Characteristics of Adolescent Suicide Attempters Admitted to an Acute Psychiatric Ward in Taiwan

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Background: To investigate the characteristics of adolescent suicide attempters in Taiwan, compare with Western reports and provide reference for suicide preventive interventions in adolescence.

Methods: During a 3-year period, the charts of 109 adolescent psychiatric inpatients were retrospectively reviewed. Twenty-eight adolescents admitted to an acute psychiatric ward as a result of recent suicide attempts were investigated to unravel factors related to suicide. Fifty-five adolescents with at least 1 suicide attempt recently or in the past were analyzed for risk factors of suicidal behavior compared to others.

Results: Of the 109 adolescents admitted, 28 (25.6%) patients had been admitted due to recent suicide attempt. The most common diagnosis was depressive disorder (50%), followed by bipolar disorder (14.3%), schizophrenia (14.3%), and finally adjustment disorder (10.7%). There were significantly more girls than boys who attempted suicide. Suicide attempts increased with age, but this trend was not statistically significant. The most common precipitating factors were school stress (46%), parent–child conflict (25%), and psychopathology (25%) including feeling of hopelessness and psychotic symptoms. Adolescents with substance abuse or panic symptoms comprised a higher risk group for suicide. After discharge, 34.9% (38/109) of patients were lost to follow-up, and 15.5% (11/71) of the follow-up patients continued to manifest suicidal behavior.

Conclusion: Our study confirms some previous Western reports that adolescents with depressive disorders commonly manifest suicide attempts. There are, however, some cultural differences in risk factors. School-related problems play an important role in Taiwan among the adolescent suicides, and prior suicide attempts predict future suicidal behavior. Enhancing school-based screening for adolescents with suicide risk and transferring them to psychiatric professionals for intervention is important. We should focus suicide prevention resources mainly on the adolescent population with psychiatric illness, prior suicide attempts, and with high risk factors. [*J Chin Med Assoc* 2006;69(9):428–435]

Key Words: adolescents, psychiatry, suicide

Introduction

Suicide in adolescence has been identified as a serious public health problem worldwide.[1] In many countries, suicide rates among adolescents have been increasing. Youth suicide is the third leading cause of death in North Americans,[2] and accounts for over a fifth of all deaths of young people in the United Kingdom.[3] In 2002 in Taiwan, 218 youths (age range, 15–24 years) died of suicide, and in 2004, suicide was the second most common cause of death (6.21/100,000) of youths.[4] Suicide attempters have a strong repetition of suicide attempts. Preventive approaches to suicide have focused mainly on risk evaluation.[5] There are many studies investigating suicide risk in adolescent patients in Western countries and providing suicide

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prevention strategies.[6–9] Gould et al[6] noted that risk factors reported in the international literature include psychopathology, prior suicide attempts, sexual orientation, biologic factors, family history of suicidal behavior, parental psychopathology, parental divorce, past physical and sexual abuse, stressful life events, and school or work problems.

Among the risk factors, an important issue is the relationship between suicide of adolescents and mental disorders. Fleishman et al[10] reported that 88.6% of completed suicide in young people had a diagnosis of at least 1 mental disorder and around 49% of them were diagnosed with 2 or more disorders. Mood disorder was the leading diagnosis, followed by substance-related disorders, disruptive behavior disorders, and personality disorder. Brent et al[11] found that high risk factors among adolescent suicide victims included diagnosis of bipolar disorder, mood disorder with comorbidity, and lack of previous mental health treatment. In a follow-up study of 134 adolescent inpatients, Brent et al[12] reported that 9.7% of them had attempted suicide within 6 months after discharge, and the vast majority of those who attempted suicide had been suicidal while in the hospital. D'Eramo et al[13] found that psychiatric hospitalized adolescents with multiple suicide attempts were more likely to be female, tended to be diagnosed with at least 1 externalizing disorder, and tended to have more than 1 comorbid diagnosis. Dilsaver et al[14] found greater suicidal tendencies in adolescent girls in a mixed state of bipolar disorder. These findings suggested that psychiatric patients were at high risk for suicide and recommended that suicide prevention should target mental disorders as a whole.

Studies investigating characteristics of adolescent suicide attempters among psychiatric patients are scarce in Taiwan.[15] Chen et al[15] found that 41.8% of adolescent inpatients with mood disorders had a history of suicide attempts. Lee et al[16] found that adolescent suicide attempts were frequently precipitated by interpersonal conflicts, parent–child problems, and psychopathology. One fourth of them had strong intent to attempt suicide again.

The aims of this study were to investigate the prevalence of suicide attempts among adolescent psychiatry inpatients and to demonstrate their sociodemographic characteristics, psychiatric profiles, and risk factors. Group differences between suicide attempters and nonattempters were examined to identify the risk factors of adolescent suicide attempts. The repetition of suicide attempt after discharge was also assessed. After statistical analysis, we made comparisons with Western reports and provide reference for suicide preventive interventions in adolescents in Taiwan.

Methods

Subjects

This was a retrospective study. All the adolescent patients (12–18 years old) admitted consecutively to the acute psychiatric ward of Taipei Veterans General Hospital during a 3-year period (July 1, 2001–June 30, 2004) were included as study subjects. If patients were admitted following an attempted suicide, they were considered as subjects of "admission due to recent suicide attempt" (AS group), and detailed information concerning the suicide attempt would be collected. Suicide attempt was defined as an attempt by the subject to kill himself or herself intentionally. All other patients were referred to as "not admission due to recent suicide attempt" (not-AS group).

For further exploration of risk factors of all recent and past suicide attempts, all adolescent inpatients were further divided into "with suicide attempt experience" (SE group) if they had attempted suicide recently or in the past up to the time of the index admission, and "without suicide attempt experience" (no-SE group) if they had never attempted suicide before admission.

Procedure

The charts of all inpatient records, admission and progress notes were reviewed retrospectively. The basic data, such as sociodemographic information, psychiatric and medical diagnosis, details of suicide attempt,[17] antecedents, precipitating and risk factors, past suicide and family history, etc., were scrutinized. The psychiatric diagnosis according to Diagnostic and Statistical Manual of Mental Disorders–Fourth Edition (DSM-IV) criteria of the index hospitalization was recorded. Precipitating factors contributing to suicide attempts were categorized as school problems, parent–child conflict, interpersonal problems, and psychopathology. In the meantime, patients' follow-up conditions after discharge were entered into a datasheet by a review of their outpatient charts.

Statistical analysis

Data were analyzed with SPSS version 11.5 (SPSS Inc., Chicago, IL, USA). The proportions of categorical variables were compared with χ^2 test or Fisher's exact test. Student's t test was used to compare ordinal or continuous variables. Statistical significance was set at $p<0.05$.

Table 1. Distribution by characteristics and psychiatric diagnoses of "admission due to suicide attempt" (AS group) and "not admission due to suicide attempt" (not-AS group)

	AS group ($n=28$)	Not-AS group ($n=81$)	p
Sex: male/female	7/21	49/32	0.001
Age at admission (yr)	16.29±1.718	16.21±1.610	0.833
Past history of suicide	13 (46.4%)	23 (28.3%)	0.153
Diagnoses			
Depressive disorders*	14 (50.0%)	16 (19.8%)	0.002
Schizophrenia	4 (14.3%)	22 (27.2%)	0.168
Bipolar disorder	4 (14.3%)	20 (24.7%)	0.252
Adjustment disorder	3 (10.7%)	2 (2.5%)	0.072
Anxiety disorders†	1 (3.6%)	10 (12.3%)	0.963
ADHD, ODD, CD	2 (7.1%)	6 (7.4%)	
PDD	0	3 (3.7%)	
Psychotic disorder due to general medical condition	0	2 (1.8%)	

**Depressive disorders: major depressive disorder and dysthymic disorder; †anxiety disorders: obsessive compulsive disorder, conversion disorder, and dissociative disorder. ADHD = attention deficit hyperactivity disorder; ODD = oppositional defiant disorder; CD = conduct disorder; PDD = pervasive developmental disorder.*

Results

Prevalence of suicide attempt

Of the 109 adolescents admitted during the 3-year study period, 28 (25.7%) were admitted as a result of suicide attempt and classified into the AS group, while the other 81 patients were not admitted for recent suicide attempt and put into the not-AS group.

The reasons for index admissions in the not-AS group included violent behavior towards others (20 patients, 18.3%), serious suicidal idea (10, 9.2%), poor self-care (4, 3.7%), and other psychiatric symptoms that included auditory hallucination, delusion or other psychopathology (47, 43.1%). Therefore, approximately 1-third (38, 34.9%) of the adolescent admissions were related to suicide problems, either ideas (10, 9.2%) or attempts (28, 25.7%).

Demographic factors and diagnosis

Patients' demographic data and their diagnoses are listed in Table 1. Compared with the not-AS group, there were significantly more females (75%) in the AS group ($\chi^2=10.493$, $p=0.001$). The mean age at admission was not different between groups. Reviewing their past history yielded a finding that 46.4% of AS group patients had previous suicide attempts while only 28.3% of not-AS group patients had previous suicide attempts; however, the difference was not significant.

Among AS group patients, the most common psychiatric diagnosis was depressive disorders (including major depressive disorder and dysthymic disorder), followed by schizophrenia and bipolar disorder. When compared with the not-AS group, the AS group manifested significantly higher diagnostic rate of depressive disorders (50% *vs.* 19.8%, $\chi^2=15.787$, $p=0.002$).

Table 2. Distribution of precipitating factors for suicide attempts ($n=28$)

Precipitating factor	n (%)
School problem	**13 (46)**
Academic stress	9 (32)
Stress from teacher or school	4 (14)
Family problem	**9 (32)**
Parent–child conflict	7 (25)
Loss of relatives by death	1 (3.5)
Financial stress	1 (3.5)
Interpersonal problem	**3 (10)**
Love affair	2 (7.1)
Conflict with friend	1 (3.5)
Psychopathology	**7 (25)**
Feeling of hopelessness	6 (21)
Auditory hallucination	1 (3.5)
Adjustment problem	**2 (7.1)**

Patients may have more than 1 precipitating factor for the suicide attempt.

Precipitating factors

The precipitating factors of the AS group are shown in Table 2. The most common event was school problems (46%), which included academic performance (32%),

and conflicts with teachers or classmates (14%). The second most frequent stressor was family problems (32%), parent–child conflict (25%), and loss of a relative (7%). The third factor was underlying psychopathology (25%), including idea of hopelessness in depressive disorder (21%), and auditory hallucination in schizophrenic patients (4%).

Suicide attempt method

The most common suicide attempt method used was incision (42.85%), followed by drug overdose (32.14%) and jumping from a height (25%). The results showed that girls chose incision (57.14%) and drug overdose (33.33%) most frequently, while boys chose more lethal methods such as jumping from a height (42.85%), hanging (14.28%), and propelling oneself against a wall or into a traffic accident (Table 3).

Suicide attempt risk factors (comparison between SE and no-SE groups)

Adolescent inpatients with at least 1 suicide attempt before the index admission were categorized into the SE group ($n=55$), and those who had never attempted suicide into the no-SE group ($n=54$). Their clinical profiles are shown in Table 4. The results showed that 1 out of every 2 adolescents admitted to the acute psychiatric ward had attempted suicide in their lifetime. The SE group was significantly different from the no-SE group in its higher percentages of girls ($\chi^2=5.751$, $p=0.013$), depressive disorders ($\chi^2=21.280$, $p=0.037$), history of drug abuse ($\chi^2=4.135$, $p=0.045$), complaints of panic or somatic symptoms ($\chi^2=6.507$, $p=0.039$), and family history of mood disorder ($\chi^2=6.901$, $p=0.032$). There were no differences in parents' marital condition, patients' educational level, previous working experience, number of admissions, conduct problems, medical illness, child abuse, and family history of suicide between these 2 groups.

Table 3. Distribution by method used ($n=28$)

	Boys ($n=7$) *n* (%)	Girls ($n=21$) *n* (%)	Total *n* (%)
Incision	0 (0)	12 (57.14)	12 (42.85)
Jumping from a height	3 (42.85)	4 (19.04)	7 (25.0)
Drug overdose	2 (28.57)	7 (33.33)	9 (32.14)
Hanging	1 (14.28)	1 (3.5)	2 (7.14)
Propelling self against wall	1 (14.28)		1 (3.57)
Propelling self into traffic accident	1 (14.28)		1 (3.57)

Suicide attempter may choose more than 1 method at 1 attempt.

Follow-up conditions

Although most of the patients improved during hospitalization, 34.9% (38/109) of them were lost to follow-up after discharge. Among the 71 follow-up patients, 15.5% repeated suicide attempt after discharge. Prior suicide attempts ($\chi^2=4.470$, $p=0.034$) and depressive disorders ($\chi^2=4.470$, $p=0.034$) were found to be the risk factors related to the repeated suicidal behaviors after discharge. Among the 11 patients who attempted suicide after discharge, 6 (54%) had depressive disorder, 3 had schizophrenia, and 2 had disruptive behavior disorder. Six (54%) were boys, and 7 (63%) patients were 16–18 years old. Two patients had a past history of drug abuse, 2 had previous child abuse history, and 2 had borderline personality trait (Table 5).

Discussion

In our study, 25.7% of adolescent inpatients were admitted for recent suicide attempts and almost half of them had attempted suicide previously. These figures are rather similar to those reported in other adolescent inpatient studies in Western countries.[18–20] In Taiwan, under the effect of a strong stigma toward psychiatric illness, parents hesitate to admit their children to psychiatric ward unless their mental symptoms become very serious, such as manifesting suicidal behavior, violence, and disorganized behavior.[21]

There were no age differences noted between suicide attempters and nonattempters, both recently and in the past. A community study of adolescent suicide in Hong Kong showed that suicide rates among teenagers were lower in early adolescence than in late adolescence.[22] The inconsistency with our result was probably related to the sampling method. In our study, there was no suicide attempter younger than 11 years. Child suicide is rare in many countries, and suicide increases sharply at adolescence.[6] Adolescence is a period of rapid biological, psychological, and social change. An increasing drive for individualization, weakening of the support system, and an insecure sense of identity may lead to increasing risk for suicide. Additionally, adolescence is a period when the major psychiatric disorders begin to bloom.[11] Our result showed about half of the attempters and 1-third of the nonattempters at the index admission had previous suicide attempt history. Hawton et al[23] pointed out that a previous suicide attempt is a strong

Table 4. Comparison of the sociodemographic and psychiatric profiles between adolescents with or without suicide attempt experience (SE and no-SE groups)

	SE group ($n=55$)	No-SE group ($n=54$)	p
Sex: male/female	22/33	34/20	0.013*
Age at admission (mean ± SD) (yr)	16.24 ± 1.56	16.22 ± 1.71	0.964
Psychiatric diagnoses			0.003*
Depressive disorder	20 (36.4%)	10 (18.5%)	0.037*
Schizophrenia	13 (23.6%)	13 (24.1%)	0.957
Bipolar disorder	9 (16.3%)	15 (27.8%)	0.150
Adjustment disorder	5 (9.1%)	0	0.057
Anxiety disorder	2 (3.6%)	9 (16.6%)	0.029*
ADHD, ODD, CD	6 (11%)	2 (3.7%)	0.149
PDD	0	3 (5.4%)	
Psychotic disorder due to general medical condition	0	2 (3.7%)	
Education level			0.924
Elementary school	1 (1.8%)	1 (1.9%)	
Junior high school	21 (38.2%)	24 (44.4%)	
Senior high school	30 (54.5%)	26 (48.1%)	
Above college	3 (5.5%)	3 (5.6%)	
Have work experience	4/53	2/54	0.437
Problematic marital status of parents	22 (41.8%)	16 (35.2%)	0.213
Number of admissions			0.903
1	38	36	
2	11	11	
≥3	6	7	
History of drug abuse	10 (18.2%)	3 (5.6%)	0.045*
Complaint of panic or somatic symptoms	5 (10%)	0 (0%)	0.039*
History of medical illness	10 (18.2%)	7 (13.0%)	0.314
History of conduct disorder	8 (14.5%)	4 (7.4%)	0.189
History of child abuse	8 (14.5%)	4 (7.45)	0.189
Family history of suicide	2 (3.6%)	3 (5.6%)	0.054
Family history of mood disorder	15 (27.3%)	6 (11.1%)	0.032*

*$p<0.05$. *ADHD = attention deficit hyperactivity disorder; ODD = oppositional defiant disorder; CD = conduct disorder; PDD = pervasive developmental disorder.*

Table 5. Characteristics of adolescents who attempted suicide after discharge

Case	Sex	Age (yr)	Diagnosis	Previous suicidal attempt	Risk factor
1	F	13	Schizophrenia	Yes	None
2	F	14	Conduct disorder	Yes	Medical illness
3	F	14	MDD, BPD	Yes	Substance abuse
4	M	16	MDD, BPD, CD	Yes	Medical illness/child abuse
5	M	16	Conduct disorder	Yes	Substance abuse
6	M	18	MDD	Yes	Medical illness/panic symptoms
7	F	18	MDD	Yes	None
8	M	18	MDD	Yes	Panic symptoms
9	F	14	Schizophrenia	No	None
10	M	17	Schizophrenia	No	Child abuse
11	M	18	MDD	No	None

MDD = major depressive disorder; BPD = borderline personality trait; CD = conduct disorder.

predictor of future suicide attempt. Our study of follow-up groups also showed that prior suicide attempters were more likely to demonstrate suicidal behavior after discharge.

Suicide attempters were significantly more prevalent among girls than boys, both in the AS and SE groups (girls: 75% in AS and 60% in SE, respectively). The result is similar to many studies showing that adolescent girls

are more likely to attempt suicide, but adolescent boys are more likely to succeed in their suicide attempt.[24,25]

Educational level and job experience were not found to be risk factors of suicide in our study. However, there are reports showing that failing a grade and neither working nor being in school are risk factors of suicide.[7]

The most common diagnosis of suicide attempters was depressive disorders, followed by schizophrenia and bipolar disorder. Having a psychiatric disorder is really a predictor of suicide,[26,27] and depressive disorder has the strongest association with suicide in many studies.[28–30] Early detection of depression in children and adolescents thus becomes the most common suicide prevention strategy.

Conduct disorder or similar behavioral problems are not a risk factor of suicide, but we also found that the percentage of conduct disorder in acute psychiatric wards in Taiwan is lower (2%) than those reported in other countries (27.6% in Finland and 19% in Norway).[18,31] Community study showed the prevalence rate of conduct disorder was around 2.9% in Taiwan, 4% in Norway, and 5.5% in the Ontario Child Health Survey in Canada.[31–33] Thus, we can conclude that the utilization of psychiatric ward by adolescents with conduct disorder is lower in Taiwan, and the sample size of conduct disorder in our study is limited. Further study that focuses on this population, such as adolescents among juvenile detainees, is required.[34]

Substance abuse ($\chi^2 = 4.135$, $p = 0.045$) and somatic symptoms (such as panic-like symptoms, headache, and other somatic complaints) ($\chi^2 = 6.507$, $p = 0.039$) were noted to be high risk factors of suicide in our study. This finding is partly consistent with many studies that focus on the impact of substance abuse in suicide.[35] Yen and Shieh[36] also noted that 16% of Taiwanese adolescent methamphetamine users had suicidal ideation, and multiple factors, including illicit drug use among family members, depressive disorder, adjustment disorder, and emotional instability, correlated with suicidal ideation. Panic disorder and somatic symptoms were also found to be related to suicide in a previous study.[37]

According to another previous study, the preference of suicide attempt methods differed by gender.[6] In our study, girls mostly chose incision and drug overdose, while boys' suicide attempt methods were more sporadic and with higher mortality, including jumping from a height, propelling oneself into a wall or traffic accident, and hanging. This is consistent with the study in Oregon that found lethal methods were more likely to be chosen by males.[20] Thus, detailed investigation of suicide planning among boys who are suspected of having suicide intention is required.

The cause of adolescent suicide is multifactorial, complex, and interrelated.[18,38] Suicidal behavior is often preceded by a stressful life event, such as an interpersonal conflict, loss, or legal problems. These events may act as a precipitant for suicidal behavior in an adolescent, who often may have other underlying risk factors.[12,38] Lewinsohn et al[39] noted that variables that remained associated with suicide attempts after controlling current depression level included externalizing and internalizing problem behaviors, past psychiatric disorders, depressotypic cognition, coping mechanisms, school problems, health problems, and sex. The probability of having made an attempt increased dramatically as a function of the number of risk factors.[39]

In our study, the most common precipitating factor was school problems (46%), which included stress associated with academic performance (32%), and teacher or classmate (14%). School life is a major part of life during the adolescent period. If they cannot deal with the many stresses from school, such as academic performance and interpersonal problems, they may become frustrated and helpless, which may lead to suicide. Thus, school-based screening for child and adolescent suicide ideation is the most important strategy in many other countries,[6,7,9] and perceived academic performance has been said to be an indicator of need for assessment of adolescent suicide risk in 1 study.[40] We also speculate that academic stress from the educational system for adolescents is higher in Taiwan. Lee and Chen[16] noted that 19.4% of suicide attempts were precipitated by academic stress, and the major precipitating factor was parent–child conflicts (35.5%). A study in New Zealand of precipitating factors in serious suicide attempters among youths aged 13–24 years showed that interpersonal conflict and relationship difficulties accounted for 50% of suicide attempts and only 6% were related to school problems.[38] Thus, the support from family and school systems to resolving academic stress for adolescents in Taiwan should be strengthened immediately.

The next stressful condition that influences adolescents is family problems (32%). Among family problems, parent–child conflict is the leading factor in suicide attempts and suggests that communication among family members is very important.

Hopelessness is found to be a predictor of suicide in many studies.[41] In our study, 21% of the subjects who attempted suicide did so because of feelings of hopelessness. Thus, identifying hopeless thinking is important in psychiatric inpatients to predict their suicide attempts.

Previous physical or sexual abuse was not a risk factor for suicide in inpatients in our study. However, this may possibly be attributed to Chinese people's character. Chinese people usually do not disclose their previous traumatic events to others, and psychiatrists do not actively inquire about these events, especially

sexual abuse history, until maybe in 1 of a series of long-term intensive individual psychotherapeutic sessions. A prospective longitudinal community study aimed at clarifying the association between child abuse and subsequent suicide is required. Meanwhile, it is important to consider other risk factors, such as parental psychiatric disorders and parental substance abuse, because these problems may lead to child abuse and also contribute to their children's psychiatric illness.[6]

Family psychiatric history and family suicide history were not related to suicide attempts in inpatients, but a family history of mood disorder ($\chi^2=6.901$, $p=0.032$) was higher in suicide attempters in our study. There were 15 among the 55 suicide attempters with a family history of mood disorder, while there were only 2 among the 55 suicide attempters with a family history of suicidal behavior.

In a previous study, a family history of suicidal behavior significantly increased the risk of successful suicide and attempted suicide.[6] A family history of depression and substance abuse also increased the risk of successful suicide, even after controlling for the patients' psychopathology. Our study corresponds to the previous study in that there was a higher rate of family history of mood disorder among suicide attempters. But family history of suicidal behavior may be another secret among Chinese people because of the cultural context of the stigma of suicide in Taiwan; patients and family members cope with the stigma by explaining that suicide occurred due to "bad luck" or by insisting that it was "not a true suicide".[42]

We cannot know exactly the situation of patients who were lost during follow-up after discharge. They may be in remission, being cared for at another hospital, or dead after successful suicide. Thus, we cannot speculate on the actual mortality rate of hospitalized suicide attempters after discharge and identify the most serious risk factors for successful suicide. Psychologic autopsy study of suicidal adolescents may give us more information to enable us to prevent the next tragedy.

In the follow-up group, prior suicide attempt or depressive disorders predicted future suicidal behavior. Kjelsberg et al[43] also noted some predictive factors of repeated suicide attempts among adolescent psychiatric inpatients, including more depressive symptoms, more learning difficulties, lack of parental support, and having more immature defense mechanisms and higher score on enduring stressors. Thus, we should put more emphasis on and provide an aftercare plan for patients with past suicidal behaviors and depressive disorders. Connections with school teachers and active telephone follow-up programs by mental health professionals are required.

The first limitation of this study is that it was a retrospective design, so some data will be biased and incomplete. Also, some data from chart records was collected by face-to-face interview, and not anonymously; issues such as sexual or physical abuse history and family suicide history may be underestimated. Second, our study subjects represent only a clinical sample, not a community sample. Further prospective studies to compare with community sample and focusing on some specific groups, such as conduct disorder adolescents and abused children, are required. Third, our study only included 1 hospital in Taiwan during a 3-year period. Further study to combine with data from different areas of Taiwan is important.

In conclusion, our study suggests that suicide attempts and suicidal ideation are common in adolescent psychiatry inpatients. School-related problems play an important role in Taiwan in adolescent suicide attempts, and prior suicide attempts predict future suicidal behavior. We should focus suicide prevention resources mainly on adolescent populations with psychiatric illness, prior suicide attempts, with past psychiatric ward admission and with high risk factors, which include depressive disorder, substance abuse, and panic or somatic discomfort. The counseling system in schools should be strengthened to help resolve some precipitating factors of suicide, such as school, family, and interpersonal problems. Enhancing school-based screening for adolescents with suicide risk and transferring them to psychiatric professionals for intervention is important. The cooperation among family, school, and psychiatric professionals is to demand immediate attention to decrease the suicide attempt rate of adolescents.

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