12, and Folate Levels in Patients with and without NSSI

| Parameters | Without NSSI | With NSSI | Z | p |
|---|---|---|---|---|
| **Iron** | 90.8±47.7 | 82.6±44.9 | -1.224 | 0.22 |
| **Iron Binding Capacity** | 278.2±72.8 | 297.6±92.5 | -1.220 | 0.22 |
| **Hemoglobin** | 13.5±1.3 | 13.4±1.3 | -0.529 | 0.59 |
| **Ferritin** | 50.6±43.3 | 37.9±31.1 | -2.419 | **0.01** |
| **Vitamin B12** | 18.2±14.2 | 17.2±10.3 | -0.362 | 0.72 |
| **Vitamin B12** | 319.3±155.9 | 327.1±153.9 | -0.489 | 0.62 |
| **Folate** | 6.1±3.0 | 6.2±3.5 | -0.340 | 0.73 |

NSSI: Non-suicidal Self-Injury

To identify predictors of NSSI, a logistic regression model was constructed, including variables such as gender, history of suicide attempts, depressive disorder, substance use-related disorders, exposure to sexual abuse, and ferritin levels. The analysis indicated that exposure to sexual abuse, history of suicidal behavior, and ferritin levels were significant predictors of NSSI. These findings are presented in Table 5.

**Table 5.** Logistic Regression Analysis for Variables Predicting NSSI

| Variables | B | OR | Sig | CI |
|---|---|---|---|---|
| Exposure to Sexual Abuse | 1.165 | 3.205 | 0.01 | 1.298-7.913 |
| Suicidal Behavior | 0.968 | 2.633 | 0.003 | 1.396-4.966 |
| Ferritin Levels | -0.01 | 0.990 | 0.03 | 0.981-0.999 |

NSSI: Non-suicidal Self-Injury, OR: Odds ratio, CI: Confidence interval

## DISCUSSION

Our findings are consistent with previous studies, indicating that NSSI is more prevalent among females, particularly during the transitional phase of adolescence (Baiden et al., 2017; Dougherty et al., 2009; Groschwitz et al., 2015; Muehlenkamp & Gutierrez, 2004). During the transitional phase of adolescence, females are more likely to encounter risk factors leading to depression, which may make them more susceptible to depressive symptoms compared to males. This increased vulnerability could subsequently elevate the prevalence of both depression and NSSI (Nolen-Hoeksema & Girgus, 1994). Furthermore, the higher incidence of NSSI in females may be attributed to their greater tendency to seek help in response to emotional distress, potentially leading to higher rates of psychiatric clinic visits. In our study, individuals who engaged in NSSI exhibited a higher frequency of psychiatric comorbidities. Depression was the most commonly observed comorbid psychiatric disorder. Similar to our findings, numerous studies have identified depression as the most frequently associated psychiatric condition in individuals with NSSI (Auerbach et al., 2014; Dougherty et al., 2009; Glenn & Klonsky, 2010; Groschwitz et al., 2015; Nock et al., 2006; Perry et al., 2009). For instance, a study conducted among adolescents in the UK demonstrated that treating depression in individuals with psychiatric comorbidities reduced the risk of NSSI in these individuals (Wilkinson et al., 2011). Furthermore, a correlation exists between treatment-resistant depression and NSSI (Asarnow et al., 2011). Depression is also recognized as a significant predictor for NSSI (Baiden et al., 2017). Therefore, it can be inferred that depressive symptoms may trigger NSSI, suggesting a potential bidirectional relationship between NSSI and depression. Following depression, the most frequently observed psychiatric comorbidities in our study were Intellectual Disability (ID), Attention-Deficit/Hyperactivity Disorder (ADHD), Conduct Disorder, and Anxiety Disorder. The literature supports these findings, as studies have reported that, in addition to depression, other common comorbidities accompanying NSSI include Anxiety Disorder, PTSD, and ADHD (Auerbach et al., 2014; Baiden et al., 2017; Glenn

& Klonsky, 2010; Groschwitz et al., 2015; Klonsky, 2007b; Perry et al., 2009). In our sample, 70.2% of individuals who engaged in NSSI had multiple comorbid psychiatric disorders. This finding further strengthens the notion that psychiatric disorders contribute to the initiation of NSSI (Nock, 2009; Nock et al., 2006). Another significant comorbidity in our study was ADHD, particularly the core symptom of impulsivity. Impulsivity significantly increases the risk of NSSI, as it hampers individuals' ability to plan their behaviors, thereby promoting riskier actions (Baiden et al., 2017; Glenn & Klonsky, 2010). A clinical study reported that individuals who had previously engaged in NSSI exhibited higher levels of impulsivity compared to the general population, with those who had made multiple NSSI attempts demonstrating even greater impulsivity (Evans et al., 1996). These findings suggest that careful assessment and treatment of ADHD in adolescents may reduce impulsive behaviors and, consequently, lower the risk of NSSI. Regarding the forms of NSSI, we found that self-cutting was the most common form of NSSI among hospitalized patients. Similar results have been reported in other studies (Auerbach et al., 2014; Dougherty et al., 2009; Gromatsky et al., 2020; Groschwitz et al., 2015; Klonsky, 2011; Muehlenkamp & Gutierrez, 2004). The relative accessibility of sharp objects may explain the higher prevalence of self-cutting. Our study also identified distress as the most common reason for NSSI attempts. It is well-established that NSSI is frequently used as a means of alleviating negative emotions (Klonsky, 2007b, 2011; Nock, 2009; Taliaferro et al., 2019). This suggests that NSSI may serve as an outlet to escape feelings of distress and emotional turmoil. Additionally, another common reason for NSSI in our study was the desire to attract the attention of others. Adolescents may engage in NSSI as a way to garner attention (Klonsky, 2011; Wilkinson et al., 2011), which can be interpreted as an effort to communicate or a cry for help. A noteworthy finding in our study was the significant correlation between sexual abuse and NSSI attempts. Childhood sexual abuse is a significant adverse event that increases the likelihood of self-harm and suicidal behaviors later in life (Chaplo et al., 2015; Maniglio, 2011). Sexual abuse is consistently highlighted as a risk factor that significantly elevates the risk of NSSI (Auerbach et al., 2014; Baiden et al., 2017; Chaplo et al., 2015). The higher prevalence of sexual abuse among girls compared to boys may help explain the greater incidence of NSSI among females in our study (Ford et al., 2008). Moreover, our study found that individuals who engaged in NSSI had a significantly higher history of suicide attempts compared to the control group. A study conducted in the United States found that 70% of adolescents who had recently engaged in NSSI had attempted suicide at least once in their lifetime (Nock et al., 2006). This study suggested that repeated NSSI attempts, along with an increased tolerance to pain, may lead individuals to experience less pain and engage in more impulsive behaviors, ultimately resulting in a higher risk of suicide attempts (Nock et al., 2006). Furthermore, adolescents who engage in NSSI and do not receive appropriate professional support may struggle to cope with emotional distress, which can exacerbate suicidal thoughts (Taliaferro et al., 2019). These findings underscore the importance of clinicians regularly screening for NSSI in adolescents and providing timely, empathetic interventions (Muehlenkamp & Lau, 2016). Finally, our study explored the relationship between ferritin levels and NSSI. Iron status plays a crucial role in brain function, cognition, and behavior, with ferritin serving as a key clinical marker of iron levels (Huan et al., 2021). Iron deficiency, often reflected in lower ferritin levels, is associated with mood disorders (Yue et al., 2021). In line with this, our findings revealed that individuals with NSSI had significantly lower ferritin levels compared to those without NSSI. This suggests a potential association between iron metabolism and NSSI, supporting previous research that highlights the role of iron homeostasis in emotional regulation and impulsivity. In this study, the prevalence of NSSI among hospitalized patients was found to be 44.9%. This high prevalence may be attributed to the increased rate of psychiatric comorbidities in inpatient settings. However, the unequal distribution of gender among participants poses a limitation in interpreting gender-based differences. One of the main limitations of this study is that the control group does not consist of healthy individuals, which may limit the generalizability of the findings. Additionally, to our knowledge, no

prior study in Türkiye has specifically examined NSSI among child and adolescent inpatients in psychiatric clinics. Therefore, this study contributes to the literature by addressing this gap.

## CONCLUSIONS

This study highlights the high prevalence of NSSI among hospitalized children and adolescents and underscores the association between NSSI and psychiatric comorbidities, suicidal behavior, and exposure to sexual abuse. The findings suggest that identifying and addressing risk factors for NSSI in clinical settings is crucial for early intervention and prevention. Additionally, the observed relationship between lower ferritin levels and NSSI warrants further investigation to explore potential biological underpinnings. Future research with larger and more diverse samples is needed to validate these findings and develop targeted interventions for at-risk youth.

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