

Self - cutting behavior in juvenile delinquents*

Umaporn Trangkasombat**

Vachira Larpboonsarb**

Trangkasombat U, Larpboonsarb V. Self - cutting behavior in juvenile delinquents.
Chula Med J 1996 Sep;40(9): 703-12

Objective : *To study self-injurious behavior in juvenile delinquents*

Design : *Case-control study*

Setting : *Three correctional facilities in Bangkok*

Subjects : *The case group consisted of 41 juveniles who engaged in self-cutting behavior and the control group consisted of 55 juveniles who had never engaged in such behavior.*

Instruments : *The data-gathering instruments were a semistructured interview on background data and self-injurious behavior, the K-SADS-E (Children's Version of the Schedule for Affective Disorders and Schizophrenia - Epidemiologic Version) and the CES-D (Center for Epidemiologic Studies - Depression Scale).*

Results : *Thirty nine percent of the case group engaged in self-cutting before admission to the facilities, and in the remaining 61 % of the cases the behavior started during the detention period. The common sites of cuts were the arms, wrists, abdomen, thighs and the scalp. The items used were razor blades, knives and glass. All self-cutters received psychiatric diagnoses compared with 81.8% in the non-cutters ($P < .01$). The most*

*This study was supported by the Rajadapiseksompoj Funds, 1992.

**Department of Psychiatry, Faculty of Medicine, Chulalongkorn University.

frequent diagnoses were substance use and conduct disorders. A history of aggressive behavior was more frequent in the cutting group, but suicidal behavior and the severity of depression were not different among the two groups. Compared with non-cutters, self-cutters had family backgrounds characterized by higher rates of alcoholism in the fathers, psychiatric illness in parents and violence between parents.

Conclusion : *This study showed that self-cutters were more disturbed than non-cutters. Appropriate intervention is urgently needed to prevent this high-risk behavior.*

Key words : *Self-injurious behavior, Juvenile delinquents.*

Reprint request : Trangkasombat U, Department of Psychiatry, Faculty of Medicine,
Chulalongkorn University, Bangkok 10330, Thailand.

Received for publication. July 15, 1996.

อุมาพร ตรังคสมบัติ, วชิระ ลาภบุญทรัพย์. พฤติกรรมกรีดตนเองด้วยของมีคมในวัยรุ่นที่กระทำผิดกฎหมาย. จุฬาลงกรณ์เวชสาร 2539 ก.ย.;40(9): 703-12

- วัตถุประสงค์** : เพื่อศึกษาเกี่ยวกับพฤติกรรมกรีดตนเองด้วยของมีคมในวัยรุ่นที่กระทำผิดกฎหมาย
- วิธีการวิจัย** : การศึกษาเปรียบเทียบแบบ case-control
- สถานที่ทำการวิจัย** : สถานฝึกและอบรมบ้านกรุณา บ้านมุกดาและบ้านอุเบกขา
- กลุ่มตัวอย่าง** : วัยรุ่นชายที่ทำร้ายตนเองโดยใช้ของมีคมกรีดตามร่างกาย จำนวน 41 คน กับวัยรุ่นชายที่ไม่เคยมีพฤติกรรมดังกล่าวจำนวน 55 คน
- เครื่องมือ** : แบบสัมภาษณ์เกี่ยวกับข้อมูลทั่วไปและพฤติกรรมที่ทำร้ายตนเอง เครื่องมือตรวจสอบสภาพจิต K-SADS-E และ แบบสอบถามอาการซึมเศร้า CES-D
- ผลการศึกษา** : ร้อยละ 39 ของกลุ่มวัยรุ่นที่มีพฤติกรรมกรีดตนเอง เคยมีพฤติกรรมดังกล่าวมาก่อนที่จะเข้ามาในสถานฝึกและร้อยละ 61 เกิดพฤติกรรมดังกล่าวในสถานฝึก การกรีดตนเองส่วนใหญ่เป็นการกรีดผิวหนังตาม แขน ขา หน้าท้อง และหนังศีรษะ ด้วยเศษแก้ว มีด และใบมีดโกน กลุ่มตัวอย่างที่กรีดตนเองทุกคนได้รับการวินิจฉัยว่ามีปัญหาทางจิตเวชในขณะที่กลุ่มที่ไม่เคยทำได้รับการวินิจฉัยเพียงร้อยละ 81.8 ความแตกต่างนี้มีนัยสำคัญทางสถิติที่ $P < .01$ การวินิจฉัยที่พบบ่อยที่สุดคือ การใช้สารเสพติด และพฤติกรรมเกเร กลุ่มที่กรีดตนเองมีพฤติกรรมก้าวร้าวรุนแรงมากกว่าอีกกลุ่มหนึ่งอย่างมีนัยสำคัญทางสถิติแต่พฤติกรรมฆ่าตัวตายในอดีต และความรุนแรงของอาการซึมเศร้า จากการวัดด้วย CES-D ไม่แตกต่างกัน นอกจากนี้ยังพบว่ากลุ่มที่กรีดตนเองมีอัตราของการติดสุราเรื้อรังในบิดา การเจ็บป่วยทางจิตเวชในบิดามารดา การใช้ความรุนแรงระหว่างบิดามารดา สูงกว่าอีกกลุ่มหนึ่ง อย่างมีนัยสำคัญทางสถิติ
- สรุป** : วัยรุ่นชายที่มีพฤติกรรมกรีดตนเองด้วยของมีคมมีความผิดปกติทางจิตในอัตราสูงกว่าวัยรุ่นที่ไม่เคยมีพฤติกรรมดังกล่าว เนื่องจากการกรีดตนเองเป็นพฤติกรรมที่มีความเสี่ยงสูง จำเป็นที่จะต้องมีมาตรการเพื่อลดอุบัติเหตุการณ์ของพฤติกรรมดังกล่าวอย่างเร่งด่วน

Self-injurious behavior (SIB) or self-mutilation is voluntary and deliberate damage done by individuals to their own bodies, but without conscious suicidal intent.⁽¹⁾ The injury is done to oneself without the aid of another person and it is severe enough for tissue damage to result.⁽²⁾ The spectrum of SIB is wide, ranging from delicate cutting of the skin to autocastration. The prevalence of SIB has been estimated at 750 per 100,000 persons per year.⁽³⁾ In a study in female delinquents the rate of SIB was as high as 86%.⁽⁴⁾

SIB is a poorly understood phenomenon in both its behavioral and biochemical aspects. It has been described in a variety of clinical settings and in various populations, such as mentally retarded individuals, patients with eating disorders or psychosis, prison populations, and individuals with character disorder, primarily borderline personality disorder.⁽⁵⁻⁷⁾ Laboratory data variously suggest the involvement of serotonergic, dopaminergic and opiate neurotransmitter systems in the expression of this behavior.⁽⁸⁻¹⁰⁾ Although no form of treatment has yet been demonstrated to be of general benefit, data suggest that therapeutic trials with dopamine or opiate antagonists and serotonin reuptake inhibitors may be of value.

Self-cutters is the predominant group among all forms of SIB, with peak incidence from 16-25 years.⁽¹¹⁾ The authors did a study among juvenile delinquents in three correctional facilities in Bangkok and found self-cutting in 42.6% of the population.⁽¹²⁾ Since people with this behavior are at risk for infection by the Human Immune Deficiency Virus and hepatitis

virus, preventive measures for this behavior are urgently needed. Consequently this study was conducted to systematically examine what characterized those juveniles who resorted to self-injury, and then to examine the differences between the self-cutting juveniles and the juveniles who, under the same circumstance which produced psychological distress (detention), did not engage in such behavior.

Subjects and method

This case-control study took place in three correctional facilities for delinquent males in Bangkok. The case group consisted of 41 adolescents who engaged in self-cutting behavior during their detention. The control group consisted of 55 males who had never engaged in such behavior either before or during their detention.

The research assistant did a 30-60 minute interview with each subject using a semistructured interview which elicited information on the background history, psychosocial variables associated with delinquency, and the nature of the SIB exhibited by the subjects. After the interview the subjects were given the CES-D (Center for Epidemiologic Studies-Depression Scale) to complete. The CES-D consists of 20 items which describe symptoms usually found in depressed people. Response on each item is made on a 4-point scale, ranging from 0, indicating "rarely, or none of the time, to 3, indicating that a symptom was present "most, or all of the time". The time frame is the "past week". The total score can range from 0 to 60.⁽¹³⁾ The study on the CES-D Thai

version, found this instrument to have good reliability ($\alpha = 0.86$) and discriminant validity and is suitable as a screen for depression in Thai adolescents.⁽¹⁴⁾

After the subjects completed the CES-D, they were interviewed by the first author, using the K-SADS-E (Children's Version of the Schedule for Affective Disorders and Schizophrenia-Epidemiologic Version) which is a semistructured psychiatric interview based on DSM III-R criteria.⁽¹⁵⁾ After the interview of 60-90 minutes by use of the K-SADS-E, the second author performed standard mental status examinations on the subjects. The final diagnosis was the consensus between both authors. Behavioral reports during the youth's detention period were collected and interviews with the subjects' counselors were done when possible.

Data analysis

All statistical analyses reported used Fisher's Exact Test, two-tail, and chi-square to calculate p values. Prevalence ratios were computed to measure the magnitude of association between variables of interest. Confidence limits (CL) were calculated to assess the reliability of the prevalence ratios.

Results

1. Background data

The comparison of background data between the self-cutting and non-cutting groups are shown in table 1. There was no statistical differences between groups regarding age, education and family variables.

Table 1. Background data.

		Cutting (N=41) Non-cutting(N=55)	
		%	%
Mean age in years (S.D)		16.7 (0.5)	16.4(0.3)
Education :	grade 1-6	56	60
	grade 7-12	44	40
Ordinal position:	only child	11	14
	first-born	28	23
	middle child	33	36
	youngest	28	27
Number of children	1-3	65	67
	>/4	35	33
Marital status of parents	living together	50	52
	divorce/separation	36	38
	one parent died	14	10

2. Behavior Pattern

The behavior patterns of the juveniles were compared. Subjects in the cutting group were more likely to have multiple fights with peers and to have used weapons in the fights ($p < .01$). They also exhibited previous suicidal behavior at a higher rate than did the non-cutting group. However, the difference did not have statistical significance (Table 3).

3. Cutting behavior

Self-cutters were interviewed regarding the methods and situation in which the cutting occurred. Of 41 cutters, 39% (16 cases) started to cut themselves long before their detention. In 61% (25 cases) cutting started during their terms in the correctional facilities. Most cuts were 4-5 inches long and deep enough to result in scars. The common sites were the arms, wrists, abdomen, thighs and the scalp. The items used by cutters were razor blades and knives. For cutting done in

the correctional facilities the most common item was a piece of glass from a soft drink bottle. Pain was reported to be absent during cutting.

4. Psychiatric evaluation

More self-cutters were given psychiatric diagnoses than those who did not engage in cutting behavior (100% and 81.8%, respectively, $P < .01$). Psychiatric disorders were found at higher rates in the cutting group than in the non-cutting group, especially conduct disorder and substance use disorder. Multiple substance use (>3 drugs) was more frequent in the cutting group (58.5% and 27.3%, respectively, $p < .05$). The drugs used among juveniles before admission to the facilities were as follows: alcohol, volatile substances, marijuana, sedatives and heroin.

The severity of depression was measured by the CES-D. The mean CES-D score in the cutting group was higher than in the non-cutting group, but the difference was not statistically significant (Table 2).

Table 2. Results of Psychiatric evaluation.

	Cutting		Non-cutting	
	N	%	N	%
Mean CES-D score(S.D.)	19.0	(9.9)	18.25	(8.1)
Received psychiatric diagnosis* ¹	41	(100.0)	45	(81.8)
Depressive disorder	9	(21.9)	7	(12.7)
Adjustment disorder	13	(31.7)	23	(41.8)
Anxiety disorder	2	(4.9)	1	(1.8)
Conduct disorder, aggressive* ²	30	(73.2)	19	(34.5)
Conduct disorder, nonaggressive* ³	7	(17.1)	2	(3.6)
Substance use* ⁴	36	(87.8)	26	(47.3)
Borderline personality disorder	2	(4.9)	-	-
Mental deficiency	-	-	1	(1.8)

*¹ $P < .01$ Fisher's exact test

*³ $P < .05$ Fisher's exact test

*² $P < .001$ O.R.=5.17 C.L.= 1.96-13.91

*⁴ $P < 10^{-4}$ O.R.=8.03 C.L.=2.50-27.44

5. Family History

Many of the juveniles in both groups came from distressed family backgrounds. Compared with non-cutting juveniles, juveniles with

self-cutting behavior had family background characterized by higher rates of alcoholism in the father, psychiatric illness in parents and violence between parents (Table 3).

Table 3. Behavior pattern and Psychosocial variables.

	Cutting		Non-cutting	
	N	%	N	%
Suicidal behavior	11/41	26.8	13/55	23.6
Fight with peers	23/41	56.1	22/55	40.0
Used weapon in fights* ¹	29/41	70.7	21/55	38.2
Alcoholism in father* ²	23/35	65.7	14/40	35.0
Psychiatric illness in parents* ³	34/34	100.0	33/43	76.7
Violence between parents* ⁴	17/40	42.5	8/50	16.0
Received severe punishment	7/40	17.5	9/50	18.0
Felt unhappy with family life	14/41	34.1	17/55	30.9

*¹ P<.01 O.R.=3.91 C.L.= 1.52-10.25

*² P<.05 O.R.=3.56, C.L.= 1.24-10.41

*³ P<.01 Fisher's exact test

*⁴ P=.01 O.R.=3.88 , C.L.= 1.32-11.70

Discussion

This is the first study of self-injurious behavior in Thailand. The aim of the study is to understand why some youths injure their bodies. Previous research has determined that most self-injurious behavior does not have suicidal intent and is usually inflicted by carefully controlled methods that are not designed to result in death. (16) In this study, the rate of suicidal behavior, depressive disorders and the severity of depressive symptoms in cutters and non-cutters were not statistically different. This suggests that SIB is not an expression of suicidality. On the other hand, it is the method individuals with psychopathology used to release intolerable feelings of tension, to acquire

control and to reconfirm the presence of their body.(1,11,17) Psychodynamic theories view self-cutters as having significant deficits in early, preverbal stages of ego development. These defects lead to the use of primitive defense mechanisms and relief from tension through physical messages.(18) Many juveniles reported either heightened tension or feelings of loneliness before the episode. Most subjects, as in previous studies, reported some degree of analgesia.(19) In some, pain was accompanied by relief and a sense of empowerment.

All (100%) of the self-cutters were given at least one psychiatric diagnosis, compared with 81.8% for the non-cutters. All diagnoses, except

for adjustment disorder, were found in higher percentages among the cutters. This implies that self-cutters were more disturbed than non-cutters. The most common diagnosis was substance use disorder. Most cutters abused at least three kinds of substances. The use of multiple substances induced feelings of euphoria and in ability to control oneself. It also reduced pain experienced during cutting. Most cutting episodes that started before detention were reported to occur during drug use.

Previous research found self-cutting to be associated with impulsiveness and antisocial traits.⁽²⁰⁾ In this study, aggressive type of conduct disorder was found in 73.2% of the cutting group. Histories of aggression and poor impulse control, such as fights with peers and the use of weapons during fighting, were also more prevalent in this group.

Many childhood conditions are found to be associated with SIB, such as loss of a parent, marital violence, physical and sexual abuse, and impulsive and self-destructive behavior in the family.⁽²¹⁾ This study found higher rates of alcoholism in fathers, parental psychiatric illness and violence between parents in the families of self-cutters. Poor impulse control and aggression in the family may manifest itself in the child in aggressive, injurious behavior toward oneself and others in later life.

Sixty-one percent of the self-cutting juveniles started the cutting behavior after admission to the facilities. There are some possible explanations for this phenomenon. First is the

isolation or confinement which has been employed as a method of punishment. Isolation has been known to increase aggression in rodents due to decrements in serotonin turnover.⁽²²⁾ In vulnerable persons, it may provoke self-injury. In the contexts such as prisons,⁽⁶⁾ correctional facilities for offenders,⁽²³⁾ and inpatient facilities,^(1,24) individuals with no prior history of self-injury until admission, became cutters. Some investigators suggest that periods of isolation should not be more than 24 hours so as to reduce the occurrence of such behavior.⁽²⁵⁾

Even with no isolation, SIB still occurs. Many cutters reported that life in the facility was boring and lonely and they did not have any meaningful things to do. Some subjects in this study described the reason for their behavior as an "admission ticket", to gain acceptance of the group. The study among teenage offenders found that self-injury may be a message of group identification and assertion.⁽²³⁾ Many events are manipulative, designed to elicit adult attention or to force transfer to a less restrictive facility.

Since self-cutting carries high risks for the transmission of HIV and hepatitis B virus, appropriate intervention is urgently needed in this population. Treatment of existing psychiatric disorders, teaching of communication skills and other productive ways of releasing tension and aggression, provision of recreational facilities and meaningful activities, and the use of medication in severe cases, may reduce the magnitude of this problem.

September 1996

References

1. Favazza AR, DeRosear L, Conterio K. Self-mutilation and eating disorders. *Suicide Life Threat Behav* 1989 Winter;19(4): 352-61
2. Winchel RM, Stanley M. Self-injurious behavior: a review of the behavior and biology of self-mutilation. *Am J Psychiatry* 1991 Mar;148(3): 306-17
3. Favazza AR, Conterio K. The plight of chronic self-injurer. *Community Ment Health J* 1988 Spring;24(1): 22-30
4. Chowanec GD, Josephson Am, Coleman C, Davis H. Self-harming behavior in incarcerated male delinquent adolescents. *J Am Acad Child Adolesc Psychiatry* 1991 Mar;30(2): 202-7
5. Van Velzen WJ. Autoplexy or self-destructive behavior in mental retardation. In: Primrose DA, ed. *Proceedings of the Third Congress of the International Association for the Scientific Study of Mental Deficiency*. Amsterdam: Swets and Zeitlinger, 1973.
6. Panton JH. The identification of predispositional factors in self-mutilation within a state prison population. *J Clin Psychol* 1962 Jan;18(1): 63-7
7. Schaffer CB, Carroll J, Abromovitz SI. Self-mutilation and the borderline personality. *J Nerv Ment Dis* 1982 Aug;170(8): 468-73
8. Gillman MA, Sandyk R. Opiatergic and dopaminergic function and Lesch-Nyhan syndrome (letter). *Am J Psychiatry* 1985 Oct;142(10):1226
9. Goldstein M, Kuga S, Kusano N, Meller E, Dancis J, Schwarcz R. Mutilative biting behavior in monkeys with unilateral ventromedial tegmental lesions of the brainstem: possible pharmacological model for Lesch-Nyhan syndrome. *Brain Res* 1986 Mar 5;367(1-2): 114-9
10. Lloyd KG, Hornykiewicz O, Davidson L, Shannak K, Farley I, Goldstein M, Shibuya M, Kelley WN, Fox IH. Biochemical evidence of dysfunction of brain neurotransmitters in the Lesch-Nyhan syndrome. *N Engl J Med* 1981 Nov 5;305(19): 1106-11
11. Pattison EM, Kahan J. The deliberate self-harm syndrome. *Am J Psychiatry* 1983 Jul;140(7): 867-72
12. Trangkasombat U, Larbboonsarp V. Psychopathology of incarcerated delinquents. In: Vistosky H, Lieh Mak F, Lopez-Ibor Juan, eds. *Proceedings of the 10th World Congress of Psychiatry*. Madrid: Excerpta Medica Medical Communication, 1996.
13. Trangkasombat U, Larbboonsarp V, Havanond P. CES-D as a screen for depression in adolescents. *J Psychiatr Assoc Thai* (in print)
14. Radloff LS. The CES-D scale: a self-report depression scale for research in general population. *Appl Psychol Measu* 1977; 1(3):385-401

15. Orvaschel H. Psychiatric interviews suitable for use in research with children and adolescents. *Psychopharmacol Bull* 1985; 21(4):737-45
16. Pao PN. The syndrome of delicate self-cutting. *Br J Med Psychol* 1969 Aug; 42(3): 195-206
17. Kafka JS. The body as transitional object: a psychoanalytic study of a self-mutilating patient. *Br J Med Psychol* 1969 Aug; 42(3):207-12
18. Graff H, Mallin R. The syndrome of the wrist cutter. *Am J Psychiatry* 1967 Jul;124(1): 36-42
19. Leibenluft E, Gardner DL, Cowdry RW. The inner experience of the borderline self-mutilator. *J Pers Disord* 1987;1317-24
20. Virkkunen M. Self-mutilation and antisocial personality disorder. *Acta Psychiatr Scand* 1976 Nov;54(5): 347-52
21. Feldman MD. The challenge of self-mutilation: a review. *Compr Psychiatry* 1988 May-Jun;29(3): 252-69
22. Valzelli L. Drugs and aggressiveness. *Adv pharmacol* 1967;5:79-108
23. Ross RR, McKay HB. *Self-Mutilation*. Lexington: Lexington Books, 1979.
24. Walsh BW, Rosen P. Self-mutilation and contagion: an empirical test. *Am J psychiatry* 1985 Jan;142(1): 119-20
25. Mitchell J, Varley C. Isolation and restraint in juvenile correctional facilities. *J Am Acad Child Adolesc Psychiatry* 1990 Mar;29(2): 251-5