

# The Prevalence of Deliberate Self-Harm Behavior and its Association with Sociodemographic Features in Patients Referred to Secondary Care Psychiatric Clinic for Adolescents and Young Adults

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## ABSTRACT

The prevalence of deliberate self-harm behavior and its association with sociodemographic features in patients referred to secondary care psychiatric clinic for adolescents and young adults

**Object:** In this study, the prevalence of deliberate self-harm behavior and its association with sociodemographic features in patients referred to secondary care psychiatric clinic of adolescents and young adults was researched.

**Methods:** Overall 300 patients, who successively referred to the secondary care clinic for adolescents and young adults in Bakırköy Research and Training Hospital for Psychiatry, Neurology and Neurosurgery throughout a month were evaluated by using a sociodemographic form, a deliberate self-harm and intent screening form, and those who were found to perform a deliberative self-harm, were assessed with a deliberative self-harm inventory.

**Results:** The ratio of deliberate self-harm in all patients participated in the study was 50% (n=150). Behavior of deliberate self-harm was found to be 56.8% (n=129) in girls and 28.8% (n=21) in boys, and the difference was significant. The most frequent deliberate self-harm type was taking high dose pill (73.3%) in girls and body cutting in boys (66.7%).

**Discussion:** In our study, in one of the two adolescents treated in psychiatry clinic, a deliberate self-harm behavior was observed and this was higher among girls than boys.

**Key words:** Deliberate self-harm, adolescent, behavior

## ÖZET

İkinci basamak ergen ve genç erişkin psikiyatri polikliniğine başvuran hastalarda kasıtlı kendine zarar verme davranışının yaygınlığı ve sosyodemografik özelliklerle ilişkisi

**Amaç:** Bu çalışmada, ikinci basamak ergen ve genç erişkin psikiyatri polikliniğine başvuran hastalardaki kasıtlı kendine zarar verme davranışının yaygınlığı ve sosyodemografik özelliklerle ilişkisi araştırıldı.

**Yöntem:** Bakırköy Ord. Prof. Dr. Mazhar Osman Ruh Sağlığı ve Sinir Hastalıkları Eğitim ve Araştırma Hastanesi, Ergen ve Genç Erişkin Psikiyatri ikinci basamak polikliniğine bir ay boyunca ardışık başvuran, toplam 300 hasta, kasıtlı kendine zarar verme açısından sırasıyla sosyodemografik veri formu, kasıtlı kendine zarar verme ve niyet etme tarama formu ve kasıtlı kendine zarar verme davranışı saptananlar, kasıtlı kendine zarar verme anketi aracılığıyla değerlendirildi.

**Bulgular:** Çalışmaya katılan tüm hastalarda kasıtlı kendine zarar verme oranı %50 (n=150) idi. Kasıtlı kendine zarar verme davranışı kızlarda (%56.8) erkeklere (%28.8) göre anlamlı olarak daha yüksek oranda saptandı. En fazla görülen kasıtlı kendine zarar verme türü, kızlarda yüksek dozda ilaç içme (%73.3) iken, erkeklerde vücudunu kesme (%66.7) idi.

**Sonuç:** Çalışmamızda psikiyatri polikliniğinde tedavi gören her iki ergenden birinde kasıtlı kendine zarar verme davranışı mevcut olup, bu davranış kızlarda erkeklerden daha fazla oranda görülmekteydi.

**Anahtar kelimeler:** Kasıtlı kendine zarar verme, ergen, davranış

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## INTRODUCTION

Recent epidemiological studies showed that prevalence of deliberate self-harm behavior among adolescents is quite high. Deliberate self-harm (DSH) is defined not as a disease but “a behavior which is performed by a person to harm him/herself without an apparent suicidal intent” (1,2).

Self-harm methods are taking high dosages of medications, self-toxication, self-cutting, self-hitting, self-pinching, self-scraping, self-biting, self-hanging, self-burning, shooting her/himself, jumping from high altitudes and jumping into wells (3,4) and most frequent methods are taking high dosages of medications, self-toxication and non-fatal self-cutting (2,5). Self-harming behavior typically occurs at late adolescence period. Age of self-harming attempt varies between 6 and 75 and 78% of the ones who had this behavior are under the age of 30 and 60% are between the ages of 16 and 25 (6,7).

Although higher prevalence of self-harm behavior was reported in several studies done with adolescents, there are studies reporting no gender difference as well and self-harm behavior was found to be correlated with low level of education (7,8). Although DSH can be serious and a predictor of suicide (9), few patients apply to a professional institution (1,10). High risk factors for apparent suicidal attempt in DSH are presence of strong suicidal ideas, absence of comorbid psychiatric disease and utilization of a highly deadly method (2,4).

Personality disorder, alcohol and substance abuse, negative familial and interpersonal relationships, depression, bad performance at school and presence of chronic psychosocial and behavioral problems were found to be related with repetitive self-harm in adolescents. A high correlation was found between self-harm behavior and borderline personality disorder in not only adolescents but in adults as well. Similarly, number of self-harming adolescents hospitalized by depression, bipolar disorder and substance abuse increased in recent years (1,11).

Research showed that 14-39% of adults in general population and 40-61% of adolescents in psychiatric inpatient wards showed this type of behaviors (12-15). It was reported that currently at least 1 out of 600 people

harm themselves at a level to seek treatment (16). In a study done with 500 students from US, it was reported that 14% harmed themselves at least once (17). In a population-based study done with adolescents in Canada, prevalence of self-harm was found 17% (18). In our country, self-harming behavior was found 20.6% among children living in the streets (7). In another thesis study done in our country with high school students, one-time self-harming behavior was found 18.1% (6).

Miller (19) and Favazza (20) listed reasons of self-cutting behavior as follows:

1. Feeling of emptiness, depression and getting far away from unrealistic emotions,
2. Feeling relieved,
3. Suppressing emotional pain,
4. While getting far away from feeling of emptiness and showing that they live (16).

Childhood abuse and dissociation levels were found to be high in patients with self-harming behavior (21,22). Zoroğlu et al. (23) found in their study done in high school students that suicidal attempt was 7.6 times and self-harming behavior was 2.7 times higher in abused or neglected adolescents and also found that increase in number of trauma types is correlated with self-harm, suicide and dissociation level as well.

We aimed to investigate the prevalence, clinical and socio-demographic features of deliberate self-harming behaviors in patients admitted to adolescent and young adult psychiatry outpatient clinic.

## METHODS

All patients admitted, followed and treated consecutively for a month by adolescent and young adult second level outpatient clinic of Bakırköy Ord. Prof. Dr. Mazhar Osman Research and Training Hospital for Psychiatry, Neurology and Neurosurgery were included in this study. Second level adolescent psychiatry outpatient clinic function as a unit where adolescents evaluated in first level adolescent psychiatry outpatient clinic and thought to get benefit from psychotherapy as well as pharmacotherapy after a certain follow-up period, have been treated and followed up. During the interview, it was reported to

participants that all information collected will be confidential, their names will not be disclosed, they can leave the study anytime they like and their participation will not affect treatment program by no means.

Three hundred patients between 14-20 years old who have no active psychotic symptoms, having an intelligence level adequate to read and understand the questionnaire and gave consent to participate after being informed about the study were included in the study. During this period, 1 female patient was excluded due to illiteracy and 13 female and 3 male patients were excluded due to unwillingness to participate.

Deliberate self-harm and intent screening forms were administered consecutively to subjects being followed-up by second level adolescent and young adult psychiatry outpatient clinic. Ones with DSH behavior were also evaluated by DSH questionnaire in detail as well.

## MATERIAL

### 1. Socio-demographic Data Form:

Gender, age, educational level, working status, marital status of parents, number of siblings, number of people living at home, person who had brought up, educational status of parents, duration of psychiatric treatment and family history of psychiatric disease were asked. ICD diagnosis which the patient is being followed-up was also noted.

### 2. Deliberate Self-harm and Intent Screening Form:

This is an internationally valid, standardized, anonymous questionnaire which was prepared by members of a multi-center study investigating self-harm behavior of children and adolescents in Europe and was used to collect data from all centers where the study was done. Questionnaire taken from the article of Morey et al. published in 2008 in Ireland was translated to Turkish by authors of this study and used to screen DSH and intent. Definition of DSH was as follows: The action of carrying out one or more of the ones below without a fatal consequence.

- Attemptive behaviors (self-cutting, jumping from high) which have intention to self-harm.
- Taking prescription medicines in excessive or generally noticeable therapeutic amounts.
- Taking entertaining or illegal medications for self-harm.
- Swallowing an indigestible substance or object.

Following questions were asked to describe DSH: "Have you ever deliberately taken high dosages of medication or tried to harm yourself somehow (e.g., cutting yourself)?" "No/yes, once/yes, more than once" choices were given to answer. There were further questions about the time of the last attempt for ones confirmed their relationship with DSH. Deliberate self-harm was investigated by using following questions: "Have you ever seriously thought of taking high dosages of medication or self-harm (e.g., cutting yourself) but could not carried out during last month or year?". Answering choices were as follows: "no/yes, last month/yes, last time before one month but less than a year" (24).

### 3. Deliberate Self-Harm Inventory-DSHI:

DSHI is a behavioral-based and self-completed questionnaire developed by Gratz in 2001 (25) to evaluate DSH behavior. Turkish translation of the questionnaire was done by authors and used in the study. DSHI was prepared according to conceptual definition of DSH. This questionnaire evaluates characteristics of DSH such as frequency, duration, severity and type. DSH behavior types listed in the questionnaire were prepared based on clinical observation, history of individuals self-harmed themselves and frequent behaviors from the literature. There is a big amount of evidence that reliable information about conditions such as suicidal thoughts which cannot be easily confirmed by other methods can be provided by this questionnaire. Moreover, it was found that it can be more comfortable than clinical interview in self-reporting method when giving information about suicidal attempts and self-harm behavior of individuals (26,27). Some of the self-harm behaviors might have been reported less than their actual numbers unless described specifically (28). For

this reason, DSHI may be preferred when a higher sensitivity is required and/or investigating different forms of self-harm behavior is planned.

We administered this questionnaire to patients who responded positively to the question "Have you ever taken high dosages of medications deliberately or tried to harm yourself (such as cutting yourself) by any means?". Motivation of DSH behavior was asked at the end of the questionnaire for each item

### Statistical Evaluation

SPSS 13.0 software was used for all statistical analyses. Socio-demographic and diagnostic variables

were indicated in numerical and percent values. Biostatistical evaluation of numerical and categorical variables was done by chi-square test on the basis of frequency and percent ratios. Mean comparisons were evaluated by independent samples t-test. Level of significance was taken as  $p < 0.05$ .

### RESULTS

Among 300 patients, 75.7% (n=227) were girls and 24.3% (n=73) were boys. Mean age was  $17.35 \pm 1.62$  (14 – 20 age range). Majority of subjects were (62.7%, n=188) middle school graduates. Most of them were (71.3%, n=214) students.

**Table 1: Socio-demographic characteristics in cases with and without deliberate self-harm behavior**

	No DSH (n=150)		With DSH (n=150)		$\chi^2$	p
	n	%	n	%		
<b>Gender</b>						
Girls	98	43.2	129	56.8	17.398	<0.001
Boys	52	71.2	21	28.8		
<b>Educational Status</b>						
Primary School	7	4.7	8	5.3	1.255	0.740
Middle School	93	62.0	95	63.3		
High School	50	33.3	46	30.7		
University	0	0.0	1	0.7		
<b>Working Status</b>						
Student	113	75.3	101	67.3	2.733	0.435
Working regularly	13	8.7	16	10.7		
Working irregularly	3	2.0	6	4.0		
Unemployed	21	14.0	27	18.0		
<b>Parents' Status</b>						
Living together	127	84.7	118	78.7	5.042	0.283
Divorced/separated	17	11.3	19	12.7		
Mother dead	1	0.7	2	1.3		
Father dead	4	2.6	11	7.3		
Mother and father dead	1	0.7	0	0.0		
<b>Educational Status of Father</b>						
Illiterate	1	0.7	2	1.3	5.280	0.260
Primary School	60	40.0	73	48.7		
Middle School	36	24.0	29	19.3		
High School	38	25.3	39	26.0		
University	15	10.0	7	4.7		
<b>Educational Status of Mother</b>						
Illiterate	8	5.3	12	8.0	4.730	0.316
Primary School	75	50.0	83	55.3		
Middle School	35	23.3	25	16.7		
High School	22	14.7	25	16.7		
University	10	6.7	5	3.3		
<b>Presence of Sibling(s)</b>						
No sibling	13	8.7	20	13.3	1.668	0.196
Sibling present	137	91.3	130	86.7		
<b>Psychiatric Diagnosis</b>						
Depressive disorder	24	16.0	62	41.3	45.325	<0.001
Conduct disorder	16	10.7	27	18.0		
Somatoform disorder	22	14.7	28	18.7		
Anxiety disorder	88	58.6	33	22.0		

DSH: Deliberate self-harm behavior,  $\chi^2$ : Chi-square test

Self-harm behavior was detected in 50% (n=150) of subjects. Socio-demographic comparison of ones with self-harm behavior and ones without were compared socio-demographically and summarized in table 1 (Table 1). This behavior was present in 56.8% of girls (n=129) and 28.8% of boys (n=21). This difference was statistically significant ( $p<0.001$ ).

No statistically significant difference was found between groups according to marital status of parents, educational level of parents and presence of any family history of psychiatric disease (Table 1).

ICD-10 diagnoses of patients recruited were as follows: depressive disorder (n=86), phobic disorder (n=14), other anxiety disorders (n=77), obsessive compulsive disorder (n=30), adjustment disorder (n=25), conversion disorder (n=19), somatoform disorders (n=6), eating disorder (n=1), impulse control disorder (n=1), behavioral disorder (n=40), tic disorder (n=1). In order to establish a statistically homogenous group, patients were evaluated under a broader definition by combining diagnostic groups under main titles of ICD-10 classification. According to this, patients with phobic disorder, other anxiety disorder and obsessive-compulsive disorder were gathered under anxiety disorder; patients with adjustment disorder, conversion disorder and somatoform disorder were gathered under somatoform disorder; patients with

eating disorder, impulse control disorder, tic disorder and behavioral disorder were gathered under conduct disorder and then statistical evaluation was implemented. According to this, among subjects with self-harm behavior, 72.1% (n=62) had depressive disorder, 62.8% (n=27) had conduct disorder, 56.0% (n=28) had somatoform disorder and 27.3% (n=33) had anxiety disorder. Presence of depressive disorder was statistically significant ( $p<0.001$ ) (Table 1).

Relationship of DSH behavior with age and duration of psychiatric treatment was shown in table 2 (Table 2). According to this, mean age was found  $17.42\pm 1.50$  years in the group with deliberate self-harm behavior and  $17.28\pm 1.74$  years in the group without. There were no statistically significant difference between groups ( $t=-0.745$ ,  $p=0.457$ ). Mean duration of psychiatric treatment was found  $17.01\pm 16.98$  months in the group with deliberate self-harm behavior and  $14.72\pm 16.74$  in the group without. In the group with deliberate self-harm behavior, mean duration of treatment was lower but this was not statistically significant ( $t=-1.176$ ,  $p=0.241$ ) (Table 2).

When presence of suicidal attempt was evaluated, there was suicidal attempt in 78.0% (n=117) of subjects with DSH. No suicidal attempt was reported in subjects without self-harm behavior. This difference was found statistically significant ( $p<0.001$ ). Self-harm intention

**Table 2: Age and duration of psychiatric treatment in cases with and without deliberate self-harm behavior**

	No DSH (n=150)		DSH present (n=150)		t	p
	Mean	S.D.	Mean	S.D.		
Age (year)	17.28	1.74	17.42	1.50	-0.745	0.457
Duration of treatment (month)	14.72	16.74	17.01	16.98	-1.176	0.241

DSH: Deliberate self-harm behavior, SD: Standart deviation, t: Student's t test

**Table 3: Presence of suicidal intent, harm intent, somatic signs, presence of piercing and tatoo in cases with and without deliberate self-harm behavior**

	No DSH (n=150)		DSH present (n=150)		$\chi^2$	p
	n	%	n	%		
Presence of suicidal intent	0	0.0	117	78.0	191.803	<0.001
Deliberate self-harm intention	33	22.0	105	70.0	69.565	<0.001
Presence of somatic signs	0	0.0	70	46.7	91.304	<0.001
Presence of permanent tatoo	0	0.0	9	6.0	9.278	0.002
Presence of piercing	3	2.0	7	4.7	1.628	0.202

DSH: Deliberate self-harm behavior,  $\chi^2$ : Chi-square test

was found in 70.0% of the group with DSH behavior and 22.0% in the group without. Difference of proportions of suicidal intent between groups were highly significant ( $p < 0.001$ ). There was statistically significant differences between groups from presence of permanent tattoos ( $p = 0.002$ ) but not presence of piercing ( $p = 0.202$ ) (Table 3).

Eighty-six percent ( $n = 129$ ) of self-harming adolescents were girls and 14% were ( $n = 21$ ) were boys. In subjects with DSH behavior, age of onset of DSH behavior was  $14.70 \pm 2.15$ ; age of onset of DSH behavior was  $14.74 \pm 2.11$  in girls and  $14.43 \pm 2.46$  in boys.

“DSH questionnaire” was administered to 150 subjects with deliberate self-harm. When DSH types

were specifically examined according to this, taking high dosages of medication was detected in 73.3% ( $n = 110$ ), cutting own body in 58.7% ( $n = 88$ ), scratching words on skin in 38.0% ( $n = 57$ ), rubbing glass on skin in 33.3% ( $n = 50$ ), scratching to the point of leaving traces or bleeding in 32.7% ( $n = 49$ ), burning with cigarette in 18.7% ( $n = 28$ ), sticking sharp objects into skin in 18.7% ( $n = 28$ ), preventing healing of wounds in 16.0% ( $n = 24$ ). DSH behavior such as dripping acid to skin and scrubbing skin with bleach or detergents was not detected in the study group. When proportion of DSH types were analysed according to gender, cutting own body was detected highest (66.7%) in boys and taking high dosages of medication was highest (77.5%) in

**Table 4: Distribution of deliberate self-harm behavior according to genders**

DSH types	Girls		Boys		Total		$\chi^2$	p
	n	%	n	%	n	%		
Cutting own body	74	57.4	14	66.7	88	58.7	0.644	0.422
Burning with cigarette	25	19.4	3	14.3	28	18.7	0.309	0.578
Burning with lighter/matches	7	5.4	1	4.8	8	5.3	0.016	0.900
Scrapping words on skin	52	40.3	5	23.8	57	38.0	2.087	0.149
Scrapping pictures/figures on skin	9	7.0	2	9.5	11	7.3	0.172	0.678
Scratching to the point of leaving traces/bleeding	45	34.9	4	19.0	49	32.7	2.059	0.151
Biting to the point of irritating skin	20	15.5	2	9.5	22	14.7	0.516	0.473
Sanding the body	1	0.8	0	0.0	1	0.7	0.164	0.686
Dripping acid on skin	0	0.0	0	0.0	0	0.0	-	-
Scrubbing skin with bleach/detergents	0	0.0	0	0.0	0	0.0	-	-
Sticking sharp objects into skin	25	19.4	3	14.3	28	18.7	0.309	0.578
Rubbing glass on skin	43	33.3	7	33.3	50	33.3	0	1.000
Breaking bones	1	0.8	1	4.8	2	1.3	2.182	0.140
Hitting head leading bruises	20	15.5	1	4.8	21	14.0	1.731	0.188
Stapling leading bruises	1	0.8	0	0.0	1	0.7	0.164	0.686
Preventing healing of wounds	20	15.5	4	19.0	24	16.0	0.169	0.681
Taking high dosages of medication	100	77.5	10	47.6	110	73.3	8.257	0.004
Drinking/eating things that should not be drunk/eaten	8	6.2	1	4.8	9	6.0	0.066	0.797
Jumping from high altitudes	3	2.3	0	0.0	3	2.0	0.498	0.480
Using very high dosages of illegal drugs/stimulants	3	2.3	1	4.8	4	2.7	0.413	0.520
Other	7	5.4	1	4.8	8	5.3	0.016	0.900

DSH: Deliberate self-harm behavior,  $\chi^2$ : Chi-square test

**Table 5: Distribution of deliberate self-harm variability**

DSH type	n	%	DSH type	n	%
1	40	26.7	7	6	4.0
2	33	22.0	8	5	3.3
3	14	9.3	9	5	3.3
4	19	12.7	10	1	0.7
5	15	10.0	11	2	1.3
6	9	6.0	12	1	0.7

DSH: Deliberate self-harm behavior

**Table 6: Motivation of deliberate self-harm behavior**

Motivations according to DSH types	n	%
<b>Cutting own body</b>	88	
I wanted to die		27.3
I wanted to get relieved from sorrow and depression		15.9
I wanted to stop nightmares and remembering memories and past events which I could neither repress nor desire		12.5
<b>Burning with cigarettes</b>	28	
I wanted to show my anger towards myself		17.9
I wanted to stop feelings of despair.		14.3
I wanted to stop nightmares and remembering memories and past events which I could neither repress nor desire		10.7
I wanted to be happy.		10.7
<b>Burning with lighter/matches</b>	8	
I wanted to show my anger towards myself		37.5
I wanted to be happy.		37.5
<b>Scratching words to skin</b>	57	
I wanted to be happy.		26.3
I wanted to get relieved from sorrow and depression.		10.5
I wanted to attract attention of someone else.		10.5
<b>Scrapping pictures/figures on skin</b>	11	
I wanted to be happy.		18.2
I wanted to show my anger towards myself.		18.2
<b>Scratching to the point of leaving traces/bleeding</b>	49	
I wanted to get relieved from sorrow and depression.		22.4
I wanted to stop nightmares and remembering memories and past events which I could neither repress nor desire		14.3
I wanted to get relieved from excessive boredom.		10.2
I wanted to get relieved from stress.		10.2
I wanted to show my anger towards myself.		10.2
<b>Biting to the point of irritating skin</b>	22	
I wanted to get relieved from stress.		22.7
I wanted to get relieved from sorrow and depression.		13.6
I wanted to gain control again.		13.6
I wanted to show my anger towards myself.		13.6
<b>Sanding the body</b>	1	
I wanted to get relieved from stress.		100.0
<b>Sticking sharp objects into skin</b>	28	
I wanted to get relieved from stress.		14.3
I wanted to be happy.		14.3
I wanted to get relieved from sorrow and depression.		10.7
I wanted to get relieved from feeling nothing.		10.7
<b>Rubbing glass on skin</b>	50	
I wanted to get relieved from sorrow and depression.		14.0
I wanted to be happy.		14.0
I wanted to punish myself.		14.0
I wanted to show my anger to someone else as well.		10.0
<b>Breaking bones</b>	2	
I wanted to stop nightmares and remembering memories and past events which I could neither repress nor desire		50.0
I wanted to frighten someone else.		50.0
<b>Hitting head leading bruises</b>	21	
I wanted to punish myself.		14.0
I wanted to show my anger towards myself.		14.3
<b>Stapling leading bruises</b>	1	
I wanted to get relieved from stress.		100.0
<b>Preventing healing of wounds</b>	24	
I wanted to punish myself.		20.8
I wanted to get relieved from sorrow and depression.		12.5
I wanted to be happy.		12.5
<b>Taking high dosages of medication</b>	110	
I wanted to die.		58.2
I wanted to get relieved from sorrow and depression.		6.4
I wanted to stop feelings of despair.		6.4
I wanted to stop nightmares and remembering memories and past events which I could neither repress nor desire		6.4
<b>Drinking/eating things that should not be drunk/eaten</b>	9	
I wanted to die.		77.8
I wanted to get relieved from excessive boredom.		22.2
<b>Jumping from high altitudes</b>	3	
I wanted to die.		66.7
I wanted to know whether someone really loves me or not.		33.3
<b>Using very high dosages of illegal drugs/stimulants</b>	4	
I wanted to die.		75.0
I wanted to stop feelings of despair.		25.0
<b>Other</b>	8	
I wanted to die.		87.5
I wanted to get relieved from sorrow and depression.		12.5

DSH: Deliberate self-harm behavior

girls. There was no statistically significant difference between genders except taking high dosages of medication ( $p=0.004$ ) among self-harm types (Table 4).

In the group with DSH behavior, proportion of subjects self-harming themselves by only one method was 26.7% ( $n=40$ ), by two different methods 22.0% ( $n=33$ ), by four different methods 12.7% ( $n=19$ ) (Table 5). At most 12 types of DSH behavior was detected in one subject (0.7%). Among motivations of self-harm behavior, desire to die became first in 27.3% of 88 subjects who cut their bodies; 58.2% of 110 subjects who took high dosages of medication; 77.8% of 9 subjects who drank/ate things which should not be eaten or drunken; 66.7% of 3 subjects who jumped from high altitudes; 75.0% of 4 subjects who took very high dosages of illegal drugs/stimulants; 87.5% of 8 subjects who opened the gas valve, hit the car intentionally and etc. Desire to show own anger towards him/herself became first in 17.9% of 28 subjects who burned themselves with cigarette; 37.5% of 8 subjects who burned themselves by lighter/matches; 18.2% of 57 subjects who scratched pictures/figures on skin; in 1 subject (100.0%) who sanded his body; 14.3% of 28 subjects who stuck sharp objects into skin. Desire to relieve from sorrow and depression became first in 22.4% of 49 subjects who scratched to the point of leaving traces/bleeding; in 14.0% of 50 subjects who rubbed glass to skin. Punishing him/herself became first in 14.3% of 21 subjects who hit their heads leading bruises; in 20.8% of 24 subjects who prevented healing their wounds. Getting relieved from stress became first in 22.7% of 22 subjects who bit himself to the point of irritating skin and in 1 subject (100%) who stapled himself leading bruises. In 50% of 2 subjects who has broken their bones in order to stop nightmares; remembering memories and past events which they could neither repress nor desire became first and in 26.3% of 57 subjects scratched words on their skins, desire to be happy became first (Table 6).

## DISCUSSION

In this study which aimed to investigate prevalence of DSH behaviors and clinical and socio-demographic

characteristics of patients admitted to adolescent and young adult psychiatry outpatient clinic. Patients recruited to the study were divided into two groups called ones with DSH behavior and ones without by administering DSH and intention survey questionnaire. Prevalence of adolescents having DSH was found 50%. Adolescence seems to be a high risk period for deliberate self-harm behavior like in suicidal ideation and intent. Figures reported in other studies are different. Prevalence of self-injury behavior was reported 1% for adolescents in general and life-time prevalence of this kind of behavior for adolescents admitted to hospital for psychiatric problems was estimated 61% (29). Our group consisted of cases having psychiatric treatment and so high DSH prevalence we have found can be explained by this.

DSH was found in 56.8% of girls and 28.8% of boys. It was shown in several publications that deliberate self-harm behavior was found more prevalent in women (1,30-34). This gender difference was related to less aggressive behavioral pattern of women (35,36). However, there are studies reported no gender difference in deliberate self-harm behaviors (37,38).

Mean age was found  $17.42\pm 1.50$  in the group with DSH behavior and  $17.28\pm 1.74$  in the group without.

It is generally agreed that deliberate self-harm behavior generally starts in adolescence period and rituals may vary in different cultures (39-44). Deliberate self-harm behavior generally starts between ages 13-19. In a study done on this field, 240 women who cut themselves were interviewed and it was reported that they started cutting themselves at the age of 14 (40). In a study done in Turkey, it was reported that self-cutting behavior starts between 16-20 ages (45). Deliberate self-harm behavior generally starts in adolescence, increases, decreases or became chronic over time and ends in 10-15 years in most of the cases (41,46).

Although it was previously reported that DSH is more prevalent in girls living with one of the parents (10), having loss of parents, having divorced parents, being the single child, having a lower parental educational level and having a family history of psychiatric disease do not significantly affect deliberate self-harm behavior according to our data.

We found depressive disorder (72.1%) and conduct disorder (62.8%) as the most common psychiatric diagnoses in patients with DSH in our study. It was reported in the literature that self-harm behavior, suicidal intent and suicidal attempt increase in adolescents with depressive disorder (47-49). Wood et al. (50) found depression and suicidal attempt in a group therapy with a group of adolescents between 12 and 19 years old who deliberately self-harmed themselves at least twice a year. In a study done with 40 inpatients who self-injured themselves, 37 of them (92.5%) were found to be depressive (51) and in another study depression was found to be a risk factor in adolescents who performed deliberate self-harm behavior (52).

One of the main weak points about DSH in current literature is lack of a consistent and agreed definition of DSH (53). One of the reasons of inconsistency is utilization of deliberate self-harm, self-injury and self-mutilation terms to describe the same phenomenon reciprocally (22,54-57). Another important problem and factor of inconsistency is using the DSH term to describe behaviors having different nature. For example, while many authors are using DSH term to differentiate behaviors related with self-harm and suicide and conceptualize that self-harm is antithesis of suicidal attempts (43,58,59), others did not differentiate between self-harm and dying intents (10,60-65). For this reason, they include suicidal intent in the concept of self-harm behavior. DSH term is preferred over suicidal attempt or parasuicide terms because there are various motivations for this behavior and contains intentions unrelated to suicide. Adolescents who harmed themselves may state that they want to die; however, in the majority of them motivation is due to expression of boredom and desire to escape from compelling situations. Even though self-harm behavior might have concluded with death, person might not have intended to do so. Physical severity of self-harm is not a good indication for suicidal intent. DSH is generally described as any type of behavior such as cutting by injuring with or without intention to die, burning own body, scratching own skin, taking high dosages of medication, self-hanging, self-suffocation and push him/herself in the traffic (66).

In our study, 78% of adolescents said that they attempted suicide and a group of 22% with self-harm behavior did not report suicidal attempt. This showed that although DSH is a predictor of suicidal attempt, it should not be evaluated under the same definition.

DSH intent was found in 70% of subjects with DSH behavior and in 22% of subjects without DSH behavior. This result showed that ones with DSH behavior are highly possible to repeat this behavior.

According to DSH questionnaire we have administered, rate of subjects self-harmed themselves by a single method was found 26.7%, by more than one method was found 73.3%, by four methods or more was found 42%. At the most 12 types of DSH behavior was found in a single person (0.7%). Sixty percent of self-harming individuals reported more than one type of self-harm behavior and 21% reported four or more different behaviors. In the study of Morey et al. which was done at schools (24), 12.2% of adolescents reported self-harm through their lifetimes, 45.9% of self-harmed ones committed this action more than once and girls were found to be three times more than boys.

In our study, DSH rates were found higher than rates reported in the literature (6,7,17,18). This may be explained by working with a patient population and using a broader definition for DSH behavior.

Behaviors reported most frequently were self-cutting and taking high dosages of medication (2,5,25). However, there were no significant differences between studies for rates of other deliberate self-harm behaviors. In the study of Morey et al. (24), self-cutting was found to be the most frequent method used by both girls and boys. Most of the self-harming adolescents had used self-cutting (66%) or excessive dose intake (35.2%) methods. In our study, following rates were found: 73.3% for taking high dosages of medication, 58.7% for cutting own body, 38% for scratching words on the skin, 33.3% for rubbing glass on the skin, 32.7% for scratching to the point of leaving traces/bleeding, 18.7% for burning with cigarette, 18.7% for sticking sharp objects into skin, 16% for preventing healing of wounds. When types of DSH were evaluated according to gender, cutting own body had the highest rate in boys (66.7%) and taking high dosages of medication had the

highest rate in girls (77.5%). There were no differences between genders among self-harming types except taking high dosages of medication.

We evaluated DSH motivations separately for each behavior in our study. When it was asked to ones with DSH behavior why they behaved like that, desire to die was the first reason declared at subjects with self-cutting their bodies, taking high dosages of medication, eating/drinking things which should not be eaten/drunk, jumping from high altitudes, taking very high dosages of illegal drugs/stimulants and other types of deliberate self-harm such as opening the gas valve or deliberately hitting the car. Desire to show his/her anger towards him/herself was the first reason in subjects burned themselves with cigarette and lighter/matches, scratching pictures/figures to their skins, sanding their own bodies and sticking sharp objects into their skins. Getting relieved from sorrow and depression became first in subjects who scratched themselves to the point of leaving traces/bleeding and rubbing glass to their skins, self-punishing became first in subjects who hit their heads leading bruises and prevented their wounds from healing, getting relieved from stress became first in subjects who bit their skins to the point of irritating skin and stapling leading bruises, stopping nightmares and remembering memories and past events which they could neither repress nor desire became first in subjects who broke their bones and becoming happy became first in subjects who scratched words on their skins. Although desire to die had been a frequently mentioned

reason, it is important that in our study this was not mentioned as a single reason for DSH except 10 subjects (0.6%) who deliberately self-harmed themselves because this reflects a behavior which adolescent expressed the deep anxiety which he/she avoided to cope with. Moreover, these findings support the idea that not all DSH cases are due to suicidal tendency.

One of the limitations of our study was that it was done only with cases that were admitted to psychiatry outpatient clinic and treated with a specific diagnosis. Also, although adolescents answered the questions on their own, some of them came to the clinic with their parents and this might have caused pressure on them to avoid "real" reporting of deliberate self-harm behaviors. Turkish translated version of DSH questionnaire was used but lack of its validity and reliability study can be interpreted as a limitation as well.

## CONCLUSION

In our study, DSH behavior was found in one out of every adolescent treated in psychiatry outpatient clinic. This behavior was detected more in girls than boys. Due to highly probable repetitive DSH behavior in a substantial number of adolescents, child and adolescent psychiatrists should search for self-harm behavior and intent in cases admitted to them and there is a need for new programs to prevent self-harm behavior and have them gained problem solving skills with treatment of current psychiatric condition.

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