# Suicidal ideation and adverse experiences among adolescents with their separated/divorced parents in Hue city

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**Abstract**

**Background:** Suicide continues to be a leading cause of death worldwide. Recently, more than 45,000 children in the age group of 10 to 19 years died by suicide, making it the second leading cause of death in the age group of 15 to 19, surpassed only by traffic accidents, tuberculosis, and fighting. **Objective:** To determine the prevalence of suicidal ideation among adolescents whose parents are separated/divorced; and to explore the factors associated with suicidal ideation and describe adverse experiences among adolescents. **Methods:** A cross-sectional descriptive study was conducted in 309 adolescents with separated/separated parents in Hue City. Data was collected through direct interviews using a structured questionnaire. Suicidal ideation was defined as the presence of thoughts or plans related to suicide within the last 12 months. Multivariate logistic regression was applied to identify factors associated with suicidal ideation in adolescents with separated/separated parents. **Results:** The study found that 15.5% (95% CI:11.7 - 20.1) of adolescents with separated /separated parents reported experiencing suicidal thoughts, in which men accounted 8.4% (95% CI:5.6 – 11.2) and women accounted 7.1% (95% CI:4.5 - 10.6). Several factors were identified as increasing the risk of suicidal ideation, including alcohol use (OR = 3.24; 95% CI:1.42 - 7.42), hyperactivity/inattention (OR = 4.96; 95% CI:1.58 - 15.605), and a poor quality of family relationships (OR = 4.82; 95% CI:1.26 - 18.50). On the contrary, certain factors were found to reduce the risk, including being in the 14-15 age group of 14-15 (OR = 0.26; 95% CI:0.10 - 0.69) and participating in physical activity (OR = 0.44; 95% CI:0.21 – 0.94). **Conclusions:** The research highlights a significant percentage of adolescents with separated / divided parents who experience suicidal ideation. Therefore, it is imperative for families, schools, and society to develop comprehensive strategies to monitor and address various risky behaviours among students simultaneously.

***Keywords:*** *suicidal ideation, adolescents, separation/divorce.*

## 1. INTRODUCTION

The adolescent period is marked by an important transition in a young teenager's life. Accordingly, issues of physical, mental, and social perception are gradually completed, and this period is also the most vulnerable to environmental factors. At this stage, when faced with difficulties, teenagers do not have sufficient awareness to see the issues in a general and in-depth manner. Therefore, they often use negative measures to solve the problem and see it as the best solution, one of which is suicide.

WHO's new International Classification of Diseases (ICD 11) describes suicidal ideation as 'thoughts, ideas, or ruminations about the possibility of ending one's life, from the thought that it would be better to die to complex planning' [1]. The Centres for Disease Control and Prevention (CDC) defines suicidal ideation as 'thinking, considering, or planning suicide' [2]. Along with that, the Diagnostic and Statistical Manual of Mental Disorders, 5th Update (DSM-5) also recognised suicidal ideation as 'thoughts about harming yourself with consideration or deliberately planning techniques that could cause one's own death' [3].

According to a 2019 World Health Organisation (WHO) report, more than 700,000 people, or about 1.3% of the world population, died by suicide this year. Every 45 seconds someone takes their life, and 77% of suicides take place in low- and middle-income countries. More than 45,000 children died by suicide in the age group from 10 to 19 years and this is also the fourth leading cause for the age group from 15 to 19 years (after traffic accidents, tuberculosis, and fighting). In Vietnam, the suicide rate is about 5 - 9.9 cases per 100,000 people [4]. The 2015 National Survey on Vietnamese adolescents and young people of more than 10,000 people in the 14 - 25 age group showed that 4.1% of people thought about suicide, and 25% tried to end their lives [5]. Research results in Hai Duong show

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that the rate of adolescents who have had suicidal thoughts in the last 12 months is 6.3% for boys and 8.1% for girls [6]. Additionally, recent research in high school students in Hanoi showed that 17.4% of the students had suicidal thoughts and 4.9% of the students attempted suicide [7].

This shows that the rate of suicide among Vietnamese adolescents has begun to rise and that appropriate action should be taken to address this problem. To do this, the underlying causes and factors driving suicide behaviour among adolescents should be investigated. For this reason, we conducted a research project entitled "Suicidal ideation and adverse experiences among adolescents with separated/separated parents in Hue City", with objectives: to determine the rate of suicidal ideation, describe adverse experiences; and explore some factors related to suicidal ideation among adolescents with separated/separated parents.

## 2. MATERIALS AND METHODS

### 2.1. Participants

- Inclusion criteria: students with age between 12 and 17 years old and a separated or divorcedparents. They had informed to agree to participate by their guardians.

- Exclusion criteria: students with health difficulties cannot participate in the survey, students do not agree to participate in the research, and they do not have the consent of their guardians

### 2.2. Time and place

The study was conducted in four schools (2 secondary schools and 2 high schools) in Hue.

### 2.3. Study design

Cross-sectional study

### 2.4. Sample size and sampling method

Sample size was originally calculated for estimating the prevalence of mental health problems in the large-scale project. In this study, we used this sample for surveying the suicidal ideation. A total of 309 respondents participated in the study.

**Sampling Method**

The multistage sample method was used to select students from a total of 26 secondary and 11 high schools in HueCity.

- Stage 1: A random selection of 2 secondary schools and 2 high schools.

- Stage 2: Select a sample of all students with single parents/separated parents from the 4 schools. All students were verified by the school board and the class teachers to be from families with single parents/separated parents.

### 2.5. Data collection

- Data collection tools: the toolkit was designed based on preconstructed variables, referencing the questions of the Global School Health Survey (GSHS) [9].

Investigators are trained and instructed on the toolkit and approach, interviewing research subjects.

### 2.6. Measurements

Dependent variable: Suicidal ideation (SI) of adolescents.

According to the World Health Organisation (WHO) new International Classification of Diseases, eleventh edition (ICD 11), suicide ideation is described as 'thoughts, ideas, or rumination about ending one's life, ranging from thinking it might be better to be dead to making complex plans' [1]. Therefore, we evaluated suicide ideation based on two questions over the last twelve months of whether one had ever seriously considered suicide and if one had ever made a plan for suicide. Responses are 1 = yes, 2 = no, and 3 = refused to answer. If the response to the question of having seriously considered suicide and/or having ever made a plan for suicide is yes, then it is counted as having suicide ideation. If the response is refused to respond, then it is counted as no [3,10].

Independent variable: Demographic factors: age, gender; Family factors: family economics, psychological-social-behavioural factors: internet use, physical activity, alcohol and tobacco use, experience of bullying, physical violence experience, fighting experience, mental health status (behavioural problems, emotional problems, hyperactivity, social problems, prosocial behaviour, total difficulties score), friendship; school quality; family quality.

- Family economics: Divided into two groups (poor/near-poor and middle or above).

- Internet use: Divided into two groups (no/few and many).

- Physical activity: Divided into two groups and measured within the last 7 days with at least 60 minutes a day (active or inactive).

- Use of alcohol and tobacco: Divided into two groups and measured within the last 30 days (one or more drinks/cigarettes or none).

- Friendship: Divided into two groups (with or without friends).

- Experience of bullying: Divided into two groups and measured within the last 30 days (have not been bullied and have been bullied) based on the

GSHS questionnaire [9].

- Physical violence experience: Divided into two groups and measured within the last 12 months (not been involved in physical violence and not involved in physical violence) according to the GSHS questionnaire [9].

- Involvement in aggressive behaviours: Divided into two groups and measured within the last 12 months (not been involved in aggression and not been involved in aggression).

- Mental health: Evaluated using the SDQ-25 questionnaire: The Strength and Difficulties Questionnaire consists of 25 questions assessing five issue domains on emotional problems, conduct problems, hyperactivity, peer problems, prosocial behaviours, and are scored as follows: 0 - not true, 1 - somewhat true, 2 - certainly true. Except for questions 7, 11, 14, 21, 25 each answer, respectively: 2 - not true, 1 - somewhat true, 0 - certainly true. The total of difficulties is the sum of the four above-mentioned issues (excluding prosocial behaviours). In our study, children were evaluated for abnormal, borderline, and normal mental health problems. Thus, the issues were divided into three groups for analysis as follows. Conduct problems (0 - 3 points: normal; 4 points: borderline; 5-10 points: abnormal); emotional problems (0 - 5 points: normal; 6 points: borderline; 7 - 10 points: abnormal); hyperactivity (0 - 5 points: normal; 6 points: borderline; 7 - 10 points: abnormal); peer problems (0 - 3 points: normal; 4 - 5 points: borderline; 6 - 10 points: abnormal); prosocial behaviours (6 - 10 points: normal; 5 points: borderline; 0 - 4 points: abnormal); the difficulties total (0 - 15 points: normal; 16 - 19 points: borderline; 20 - 40 points: abnormal) [11].

- School quality: We assessed it based on eight questions on the frequency of behaviours in the last 6 months, the questions revolved around topics concerning students' perception of school (joyfulness of coming to school; academic pressure; safety at school; being motivated by teachers; being listened to by teachers; being treated fairly by teachers; being criticised by teachers; receiving help from peers). Each decision was given a minimum of 1 and a maximum of 5 points depending on the exact answer, respectively: 1-never, 2-rarely, 3-sometimes, 4-often, 5-always; the critiqued by teacher aspect was scored in reverse. Scores were calculated based on summation scores of the answers and the scores ranged from 8 to 40 (Cronbach's Alpha = 0.767). It was assessed using a cut-off point with good 32 points and not good < 32 points.

- Family quality: In terms of family quality assessment, we evaluated personnel on seven questions on frequency of behaviour in the last six months, the questions revolved around students' perceptions of their parents, adults in the family (scolding, verbal abuse; pressure and expectations of learning; hitting; not feeling love; not listening, caring, sharing; comparing with friends; concern, encouragement, praise, sharing). Each question is scored from 1 to 5 depending on the specific answer as follows: 1 always, 2 often, 3 occasionally, 4 rarely, 5 never; for the factor of concern, encouragement, sharing, praise, the points are scored inversely. The score is calculated based on the sum of the answers, the score ranges from 7 to 35 (Cronbach's Alpha = 0.712) and is evaluated based on the cutoff point with good 25 points and not good < 25 points.

**2.7. Statistical Analysis**

The data collected was imported using the Epidata 3.1 software. Data processing with SPSS 20.0 software. Descriptive statistics (frequency and percentage %); Multivariatelogisticregression model was used to identify factors related to suicidal ideation and adverse experiences.

**2.8. Ethics statement**

The research was approved by the Ethics Council in Biomedical Research of the University of Medicine-Pharmacy, Hue University and the Hue University funding support with the code DHH2021-04-155.

## 3. RESULTS

### 3.1. The current state of suicidal ideation and adverse experiences of adolescents with separated/separated parents in Hue city

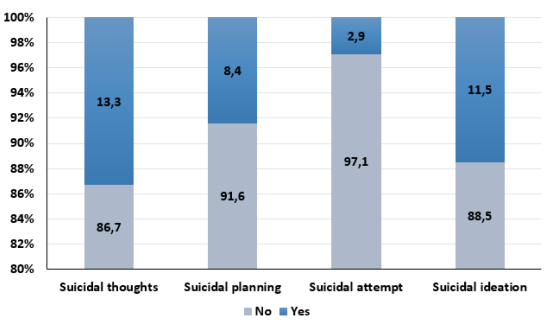


**Figure 1.** Pattern of suicidal ideation among adolescent

The proportion of children who had suicidal thoughts accounted for 13.3%, the proportion of children who had planned to commit suicide was 8.4%, and the proportion of children who attempted suicide was 2.9%. The proportion of overall suicidal ideation was 15.5% (95% CI: 11.7 - 20.1).

**Table 1.** Health risk behaviour and adverse experiences of adolescents

| Experience | | Number (n) | Percentage (%) |
|---|---|---|---|
| **Use the Internet** | No | 36 | 11.7 |
| | Yes | 273 | 88.3 |
| **Physical activity** | No | 182 | 58.9 |
| | Yes | 127 | 41.1 |
| **Bullying** | No | 284 | 91.9 |
| | Yes | 25 | 8.1 |
| **Bullying behaviour** | No | 282 | 91.3 |
| | Yes | 27 | 8.7 |
| **To be bullied** | No | 292 | 94.5 |
| | Yes | 17 | 5.5 |
| **Smoking** | No | 275 | 89.0 |
| | Yes | 34 | 11.0 |
| **Alcohol** | No | 177 | 57.3 |
| | Yes | 132 | 42.7 |
| **Close friends** | No | 20 | 6.5 |
| | Yes | 289 | 93.5 |

Table 1 shows that adolescents have to face adverse experiences of behaviour patterns such as excessive internet use (88.3%), lack of physical activities (58.9%), being a victim of violence (8.1%), being violent themselves (8.7%), being bullied (5.5%), smoking (11.0%), drinking alcohol (42.7%) and not having friends (6.5%).

**Table 2.** Family economy - family quality - school quality of teenagers with single/divorced parents

| Characteristics | | Number (n) | Percentage (%) |
|---|---|---|---|
| **Family Economics** | Poor/extremely poor | 10 | 3.2 |
| | ≥ Average | 299 | 96.8 |
| **Family Quality** | Good | 256 | 82.8 |
| | Not good | 53 | 17.2 |
| **School Quality** | Good | 212 | 68.6 |
| | Not good | 97 | 31.4 |

3.2% of the students had a difficult economic situation; 17.2% of them rated their family quality as not good, 31.4% of the students rated their educational quality as not good **(Table 2).**

**3.2. Factors related to suicidal ideation in adolescents.**

**Table 3.** Logistic regression model: predictors of suicidal ideation

| Independence variables | | Coefficient (β) | SE | OR | 95% CI | p |
|---|---|---|---|---|---|---|
| **Gender** | Male | | | 1 | | |
| | Female | - 0.32 | 0.38 | 0.73 | 0.34 - 1.55 | 0.409 |
| **Age Group** | 12 - 13 | | | 1 | | |
| | 14 - 15 | - 1.35 | 0.50 | 0.26 | 0.10 - 0.69 | 0.007 |
| | 16 - 17 | - 0.80 | 0.46 | 0.45 | 0.18 - 1.12 | 0.085 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Economic Family** | Poor/extremely poor | | | 1 | | |
| | ≥ Average | 0.74 | 1.40 | 2.10 | 0.14 - 32.52 | 0.595 |
| **Internet Use** | No/little | | | 1 | | |
| | Much | 1.51 | 0.90 | 4.53 | 0.78 - 26.34 | 0.092 |
| **Physical Activity** | No | | | 1 | | |
| | Yes | - 0.82 | 0.38 | 0.44 | 0.21 - 0.94 | 0.033 |
| **Alcohol/Beer** | No | | | 1 | | |
| | Yes | 1.18 | 0.42 | 3.24 | 1.42 - 7.42 | 0.005 |
| **Family Quality** | Good | | | 1 | | |
| | Not good | 1.57 | 0.69 | 4.82 | 1.26 - 18.50 | 0.022 |
| **School Quality** | Good | | | 1 | | |
| | Not good | 0.40 | 0.45 | 1.49 | 0.62 - 3.59 | 0.370 |
| **Close Friends** | Yes | | | 1 | | |
| | No | - 1.38 | 0.73 | 0.25 | 0.06 - 1.05 | 0.059 |
| **Emotional problems** | Normal | | | 1 | | |
| | Borderline | 0.46 | 0.52 | 1.59 | 0.57 - 4.44 | 0.377 |
| | Abnormal | 0.64 | 0.52 | 1.90 | 0.69 - 5.24 | 0.217 |
| **Conduct problems** | Normal | | | 1 | | |
| | Borderline | - 0.28 | 0.53 | 0.76 | 0.27 - 2.14 | 0.602 |
| | Abnormal | - 0.06 | 0.58 | 0.94 | 0.30 - 2.93 | 0.943 |
| **Hyperactivity** | Normal | | | 1 | | |
| | Borderline | - 0.14 | 0.54 | 0.87 | 0.30 - 2.50 | 0.798 |
| | Abnormal | 1.60 | 0.59 | 4.96 | 1.58 - 15.61 | 0.006 |
| **Peer problems** | Normal | | | 1 | | |
| | Borderline | - 0.24 | 0.45 | 0.79 | 0.33 - 1.91 | 0.602 |
| | Abnormal | 0.29 | 0.60 | 1.34 | 0.41 - 4.34 | 0.628 |
| **Prosocial behaviours** | Normal | | | 1 | | |
| | Borderline | - 0.20 | 0.52 | 0.82 | 0.30 - 2.25 | 0.698 |
| | Abnormal | - 0.43 | 0.67 | 0.65 | 0.18 - 2.43 | 0.524 |

Of the five factors related to suicidal ideation, three were found to increase risk, including alcohol use (OR = 3.24; 95% CI:1.42 - 7.42), abnormal group of hyperactivity (OR = 4.96; 95% CI:1.58 - 15.61), poor family quality (OR = 4.82; 95% CI:1.26 - 18.50), and two factors were found to decrease risk, including the 14 - 15 year old age group (OR = 0.26; 95% CI:0.10 - 0.69), and those with physical activity (OR = 0.44; 95% CI:0.21 - 0.94) (Table 3).

## 4. DISCUSSION

From the analysis results, the proportion of adolescents having suicidal thoughts accounted for 15.5%, of which male sex was 8.4% and female 7.1%. Among them, behaviours related to suicidal thoughts (thinking, planning, and attempting suicide) account for a high rate, especially the rate of suicidal thoughts accounts for 13.3%. The rate of suicidal thoughts is somewhat lower than the study by Duong Thi Thu Huong and Tran Thi Minh Ngoc in Hanoi [7], however, higher than the study by Aboagye et al. in eight countries in sub-Sahara Africa [8]. This may indicate that the separation/ divorce of parents influences the children's suicidal

intentions. This statement is moderately consistent with a previous study by Obeid, which showed that adolescents with divorced parents have greater fear and avoidance of society, depression, and suicidal ideation [12]. In addition to forming suicidal thoughts, adolescents whose parents are separated/ divorced have more adverse experiences such as bullying, violence, smoking, and drinking.

The multivariate logistic regression model showed that factors related to suicidal ideation in children include age, alcohol use, physical activity, abnormal hyperactivity group, and family quality. Of the five factors related to suicidal ideation, three were found to increase risk, including alcohol use (OR = 3.24; 95% CI:1.42 - 7.42), abnormal group of hyperactivity (OR = 4.96; 95% CI:1.58 - 15.61), poor family quality (OR = 4.82; 95% CI:1.26 - 18.50), and two factors were found to decrease risk, including the 14 - 15 year old age group (OR = 0.26; 95% CI:0.10 - 0.69), and those with physical activity (OR = 0.44; 95% CI: 0.21 - 0.94).

According to the results, the age group was associated with suicidal intention in adolescents whose parents are separated/separated. There is a huge difference in suicidal tendencies between age groups, especially during adolescence. The rate of suicidal intention and suicide attempts increases with age, which was observed in the Cheng Y study in China [13]. And Xiong's study also shows that age is a factor that affects the tendency to suicide among students [14]. In our study, children between the ages of 14 and 15 had a lower risk of developing suicidal intentions than those aged 12 - 13 (OR = 0.26; 95% CI:0.10 - 0.69). The reason may be that children are now well fed and exposed to electronic devices and the Internet quite early, leading to early puberty being quite common, thereby causing many consequences. One of the consequences is psychological instability, leading to the formation of distorted thoughts and especially the formation of suicidal thoughts. After this period, the child's psychology is more stable, reducing the risk of developing suicidal thoughts. A study on risk factors for suicidal intention in Korea conducted by Yeojin Im et al. also showed that the psychological instability of children is part of the factors that lead to the formation of suicidal intentions, death, and the older the child, the more stable the child's mind becomes [15].

The multivariate regression model does not show evidence of suicidal intention formation in children with family economy (p = 0.595), but there is a relationship between family quality and suicidal intention in children (p = 0.022). Most of the children were born in average or above-mentioned families (96.8%), and only 3.2% were from poor or near-poor families. Therefore, they all have sufficient economic conditions and entertainment, and do not exert much pressure on family finances when participating in academic activities, even though their parents are separated or divorced [16]. Although children are well-supported economically, they lack the emotional aspects of their parents, which contributes to an increase in children's suicidal intentions. In our study, although the poor family represented 17.2%, it increased 4.82 times more children who had suicidal ideation (OR = 4.82, 95% CI:1.26 - 18.50). This shows that there is a significant association between suicidal intention and family factors, more likely in some studies both in Vietnam and abroad [17, 18, 19, 20].

The use of stimulants during adolescence is a factor that contributes to the increased risk of developing suicidal intentions in adolescents [21]. The rate of stimulant use among adolescents in Hue is relatively high, 42.7% of children use alcohol, and this has a great influence on the formation of suicidal intentions in children. Children who used alcohol had a rate of developing suicidal intentions 3.24 times higher than children who did not use alcohol (OR = 3.24; 95% CI 1.42 - 7.42). This is quite similar to some studies around the world, showing that alcohol use increases the risk of suicide [22, 23, 24].

Our study has shown that participating in physical activities reduces suicidal intention in children (OR = 0.44; 95% CI:0.21 - 0.94). Previous studies have also shown the same thing as the study of Lagman, Vancampfort, and Pfledderer [23, 25, 26]. It can be said that participating in physical activities and sports supports and helps children integrate into society, thereby reducing overstrain or stress and making new friends [27]. In addition, participating in physical activities helps children increase their ability to absorb and observe things around them, practise life skills, and develop relationships, thereby helping children develop both mentally and physically, contributing to reducing the risk of suicidal intention in children.

Internet use also has a significant effect on suicidal intentions in adolescents. This was documented in several studies in Korea, Taiwan and many other studies that have also shown an association between increased use of social media or the internet and

suicidal intention [28, 29, 30]. However, in our study there was not enough evidence to show a link between internet use and the formation of suicidal intention in children, perhaps because they use the Internet to text with friends, update information news, or simply for entertainment.

Although in our study, school quality did not have a strong association with adolescent suicide intention, there are many studies showin that school still has many influencing factors in the formation of suicidal intention in children, such as the level of attachment and connection with teachers, school violence, pressure from the school curriculum [26, 31, 32].

According to the research by Sooyoun Zong, students often rely on their best friends to solve problems, not teachers. These students need to talk and comfort from friends, friends will understand their pain and anxiety because friends may have similar issues [33]. According to Vu Thi Thanh and Nguyen Trung Hieu, at the same age, it is easier for them to share with their group of friends about personal thoughts and feelings than with adults. Sharing of friends will help them relieve their minds and problems [34]. In our study, having or not having close friends did not affect the formation of suicidal intention in children (p = 0.059), perhaps because almost all children have at least one close friend (93.5%).

Mental health is also one of the factors that affect the formation of suicidal intentions in adolescents. In our study, children with attention deficit/hyperactivity disorder (ADHD) increased the rate of suicidal intention by almost 5 times (OR = 4.96; 95% CI:1.58 - 15.61). The 2015 Kovess study in eastern Europe also found that children with mental health problems had a higher rate of suicidal thoughts [35]. Caro's 2019 research also showed that adolescents with high total difficulty scores were much more likely to have suicidal intentions and suicide attempts than adolescents with low total difficulty scores [36]. Gbessemehlan's research has shown that ADHD is associated with suicidal intentions [37]. Several other studies have also shown that ADHD may be correlated with increased suicidal intentions and attempts [38, 39].

## 5. CONCLUSIONS

This study found that adolescents whose parents are separated or divorced are at higher risk of suicidal ideation. This is a serious issue that needs to be addressed. Parents, educators and other adults who work with adolescents must be aware of this risk and take steps to help these young people.

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