Chulalongkorn Medical Journal

Volume 37
Issue 2 *February 1993*

Article 3

2-1-1993

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Trangkasombat U. Suicidal behavior in children. Chula Med J 1992 Feb; 37(2): 87-96

A retrospective study of children under age 15 who where referred for psychiatric evaluation and treatment at the Child Psychiatry Unit, Department of Psychiatry, Chulalongkorn Hospital from 1985 to 1991 revealed that from the total case load of 3986, 43 children (1.08%) were referred for suicidal behavior (ideation, threats or attempts). Thirty-one of them were girls and 12 were boys with the sex ratio of 2.6:1. The ages ranged from 9.0 to 14.8 years with the mean age of 12.95 years (S.D. = 1.48). At age 12 and above the number of suicidal children increased 4.4 times. Most children were middle or youngest child from low socioeconomic status. The family size was small with 3 or less than 3 children. Suicidal attempts, ideation and threats were found in 83.7, 9.3 and 7% respectively. The most frequent method of suicide attempts as ingestion of psychotropic agents. Precipitating events were disciplinary crises which made children feel humiliated or rejected. Dysphoric mood was found in 87.5%. The most common diagnosis was adjustment disorder. Many children exhibited either immature, impulsive or inhibited character. Children with and without repeated suicidal behavior were compared. The rate of depressive disorders in the children and psychiatric problems in parents were significantly higher in the group with repeated suicidal behavior. It was also found that depressive disorder is a risk factor for repeated suicidal behavior in children.

Key words : *Suicide, Children, Psychopathology.*

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Received for publication. April 10, 1992.

*This paper was presented at the XI World Conference in Therapeutic Communitics in Venice, Italy, October, 1992.

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อุมาพร ตรังคสมบัติ. พฤติกรรมฆ่าตัวตายในเด็ก. จุฬาลงกรณ์เวชสาร 2536 กุมภาพันธ์; 37(2): 87-96

การศึกษาย้อนหลังในผู้ป่วยเด็ก อายุต่ำกว่า 15 ปี ที่ถูกส่งมาประเมินและรับการรักษาทางจิตเวชจากหน่วยจิตเวชเด็ก แผนกจิตเวชศาสตร์ โรงพยาบาลจุฬาลงกรณ์ พบว่า ตั้งแต่ พ.ศ. 2528 ถึง พ.ศ. 2534 รวมระยะเวลา 7 ปี มีผู้ป่วยที่ถูกส่งมาด้วยปัญหาพฤติกรรมฆ่าตัวตาย 43 ราย หรือร้อยละ 1.08 จากจำนวนผู้ป่วยทั้งหมด 3,986 ราย เป็นหญิง 31 ราย และชาย 12 ราย อัตราส่วนหญิงต่อชาย เป็น 2.6:1 อายุตั้งแต่ 9 ปี ถึง 14.8 ปี อายุเฉลี่ย 12.95 ปี (ค่าเบี่ยงเบนมาตรฐาน เท่ากับ 1.48) ที่อายุ 12 ปีขึ้นไป จำนวนผู้ป่วยที่มีพฤติกรรมฆ่าตัวตายเพิ่มขึ้นเป็น 4.4 เท่า ผู้ป่วยส่วนใหญ่เป็นบุตรคนกลางหรือคนสุดท้อง มาจากเศรษฐานะต่ำ ครอบครัวมีลูก 3 คน หรือน้อยกว่า พฤติกรรมฆ่าตัวตาย พบตามลำดับดังต่อไปนี้ พยายามฆ่าตัวตาย ร้อยละ 83.7, คิดฆ่าตัวตาย ร้อยละ 9.3 และขู่จะฆ่าตัวตาย ร้อยละ 7 วิธีการพยายามฆ่าตัวตายที่พบบ่อยที่สุดคือ การกินยาเกินขนาดโดยเฉพาะยาที่ออกฤทธิ์ต่อจิตประสาท เหตุการณ์ที่กระตุ้นให้เกิดพฤติกรรมฆ่าตัวตาย คือ การถูกอบรมสั่งสอนและลงโทษ ซึ่งทำให้ผู้ป่วยรู้สึกเสียหน้า หรือไม่เป็นที่ยอมรับของผู้อื่น อารมณ์เศร้าพบร้อยละ 87.5 การวินิจฉัยที่พบบ่อยที่สุดคือ ความผิดปกติในการปรับตัว ผู้ป่วยจำนวนมาก มีลักษณะนิสัย เป็นเด็กกว่าวัย ขาดความยั้งคิดหรือเก็บกด การเปรียบเทียบผู้ป่วยที่เคยมีพฤติกรรมฆ่าตัวตายมาก่อน กับผู้ป่วยที่ไม่เคยมี พบว่ากลุ่มแรกอัตราการป่วยเป็นโรคซึมเศร้าในผู้ป่วย และความผิดปกติทางจิตในบิดามารดาสูงกว่ากลุ่มหลัง อย่างมีนัยสำคัญทางสถิติ นอกจากนี้ยังพบว่าโรคซึมเศร้าเป็นปัจจัยเสี่ยงที่สำคัญของการเกิดพฤติกรรมฆ่าตัวตายซ้ำในเด็ก

Suicidal behavior in children is a serious symptom worthy of clinical concern. Suicidal phenomenon can be defined as thoughts and/or actions that if fully carried out, may lead to serious self-destructive injury or death.[1] Suicidal behavior exists as a spectrum from nonspecific suicidal ideation, such as thoughts of death, to thoughts of one's own death, suicidal thoughts with a plan and intent to die, suicidal attempts and finally to completed suicide.[2]

Research has invariably shown that patients who demonstrate any degree of suicidality are all at much higher risk for completed suicide than are nonsuicidal patients.[3] A similarity among persons with suicidal ideation and those who actually attempt suicide has been substantiated in cross-sectional studies of children and adolescent outpatients.[2,4] Suicide rates for psychiatric patients admitted for suicidal ideation, threats and attempts are 30, 35 and 40 times higher than nonsuicidal psychiatric controls respectively.[5] This suggests that distinctions among subtypes of suicdality are less important in the prediction of risk for suicide than the presence of any suicidal indicators.[3]

In 1988 the suicide rate in Thailand was 6.3 per 100,000 population.[6] A study by Bussaratid et.al. found that in 1974 the highest rate of suicide was in the 15-24 age range (14.4 per 100,000) while the lowest rate was among children under 15 (0.45 per 100,000).[7] The finding that complete suicide is rare in children under 15 is also true in western countries.[8] However, recent research found that suicidal behavior in this age group was not uncommon and in fact it is on an increase trend.[1,9] It has been postulated that the rise in suicidal behavior in younger age group may be due to certain environmental influences, such as the increased divorce rate, geographic mobility and changes in family structure, interacting with an individual's genetic vulnerability.[10]

Studies about suicidal phenomenon in children and related risk factors were mostly done in western countries. Very few data are available regarding suicidal behavior in Thai children. The author did an extensive review of the literature and found only one study by Boonyaprakorb in which suicide attempts in children were described.[11] Due to many differences in sociocultural context, research studies in western countries carry some limitations and can not be totally extrapolated or generalized to Asian culture. There is a great need for more studies in this area in our country.

The purpose of this study is to describe the population of children under age 15 who exhibited suicidal behavior and to attempt to delineate factors that may indicate high risk for suicidal behavior in Thai children.

Method

The records of children under age 15 who were referred for suicidal behavior to the Child Psychiatry Unit, Department of Psychiatry, Chulalongkorn Hospital between 1985 to 1991 were reviewed. Only the records of the patients who expressed the wish to die at some point during the suicidal episode or during psychiatric evaluation were analysed. Those with suicidal gesture or no intention to die (for example, a girl who took 10 tablets of acetaminophen because she thought that they would cure her headache right away) as expressed during the course of treatment were excluded from the study. Data were systematically reviewed with the focus on variables which, based on literature review, are related to suicidal behavior in children. The spectrum of suicidal behavior in this study is shown in table 1. Children with previous suicidal behavior were compared with those without, on variables found to indicate high risk from other studies. Statistical analysis was performed by using Fisher's Exact Test and Student's T-Test.

Table 1. Spectrum of Suicidal Behavior.

1. Nonsuicidal:	No evidence of any self-destructive or suicidal thoughts or actions.
2. Suicidal Ideation:	Thoughts or verbalization of suicidal intention.
Examples:	(a) I want to kill myself. (b) Auditory hallucination to commit suicide.
3. Suicidal Threat:	Verbalization of impending suicidal action and/or a precursor action which, if fully carried out, could have led to harm.
Examples:	(a) I am going to run in front of a car. (b) Child puts a knife under his pillow. (c) Child stands near an open window and says he will jump out.
4. Suicide Attempt:	Actual self-destructive action which realistically would not have endangered life and did not necessitate intensive medical attention. (mild attempt)
Example:	Ingestion of a few pills and child's stomach pumped.
Or	Actual self-destructive action which realistically could have led to the child's death and may have necessitated intensive medical care. (serious attempt)
Example:	Child jumped out of fourth floor window.

Results

Demographic characteristics

From the total case load of 3986 during 7-year period, there were 43 children (1.08%) referred for suicidal behavior. There were 31 girls and 12 boys with the sex ration of 2.6:1. The ages ranged from 9.0 to 14.8 years with the mean age of 12.95 years (S.D. = 1.48). There were only 8 children under 12 years of age, with boys and girls equal in number. At age 12 and above the number of suicidal children increased 4.4 times with the sex ratio of 3.4:1. (Figure 1)

Most children came from low socioeconomic status. The educational levels of the parents were low. In the majority of them the family size was small with 3 or less than 3 children. The middle child and the youngest child outnumbered other ordinal positions. Most were still studying when suicidal episodes took place. Demographic details are shown in table 2.

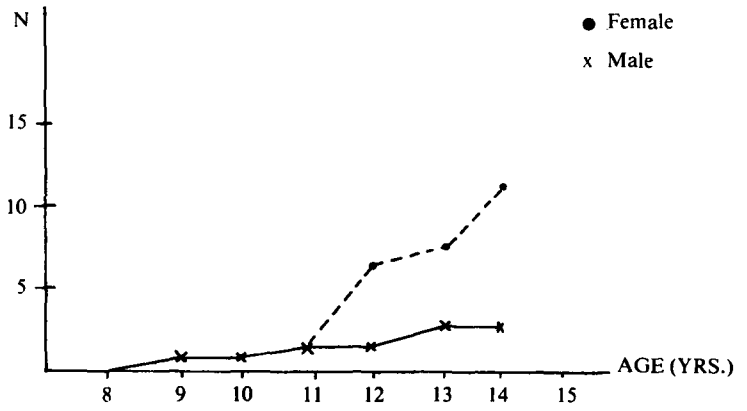

Figure 1. Age and sex distribution.

Table 2. Demographic characteristics.

	N	%
age (mean ± SD)	12.95 ± 1.48 years	
girls	31	72.1
boys	12	27.9
educational level (N = 40)		
no education	4	10
grade 1-6	18	45
grade 7-9	18	45
main activity (N = 40)		
studying	25	62.5
regular job	5	12.5
others	10	25
parent's educational level (N = 28)		
no education	1	3.6
grade 1-6	16	57.1
grade 7-12	4	14.3
college/university	7	25.0
parents' occupation (N = 37)		
unemployed	1	2.7
agriculture	5	13.5
labor	10	27.0
worker	9	24.3
vendor selling	3	8.1
business	6	16.2
government service	3	8.1
number of children in families (N = 39)		
1	6	15.4
2-3	18	46.2
> /4	14	35.9
ordinal position (N = 39)		
only child	6	15.4
first-born	7	17.9
middle child	14	35.9
youngest child	12	30.8

Suicidal Behavior

The spectrum of suicidal behavior in this group of children is shown in table 3. Suicide attempts, the most frequent type of suicidal behavior, were found in 36 cases (83.7%). The method most commonly employed was drug overdose or ingestion of lethal substance. Of the 35 cases of ingestions, 13(37.1%) were psychotropic agents especially sedatives, 9(25.7%) were analgesics and 8 (22.9%) were pesticides or insecticides. The rest were miscellaneous drugs such as anticonvulsants, mucolytics, vitamins, antihistamines, disinfectant and perfume. Mixed drug ingestions occured in 4 cases (11.4%). Many children used the drugs that belonged to the parents. Only one boy, aged 9, tried to hang himself in the bathroom after being reprimanded by his mother. Of the 36 attempts, 34 happened at home. One girl overdosed at a friend's house. The other girl persuaded her close friend to overdose with her after a fight with peers in a boarding school.

The precipitating events which were defined as environmental stressors occuring with in one month prior to the suicidal episode were disciplinary crises in 45.2% (table 4). Many children received harsh discipline or punishment. Some were threatened to be "beaten to death" by the parents. The fear and feeling of rejection or humiliation contributed to the wish to die. Academic problems were the second common precipitants. In 3 cases the precipitants were the combination of factors such as punishment for wrong doing in a child who was just told by the teacher that he had to repeat a grade. Physical illnesses were precipitants in 3 children, all of whom had been chronically ill. One child had sarcoma of the arm and underwent surgery twice. The suicidal behavior developed when she leared that her physician decided to amputate her arm because of the metastasis. The second child became suicidal when he developed juvenile rheumatoid arthritis on top of the chronic, debilitating interstitial lung disease. The third child suffered from severe systemic lupus erythematosus with multiple organ involvement. She had been admitted for months with no visitors. This child became hopeless and dysphoric and verbalized the wish to die to her physician.

Table 3. Spectrum of suicidal behavior and suicidal methods.

	ingestion	stabbing	hanging	eleclectrocution	undetermined	N	%
Ideation	1	—	—	1	2	4	9.3
Threats	1	1	—	—	1	3	7.0
Attempts	35	—	1	—	—	36	83.7
Total	**37**	**1**	**1**	**1**	**3**	**43**	**100.0**

Table 4. Precipitating events (N=42).

	N	%
disciplinary crisis	19	45.2
academic problem	6	14.3
argument/fight	5	11.9
disapproval/objection	4	9.5
fear of punishment	3	7.1
being humiliated	3	7.1
parental fight/family problem	3	7.1
physical illness	3	7.1
break up with boyfriend	1	2.4

Psychopathology

Dysphoric mood was found in 87.5% during the psychiatric evaluation and the course of treatment. As shown in table 5, the most common axis I diagnosis was adjustment disorder (65.1%), usually with depressed mood. Depressive disorders (major depression or dysthymia) were found in 34.9%. In 11 cases with dysthymia, dysphoric mood and loss of interest occured for more than a year prior to the suicidal episode. In major depression the depressive symptomes went on from a few weeks to many months. In these cases of depressive disorders the precipitants were minor events such as being reprimanded or fighting among siblings.

Conduct disorder and oppositional defiant disorder were found in 5 cases. Many children were noted to have either impulsive, immature or inhibited character. Two children, aged 11 and 13, were seriously disturbed and were given the impression of borderline character trait.

Family and environmental variables associated with suicidal behavior

As shown in table 6, family disruptions, i.e., separation, divorce and parental death were found in 14 cases (33.3%). Relationship problems either between husband and wife, parent (or caretaker) and child or between siblings were found in 38 cases (88.4%). Five children were brought up by relatives because parents were divorced and were unable or refused to take care of them. These children had poor relationship with the caretakers and rarely had any contact with the parents. One child wandered from place to place because both parents died when she was very young and she had no relatives to support her.

Psychiatric illness in parents were found in 15 out of 34 cases (44.1%). In 3 cases both parents had emotional problems. The most frequent problems found in the mothers were depressive disorders (5 out of 9 mothers) and in the fathers (6 out of 9) was alcoholism.

Suicidal behavior in the family and environmental context such as in relatives, peers or neighbors, was found in 8 out of 34 cases (23.5%). In five of these children the parents especially the mothers suffered from depressive disorders and attempted suicide or communicated suicidal wish to their children.

Table 5. Psychiatric diagnosis (N = 43).

	N	%
Adjustment disorder	28	65.1
Dysthymia	11	25.6
Major depression	4	9.3
Conduct disorder	3	7.0
Oppositional disorder	2	4.7
Psychological factor affecting Physical condition	1	2.3

Table 6. Family and environmental variables.

	N	%
Family Status (N = 42)		
intact families	28	66.7
separation/divorce	12	28.6
parental death	2	4.8
Relationship problem (N = 43)	38	88.4
Parental psychiatric illness (N = 34)	15	44.1
Suicidal behavior in child's environment (N = 34)	8	23.5

Comparison between groups with and without previous suicidal behavior.

In 38 cases enough information was available with regards to previous suicidal behavior. Half of them had suicidal behavior prior to the index episode and half did not. Both groups were compared on the following variables: psychiatric diagnosis (depressive disorders), family disruption, psychiatric illness and suicidal behavior in parents. In neither group were there significant differences in the mean age, sex or type of suicidal behavior at the index episode.

Table 7 shows that depressive disorders in the children and psychiatric illnesses in parents were significantly more frequent in the group with previous suicidal behavior. Although family disruptions and parental suicidal behavior were more frequent in this group. The difference was not statistically significant.

Depressive disorder in children has been identified as a strong risk factor. The risk of repeated suicidal behavior in a depressed child was 14.6 times higher than a non-depressed child (ODDS Ratio = 14.57, 95% confidence limits = 2.13-82.60).

Table 7. Comparison between children with and without previous suicidal behavior (N = 19 in each group).

	without previous suicidal behavior %	with previous suicidal behavior %	P
age : mean ± SD	13.21 ± 1.52	12.58 ± 1.55	0.22
girls	63.2	73.7	0.36
boys	36.8	26.3	
suicide attempt	89.5	78.9	0.33
depressive disorders	10.5	63.2	*0.00095
family disruptions (separation/divorce/parental dealth)	26.5	47.4	0.16
psychiatric illness in parents	21.1	56.3 (N = 16)	0.035
suicidal bebavior in parents	11.1 (N = 18)	18.8 (N = 16)	0.44

*ODDS RATIO = 14.57 95% confidence limits = 2.13 – 82.60

Discussion

Suicidal behavior is not uncommon in young people. Shaffer did a study among 5,000 teenagers and found suicidal ideation in 40% of the sample and suicidal attempt in 5%.[12] In this study suicidal behavior was found in only 1.08%. This figure does not reflect the true incidene of suicidal behavior in the population of psychiatrically disturbed children since only cases with suicidal behavior as chief complaints were included in the study. Taking into consideration the fact that children usually do not talk about suicide and many times clinicians fail to ask specific questions about suicide during psychiatric interview, the incidence of suicidal behavior should be higher than this.

The findings that before age 12 suicidal behavior was rare and occured in both sex equally and the dramatic increase in suicidal behavior during puberty corresponded with many studies in western countries.[1,8] One reason for this phenomenon is that young children have physical and cognitive limitation and also skill to plan and complete suicide.

In the United States acetaminophen overdose is the most frequent method of attempting suicide in children and adolescents.[13] In this study the most common method in both sex is ingestion of psychotropic drugs. One factor contributing to this is the accessibility to these drugs since no prescription is needed to obtain them.

Suicidal behavior has been viewed as the symptom of acute emotional distress on top of longstanding problems.[1] The precipitating events found in this study were not different from other studies.[11,14] Almost all children had problems in the relationship with significant persons in their life especially the parents. This relationship problem undermined the sense of security and sense of purpose in their life. In children with preexisting difficulty, the precipitants, mostly minor, interpersonal events, act like "the last straw on the camel's back" and suicidal episode ensures.

Risk in suicide is the combination of biological, psychological and social factors.[13] Research has invariably shown that the most clearly linked to youth suicide is psychiatric disorder. Many investigators found that over 90% of adolescents who attempted suicide had psychiatric illness especially depression.[9,15,16] In this study depressive disorder is a risk factor for repeated suicidal behavior. The risk for repeated suicidal behavior of a depressed child is 14.6 times higher than a non-depressed child. Therefore, suicidal children who are depressed should be seriously.

The common personality profile in suicidal children is impulsive, immature, aggressive or inhibited.[9] Poor academic performance and antisocial behavior are consistently found in the history of adolescents who attempt suicide.[15,16] Psychiatric disorder in a person with personality problem is the lethal combination for suicide risk across the life cycle.[9]

In adult adverse early developmental experience such as death of parents, family loss, separation at early age and mental illness in the family increase the vulnerability to suicide.[3] The finding that there was significant difference in the rate of parental psychiatric illness between the group of children with in without repeated suicidal behavior underlined the importance of early experience as risk factor in children. A study by Shaffer found alcoholism and substance abuse to be a major psychiatric illness in parents.[12] In this study alcoholism was the most common problem in the father and depression was most common in the monther.

Family disruptions and suicidal behavior in the family especially in parents are major factors contributing to suicidal behavior in children.[17,18] In children with repeated suicidal behavior the rate of family disruptions and suicidal behavior in parents were higher than in the other group although the difference did not reach statistical significance. The reason may be due to the small sample size. A controlled study with larger sample size is needed to validate this finding.

Suicidal behavior is a cry for help. For most children in this study their cry has never been heard. This is reflected in the finding that most suicidal episodes occurred without appropriate intervention. In this study children with previous suicidal behavior did not receive any from of psychiatric help after the suicidal episode and no one had been heated by professionals for preexisting emotement problems. Except for one child who seen for enuresis. Most children were referred for treated of the medical complications of attempted suicide. Loss of follow-up after one or two counseling sessions was the usual picture in this study. The most consistent finding in many-follow-up studies is that adolescent suicide attempters frequently repeat their suicidal acts. The greatest risk for suicide occurs during the first 2 years.[9] Adequate follow-up is therefore very essential. Although the spectrum of suicidal behavior is broad and leads to various outcome, many investigators have come to the conclusion that any suicidal behavior is a strong risk indicator and must be taken seriously. Without appropriate intervention the tragedy eventually follows.

The findings from this study raise a number of important issues that carry implications for further research and practice.

1. Since the most frequent mean of suicide attempt is ingestion, accessibility to drugs is the first issue to consider in prevention of suicidal behavior. Physicians should be cautious in prescribing drugs which can be used to cause self-harm especially psychotropic drugs. Parents should be educated and reminded of the possibility of drug ingestion. Because many suicidal episodes happen at home, emetics or common antidotes should be available in case there is self-destructive behavior or accidental poisoning.

2. Early identification and treatment of mental illness by the primary care physician is a key element in the prevention of suicide. Physicians should be able to detect any signs of depression in young people and provide appropriate treatment.

3. High risk children such as those whose parents are seperated, dead or emotionally disturbed should be given special attention by health care professionals.

4. Coping skills training and stress management should be a part of school health education programs. School counselors should be provided information on the warning signs, causes and treatment of mental illness and suicidal behavior.

5. Medical education program should provide instruction about the diagnosis and treatment of emotional disorders especially depression and suicidal behavior.

6. Much more systematic research of the suicidal behavior in Thai children is essential. Prospective studies with standardized instruments should be carried out both in clinical and general population. Studies are also needed to identify risk factors related to suicidal behavior.

Conclusion

The results of this study suggest that suicidal behavior in children increases with age. The most frequent method of suicidal behavior is ingestion of psychotropic drugs. Suicidal children have many longstanding psychosocial problems. The study also shows that depressive disorder is the risk factor for repeated suicidal behavior in children.

Acknowledgement

The author would like to expess appreciation to Dr. Pairoj Chottivittayatarakorn, Professor Kamman Panthumchinda and Ms. Piyalumporn Havanondh for their support and assistance with the statistical analysis.

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