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## Psychosocial Determinants of Suicidal Behavior in Adolescents

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### ABSTRACT

Adolescent suicide is a global health concern, ranking as the fourth leading cause of death among 15-19 year-olds worldwide. Our study aims to investigate the psychosocial risk factors influencing suicidal behavior in adolescents aged 10-18 years. This retrospective cohort study was conducted at hospitals affiliated with JJM Medical College in Davanagere, India, over a 7.5-month period. Data from 150 adolescents admitted for suicide attempts were analyzed. Information on demographics, clinical history and psychosocial factors was extracted from medical records. Descriptive statistics were used to characterize the study population and the prevalence of various psychosocial risk factors. The study revealed a peak in suicidal behavior among adolescents aged 13-15 (64.7%), with a significant gender disparity (74.7% females). Stressful life events emerged as the dominant risk factor (65.3%), with family problems (23.5%) and academic stressors (21.4%) being most prevalent. Depression (37.5%) and anxiety (30%) were the most common psychological risk factors. Type A personality traits were observed in 58.3% of cases where personality factors were identified. Our findings highlight the multifaceted nature of psychosocial determinants underlying suicidal behavior in adolescents. The study emphasizes the need for targeted interventions during middle adolescence, gender-specific approaches, and strategies addressing family dynamics and academic stress. Future longitudinal research is needed to establish causal relationships between identified risk factors and suicidal behavior.

## INTRODUCTION

Suicide is the primary non-natural cause of death for teenagers and young adults globally, making it a global health issue<sup>[1]</sup>. Every year, between two and three million people take their own lives. It is also a major contributor to years of disability and early mortality. Data on the prevalence of suicide behavior throughout adolescence are not the only source supporting the necessity to treat this developmental stage<sup>[2-4]</sup>. There are a number of factors, the most significant of which are as follows: suicidal ideation is a known risk factor for completed suicides as well as a predictor of future attempts at suicide and serious problems for young people's social and emotional development beyond adolescence<sup>[5]</sup> more suicides committed at younger ages are being recorded<sup>[6]</sup> most people who have considered or attempted suicide did so for the first time in their youth, usually before the age of twenty<sup>[7]</sup> suicidal behavior and completed suicides have increased in the child-adolescent population in recent decades and the emotional toll that a minor's suicide takes on their family and society as a whole is quite significant. It's a true family tragedy made worse by social disgrace<sup>[8,9]</sup>. The third most common cause of death for young people between the ages of 10 and 24 is suicide, with the prevalence of suicide attempts peaking in the mid-adolescent years and suicide mortality increasing consistently with age through the teenage years<sup>[10]</sup>. Suicide is the fourth most common cause of death worldwide for those aged 15-19 according to the World Health Organization, which highlights the critical need for thorough study and focused interventions<sup>[11]</sup>. When treating pediatric patients with mental health issues, doctors are extremely concerned about suicidal acts and behaviors<sup>[12]</sup>. The lack of a clear description or few established theoretical psychology models has hindered research on suicidality among children and adolescents, despite its relevance. This lack of clarity also affects assessment, intervention, prevention and postvention. Therefore, it would be intriguing to add data-driven models to the theoretical framework that enable the conceptualization and comprehension of suicidal behavior from several angles, such as those that are emerging in domains like neuroscience and public health<sup>[13]</sup>. Adolescent suicide behaviors are very common and they come with significant financial, social, familial, academic and emotional implications. For example, a meta-analysis by Lim<sup>[14]</sup> revealed that the 12-month and life prevalence of teenage suicide attempts were 4.5% (95% CI: 3.4-5.9%) and 6% (95% CI: 4.7-7.7%), respectively. Furthermore, the life prevalence and 12-month prevalence of suicide thoughts were 16% (95% CI: 11.6-17.3%) and 18% (95% CI: 14.2-22.7%), respectively. A mental illness, prior attempts, psychological issues (such as despondency,

impulsivity, and cognitive rigidity), a family history of mental illnesses or prior attempts, bullying, cyberbullying and trauma are a few examples of risk factors. Less research has been done on protective variables, which can include social-emotional skills, problem-solving abilities, restricted access to suicide tools, cultural and religious views that oppose suicide, and support from friends and family<sup>[15]</sup>. Adolescence is a period of significant physical, emotional and social changes, making it a time of increased vulnerability to mental health challenges and suicidal thoughts. The transition from childhood to adulthood involves identity formation, increased autonomy and the navigation of complex social relationships, all of which can contribute to psychological stress. Understanding the psychosocial factors that influence suicidal behaviour during this critical developmental stage is essential for developing effective prevention and intervention strategies.

## MATERIALS AND METHODS

This study employed a retrospective cohort design to investigate the psychosocial risk factors influencing suicidal behavior in adolescents. The research was conducted at hospitals affiliated with JJM Medical College (JJMMC) in Davangere, India. These hospitals serve as major healthcare providers in the region, offering a representative sample of the local adolescent population seeking medical care following suicide attempts. The study spanned a period of seven and a half months, from May 1, 2023, to December 15, 2023. During this time, a total of 150 adolescents who met the inclusion criteria were enrolled in the study. The study included adolescents aged between 10 and 18 years who were admitted to the participating hospitals with an alleged history of a suicide attempt. This age range was chosen to focus specifically on the adolescent population, a group known to be at heightened risk for suicidal behavior. To ensure the integrity of the data and focus on intentional suicidal behavior, cases involving accidental consumption of toxic compounds were excluded from the study. This distinction was made based on the clinical assessment and patient history documented in the medical records.

Data were collected through a comprehensive review of medical records for each participant. The research team, composed of trained medical professionals, extracted relevant information including:

- Demographic data (age, gender, socioeconomic status, education level).
- Clinical history (previous mental health diagnoses, prior suicide attempts, family history of mental illness or suicide).
- Details of the current suicide attempt (method used, severity, precipitating factors).

- Psychosocial factors (family dynamics, peer relationships, academic performance, exposure to bullying or abuse).

**Ethical Considerations:** This study was conducted in full compliance with ethical guidelines for medical research involving human subjects. Prior to its initiation, the study protocol was reviewed and approved by the Institutional Ethics Committee of JJM Medical College. Given the sensitive nature of the research topic and the vulnerability of the study population, stringent measures were implemented to protect patient confidentiality and ensure data security.

**Data Analysis:** The collected data were analyzed using appropriate statistical software. Descriptive statistics were used to characterize the study population and the prevalence of various psychosocial risk factors. The significance level was set at  $p < 0.05$  for all statistical tests.

**RESULTS AND DISCUSSIONS**

The data shows a significant peak in suicidal behavior among adolescents aged 13-15, accounting for nearly two-thirds of the cases (64.7%). This suggests that middle adolescence is a particularly vulnerable period for suicidal behavior. The lower percentage (6.7%) in the 10-12 age group might indicate that suicidal behavior is less common in early adolescence, while the moderate percentage (28.6%) in the 16-18 group suggests that the risk remains substantial in late adolescence. There is a striking gender imbalance in suicidal behavior among the studied adolescents, with females (74.7%) accounting for three-quarters of the cases. This significant overrepresentation of females suggests that adolescent girls in this population may be at higher risk for suicidal behavior or may be more likely to attempt suicide. The lower middle class accounts for the highest proportion (33%), closely followed by the upper middle class (31%). This suggests that economic factors alone may not be the primary driver of suicidal behavior in this population. (Table 1).

Table 1: Socio-Demographic Details of Study Participants

Variable		Frequency	Percentage
Age in years	10-12	10	6.7%
	13-15	97	64.7%
	16-18	43	28.6%
Gender	Male	38	25.3%
	Female	112	74.7%
Socio-economic status	Upper	21	14%
	Upper middle	47	31.3%
	Middle	50	33.3%
	Lower middle	24	16%
	Lower	8	5.3%

Stressful life events emerge as the dominant risk factor, affecting 65.3% of the participants. This

underscores the significant impact of external stressors on adolescent mental health and suicidal behavior. Psychological factors, while less prevalent (26.7%) still affect a quarter of the participants, highlighting the importance of mental health in suicidal risk. The lower percentage (8%) for personality traits suggests that while they play a role, they may be less influential compared to life events and psychological factors. (Table 2).

Table 2: Psycho social Risk Factors of Study Participants

Psycho social risk factors		Frequency	Percentage
Stressful life events (n=98)	Family problems	23	23.5%
	Peer conflicts	19	19.4%
	E-addiction	20	20.4%
	Love failure	15	15.3%
	Academic stressor	21	21.4%
Psychological risk factors (n=40)	Depression	15	37.5%
	Anxiety	12	30%
	Previous attempt	5	12.5%
	Other comorbid psychiatric illness	8	20%
	Personality Traits (n=12)	Type A	7
Type B		0	0
Type C		5	41.7%

Our study revealed a complex interplay of stressful life events, psychological factors and personality traits. Among the stressful life events, which were identified in 98 cases, family problems emerged as the most prevalent factor (23.5%). Academic stressors closely followed, affecting a considerable portion of the group (21.4%), highlighting the pressure that educational expectations place on young individuals. The modern challenge of e-addiction was also prominently represented (20.4%), reflecting the growing influence of digital technology on adolescent well-being. Peer conflicts (19.4%) and love failure (15.3%), while less frequent, still affected a substantial number of adolescents, emphasizing the importance of social and romantic relationships during this crucial developmental stage. Psychological risk factors, observed in 40 cases, painted a picture dominated by mood and anxiety disorders. Depression stood out as the most common psychological issue (37.5%). Anxiety disorders were also highly prevalent (30%). The presence of other comorbid psychiatric illnesses (20%) highlights the complex nature of mental health challenges faced by at-risk adolescents. Notably, a history of previous suicide attempts was identified in a portion of the cases (12.5%), underscoring the critical importance of follow-up care and continued support for adolescents with a history of suicidal behavior. Personality traits, while identified in a smaller subset of 12 cases, provided intriguing insights into potential predisposing factors for suicidal behavior. Type A personality traits, characterized by competitiveness, high achievement orientation and impatience, were observed in the majority of these cases (58.3%). This suggests that these traits, often associated with high

stress levels, may contribute to increased suicide risk in adolescents. Type C personality traits, typically associated with suppression of emotions and excessive compliance, were also significantly represented (41.7%). Adolescent suicidal behavior remains a pressing global health concern, with far-reaching implications for individuals, families and communities. This study aimed to elucidate the complex interplay of psychosocial factors contributing to suicidal behavior among adolescents, focusing on socio-demographic characteristics, stressful life events, psychological risk factors and personality traits. By examining these multifaceted determinants, we seek to enhance our understanding of the underlying mechanisms driving suicidal behavior in this vulnerable population and inform targeted prevention and intervention strategies. The data demonstrate a notable peak in suicidal behavior among adolescents aged 13-15, accounting for 64.7% of cases. This finding aligns with previous research by Nock<sup>[16]</sup> who reported that the risk of suicidal behavior increases sharply during early adolescence. The predominance of cases in this age group underscores the critical need for targeted interventions during this developmental period. Our study also revealed a striking gender disparity, with females representing 74.7% of cases. This significant overrepresentation of females is consistent with the findings of Nock<sup>[16]</sup> (66%) and Beautrais<sup>[17]</sup>, who reported that while completed suicides are more common among male adolescents, females are more likely to engage in non-fatal suicidal behavior and attempts. This gender difference may be attributed to various factors, including differential coping mechanisms, societal pressures and hormonal influences during adolescence. Our results indicate that suicidal behavior was most prevalent among lower middle class (33.3%) and upper middle class (31.3%) adolescents. This distribution suggests that economic factors alone may not be the primary driver of suicidal behavior in this population. These findings partially contradict the work of Dupéré *et al.*, who found a stronger association between lower socioeconomic status and suicidal behavior<sup>[18]</sup>. Our results suggest a more complex relationship between socioeconomic status and suicidal risk, potentially mediated by factors such as academic pressure, family expectations and social comparison. Stressful life events emerged as the dominant risk factor, affecting 65.3% of participants. Among these, family problems (23.5%) and academic stressors (21.4%) were the most prevalent. These findings are in line with the research of Serafini<sup>[19]</sup> who emphasized the significant impact of family dysfunction and academic pressure on adolescent suicidal behavior. The high prevalence of e-addiction (20.4%) as a stressor in our study reflects the growing influence of digital technology on adolescent mental health, a phenomenon that has gained increasing

attention in recent years<sup>[20]</sup>. Our study identified depression (37.5%) and anxiety (30%) as the most common psychological risk factors among adolescents exhibiting suicidal behavior. These findings corroborate the well-established link between mood disorders and suicidal risk, as documented in numerous studies, including the comprehensive review by Hawton<sup>[21]</sup>. The presence of other comorbid psychiatric illnesses (20%) in our sample further underscores the complex interplay of mental health factors in adolescent suicidal behavior. While personality traits were identified in a smaller subset of cases, our findings suggest a potential link between Type A personality traits and increased suicide risk in adolescents. This association aligns with research by Fung and Tsang, who found that certain aspects of Type A behavior, such as impatience and irritability, were associated with increased suicidal ideation in adolescents<sup>[22]</sup>. The presence of Type C personality traits in a significant portion of cases (41.7%) is an intriguing finding that warrants further investigation, as less research has focused on the relationship between these traits and suicidal behavior in adolescents. The high prevalence of e-addiction as a stressor highlights the need for digital literacy programs and interventions that promote healthy technology use among adolescents. Such initiatives could help mitigate the negative impacts of excessive screen time and online experiences on adolescent mental health. Given the significant role of psychological factors, particularly depression and anxiety, in suicidal behavior, improving access to mental health services for adolescents is paramount. This includes early screening and detection of mood disorders, as well as the provision of evidence-based treatments such as cognitive-behavioral therapy and, when appropriate, pharmacological interventions.

**Limitations:** While our study provides valuable insights into the psychosocial determinants of suicidal behavior in adolescents, it is important to acknowledge its limitations. The cross-sectional nature of the data limits our ability to establish causal relationships between the identified risk factors and suicidal behavior. Longitudinal studies that track adolescents over time would provide a more comprehensive understanding of how these risk factors interact and evolve.

## CONCLUSION

Our findings reveal that middle adolescence (ages 13-15) is a period of heightened vulnerability, with females at greater risk for suicidal behavior. Stressful life events, particularly family problems and academic stressors, emerged as dominant risk factors, while psychological factors such as depression and anxiety also played significant roles. The study also identified

e-addiction as a notable modern stressor. These results underscore the need for multifaceted prevention and intervention strategies that address various psychosocial determinants, including targeted support during critical developmental periods, gender-specific approaches, family-focused interventions and improved access to mental health services.

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