

UNDERSTANDING RISK FACTORS AND SUICIDAL BEHAVIOUR AMONG ADOLESCENTS IN THE INDIAN CONTEXT USING THE INTEGRATED MOTIVATIONAL-VOLITIONAL MODEL

A SYSTEMATIC REVIEW

APRIL 2024



/ Acknowledgements

This research study is a collaboration between the Banyan Academy for Leadership in Mental Health (BALM) and LEAD at Krea University. The research team comprised Aishwariya Ramesh, Akshata Chonkar, M P Karthick, Sharon Buteau and Lakshmi Sankaran. We are grateful to Dr Nachiket Mor (Visiting Scientist, BALM) for his invaluable guidance, and we also thank Dr Lakshmi Ravikanth and Dr Shailender Swaminathan for reviewing the report. We would also like to thank Namrata Rao, Aishwarya Joshi, Preethi Rao and Diksha Singh for inputs and editorial support.

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/ About Banyan Academy of Leadership in Mental Health (BALM)

The Banyan Academy of Leadership in Mental Health (BALM) was established in 2007 with a vision to build pillars of research, education, training, and advocacy to influence policy change and augment stakeholder collaborations in mental health and social sectors. Over the years, the Banyan Academy has steadily impacted the aforementioned areas to make noticeable changes in relevant sectors, especially in voicing the needs of the quietly surviving excluded populations living at the fringes.

<https://balm.in/>

/ Executive Summary

Suicide among adolescents is a growing concern in India, both in the urban and rural context. The lack of rigorous reporting, not just of suicidal deaths, but also of the various socio-economic factors that lead to suicides among adolescents, provides a slanted perspective of the scenario. This is primarily because there is stigma and shame associated with suicides in the Indian context which often leads to under-reporting of suicides. Accurate data and resources are required to provide remedial measures.

The objectives of the study were threefold:

1. Identify risk factors and their prevalence that contribute to suicidal behaviour amongst adolescents in India.
2. Explore the linkages between transitions from suicide risk to

ideation, planning and action through the lens of the Integrated Motivational-Volitional model.

3. Explore potential data sources that can provide evidence for the above objectives.

A systematic literature review consisting of primary research articles and news reports were analysed from 2008-2022, upon meeting the inclusion criteria such as age (10-19 years) and geographical location (India). Databases such as PubMed, Google Scholar, Scopus, and PsychInfo were used to identify relevant papers using keywords. The data was reviewed using the theoretical framework of Integrated Motivational-Volitional Model of suicidal behaviour (IMV) which consists of three phases: pre-motivational phase, motivational phase and volitional phase. The IMV framework helped trace the varied pathways towards the act of suicide.

/ Insights

Using the Integrated Motivational-Volitional model, this study highlights the complex and multifactorial nature of suicide among young adolescents.

The three phases (pre- motivational phase, motivational phase and volitional phase) helped to understand the complexity of the pathway and how each factor in each phase appeared to contribute to the behaviours. These risk factors such as isolation, entrapment, emotional dysregulation, academic stress especially for those belonging to vulnerable backgrounds whose socio-economic mobility depends on their academic performance, illtreatment by professors, peers or family, and lack of social support, result in behaviours such as substance abuse, excessive gaming and addiction to devices that heighten the probability of volitional actions such as planning and attempt of suicide.

However, the IMV does not cover all aspects of adolescent suicide such as decision making ability, thus warranting the development of a modified model.

Lack of sufficient data poses challenges in tracing the connections between ideation, planning, and the actual act of suicide.

Easily accessible data sources are essential to track, monitor and understand the risk factors that lead to suicides among adolescents. There is a need for more robust data collection and assessments which include adolescent children from vulnerable communities (such as displaced populations, migrants, street children, those living in children's shelters, LGBTQIA+ community members, indigenous communities and other marginalised individuals).

/ Recommendations

The study suggests preventive measures that can be implemented through various stakeholders such as students and peers, teachers, parents, community leaders, volunteers and so on. The stakeholders can be trained to identify early symptoms well in advance and arrest suicidal tendencies in victims before they lead to fatal consequences.

Preventive measures are closely tied to the promotion of general health at the macroeconomic level to support vulnerable sections of the society. Prevention also includes curbing access to dangerous materials. It is also important to raise awareness amongst the public on a large scale to eliminate

the stigma surrounding suicide so that vulnerable victims can get the kind of support they need in a timely manner.

More rigorous research is needed in this area, with relevant data from marginalised communities along with scientific exploration of individual risk factors such as relationship issues, addiction to gaming and so on. Finally, existing research tools need to be refined further - this includes identifying better sources of information on suicidal causes, so that meaningful insights can be acquired and used effectively to understand patterns among vulnerable sections of society who are contemplating suicide.

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/ Background

Suicide refers to “death caused by injuring oneself with the intent to die” (Yazdi-Ravandi et al., 2021). The World Health Organisation (WHO) estimates that around 800,000 suicide deaths occur worldwide every year. Globally, about 46,000 adolescent children die every year due to suicide, an under-estimation considering the deficits in the reporting of deaths, especially among homeless populations, indigenous communities and people belonging to other marginalisations.¹ Low- and Middle-Income Countries (LMICs) account for 75 per cent of total youth suicide in the world. India has the largest adolescent population of 25.6 crores; as per the National Crime Records Bureau (NCRB, 2020), it has recorded around 1,53,052 deaths due to suicides between the ages of 18 and 30 years.

Suicidal ideation, planning, and attempt are all categorised as suicidal behaviours. Among the age group of 10 to 19 years, there is a prevalence of 11 per cent for suicidal ideations and three per cent for planning and attempts (Sahoo et al., 2023). A comprehensive understanding of the phenomenon and the interplay of factors that influence suicidal behaviours is required, in order to inform public health efforts. The civilised jurisprudence is globally shifting focus on the prospects for the decriminalisation of suicide or attempts by different state legislatures, pointing to the need for legal and social changes in the national guidelines for suicide. The Mental Healthcare Act of 2017 has technically decriminalised suicide by creating an exception to section 309 of the Constitution. However, there have not been any systemic

changes or guidelines, especially related to the training and sensitisation of law enforcement force and medical services on how to deal with cases of suicide and attempted suicide (Fernandes & Pathare, 2023). Due to factors such as a lack of understanding, stigma and the shame associated with suicide, it is equally difficult for citizens as well as institutions to track, report and learn more about factors that can predict and possibly prevent suicide among young people. Most young people lack access to support services for distress and mental illnesses that may lead to suicide in India, due to the unequal distribution of services and the lack of human resources (Patel et al., 2011).

This report is an attempt to gain a deeper understanding of the possible risk factors related to these deaths, with its heterogeneities that intersect to form influencing factors. There is a need to connect these factors that are seen in isolation but have compounding effects on the individual. Researchers have posited that in countries such as India, Sri Lanka, China, Bangladesh and Pakistan, there is a greater need to understand suicide from the lens of psychosocial distress and not just from the lens of pathological or biological factors (Samuel & Sher, 2013). Factors that have been known to affect distress among young people include family conflict, physical and sexual childhood abuse, isolation, socioeconomic disadvantage, discrimination and acculturation. Marginalised youth are often at an increased risk of experiencing heightened levels of these stressors, that may lead to suicidal behaviours. (Zebib, Leo, 2019).

¹ <https://www.unicef.org/montenegro/en/stories/unicef-invest-more-mental-health> [Accessed 22.10.23]

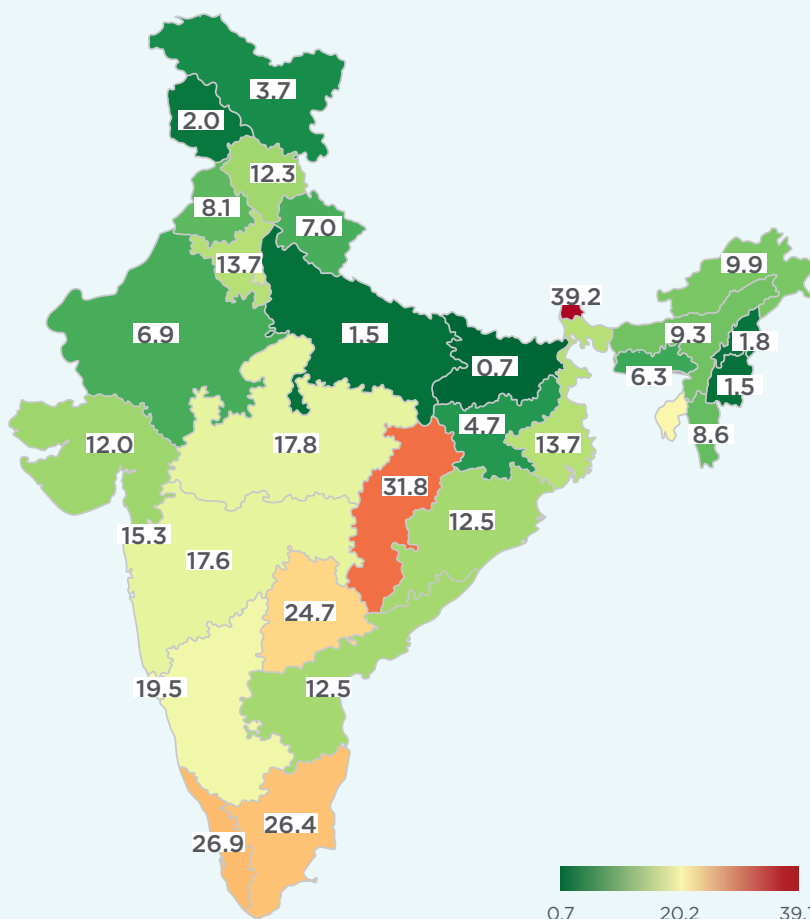
/ Data on Adolescent Suicides in India

Data on suicides in India is scarce, with the NCRB being the major formal source of noting the prevalence of suicide in the country. It is often difficult to find any information on suicide in other public service spaces, such as hospitals, although the world has now begun to understand the significance of seeing suicide as a public health concern (Henry, 2021). Having said that, the data surrounding prevalence has thus far been supplementary to other deaths, at best. There is a need to understand suicide as the intersectional problem that it is. The current process of reporting a suicide perpetuates social stigma and fear at different levels of data collection, including family-related fears that lead to under-reporting, which in turn makes

it more difficult for hospitals to assess the difference between accidents and purposeful action.

Yet, there is much to infer from the data that exists. As per the latest NCRB (2021) report, a total of 1,64,033 suicides across all age groups were reported in India during 2021 (refer to Figure 1 below). This is an increase of 7.2 per cent in comparison to 2020 and the rate of suicide was 12 (per lakh population). The top five states and Union Territories with the highest suicide rates are Andaman and Nicobar Islands (39.7), Sikkim (39.2), Chhattisgarh (31.8), Telangana (24.7) and Puducherry (26.4). The state-wise suicide rates for 2021 are presented below:

Figure 1: State-Wise Suicide Rate Across All Age Groups (NCRB, 2021)



Looking at the state-wise figures, it is notable that a higher number of suicides have occurred in the southern states of the country, although Chattisgarh and Sikkim show a larger percentage overall, as mentioned above.

Causes (Figure 2): In the 'Below 18' age category, a total of 10,732 suicides were reported for the year 2021. The major causes of suicide among adolescents (below 18) were reported as Family Problems (30 per cent), Love Affairs (14 per cent) and Illness (13 per cent).

Females to males ratio (Figure 3): As per the NCRB data, more adolescent girls die by suicide as compared to boys. The overall male-to-female ratio of suicide victims for the year 2021 was approximately 3:1. However, it is important to note that the adolescents group is the

only age group where more females died by suicide compared to males. As noted in the previous figure (Figure 2) young girls faced more challenges in terms of access to healthcare and educational services. The larger factors influencing the gendered nature of suicide among young people can include patriarchal structures leading to forced marriages, early pregnancies, and early dropouts from school among other forms of distress. These need to be studied in greater detail going forward, due to a lack of evidence.

The pattern of female adolescent deaths being more than male adolescent suicides remains the same, while there is a change in the pattern in adulthood. Male adult suicides rates are higher than female adult suicides, according to the NCRB data (Figure 4). There is a need for further study to understand the causes.

Figure 2: Causes of Suicide Among Adolescents (NCRB 2021 Data)

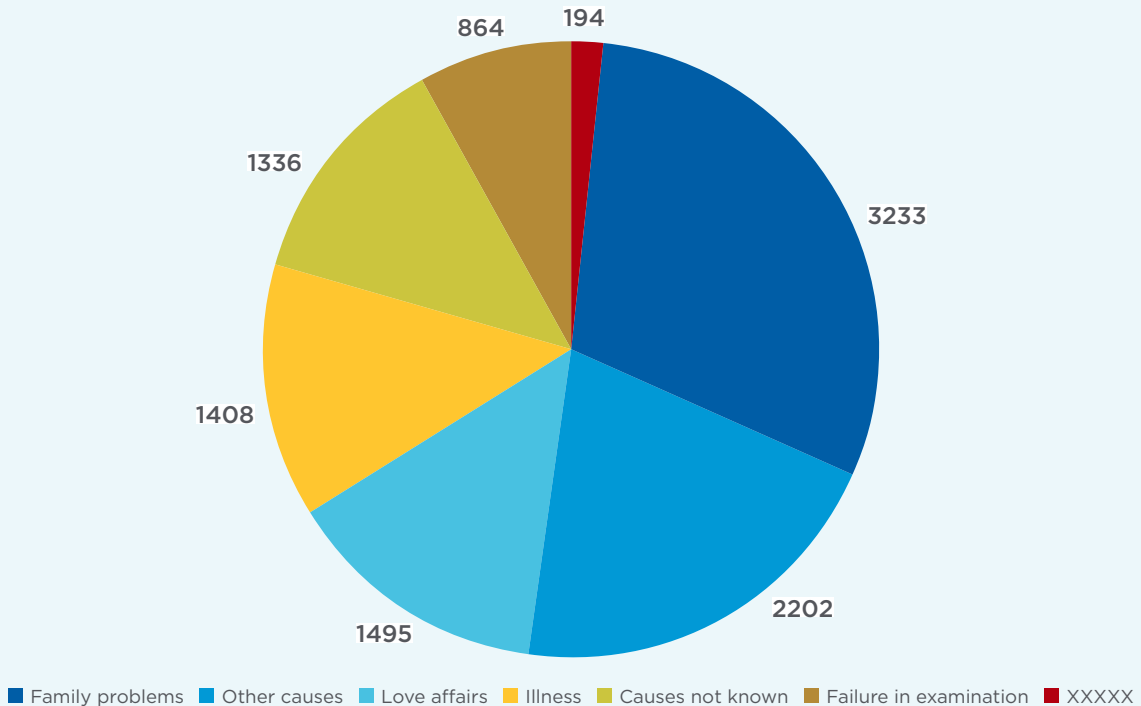


Figure 3: Suicide Victims by Sex and Age Group (NCRB 2021 Data)

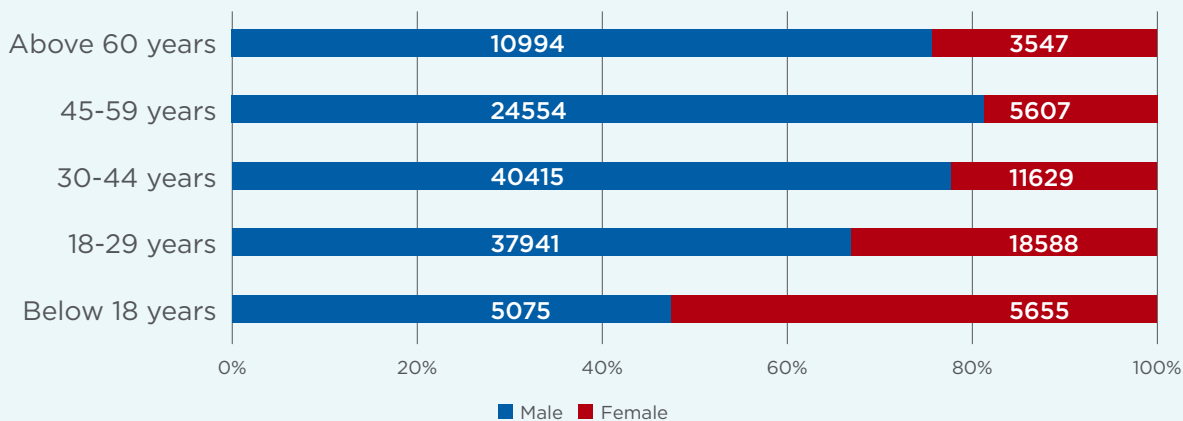
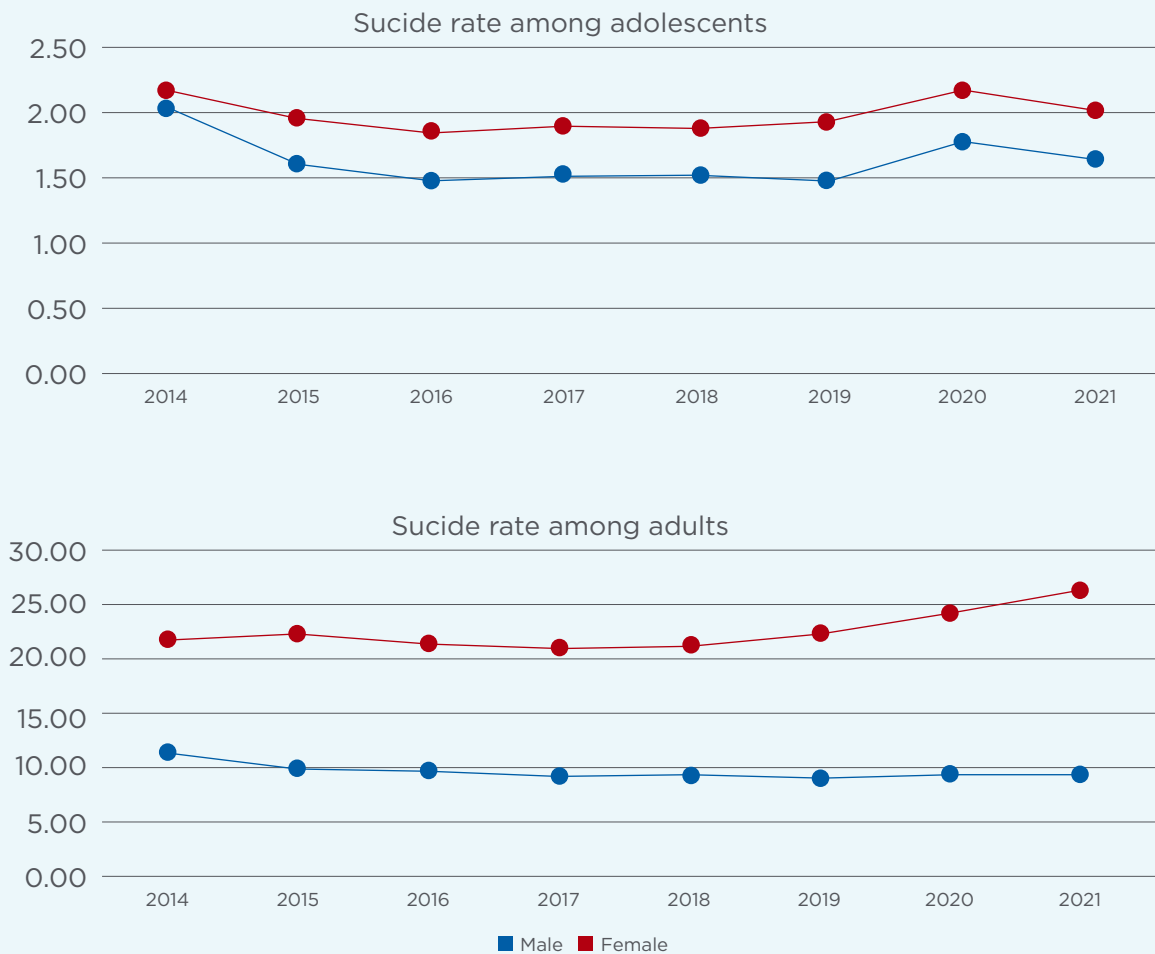


Figure 4: Trend in Suicide Rates Among Adolescents and Adults (NCRB 2021 Data)



Note: Suicide rate is number of suicides per 100,000 population

/ Theoretical Frameworks of Suicide

Emile Durkheim's seminal work posited that sociological factors affect suicide, apart from psychological or biological factors (Durkheim, 1897). His theory of understanding the social causes and systemic differences in human experiences led to seeing suicide as less of a result of individual weaknesses, and more of a lack of social support and resources, as a product of the relationship between the individual and society. Durkheim hypothesised the Causal Social Theory, by establishing that suicide rates vary as a function of several social environments, such as religious, family, political society, and professional group (Hassana, 1998).

Based on Durkheim's work, many theorists have tried to understand the uniquely individualistic yet universal features of suicide, by trying to form pathways towards it. The Interpersonal Theory of suicide (Orden, Witte, et al., 2010), theorises that it is the construct of thwarted belongingness and perceived burdensomeness, added to the capability to engage in suicidal behaviours, which increases the desire to die by suicide. These feelings of loneliness and a lack of support can lead to a lack of belongingness, while negative life events often lead to hopelessness and perceived burdensomeness (Kimberly, Joiner et al., 2010). This theory has led to many conceptualisations that can show a pathway between ideation and action, addressing the movement from suicidal ideation to the attempt and its direct relation to the social surroundings of the individual.

The Intergrated Motivational-Volitional Model of Suicidal Behaviour

Among the dominant theories charting the pathways between ideation and action, the Integrated Motivational-Volitional model (IMV) allows for the dynamic study of suicide risk and is used for the purpose of the current study. The IMV model uses a detailed framework to synthesise evidence in the form of a pathway that may make predictions about behaviours, based on the factors that lead to the ideation of suicide, and the movement towards acting upon the thoughts. The central premise of the model allows us to associate the factors related to the ideation of suicide with those that lead to suicide attempts and actual suicide.

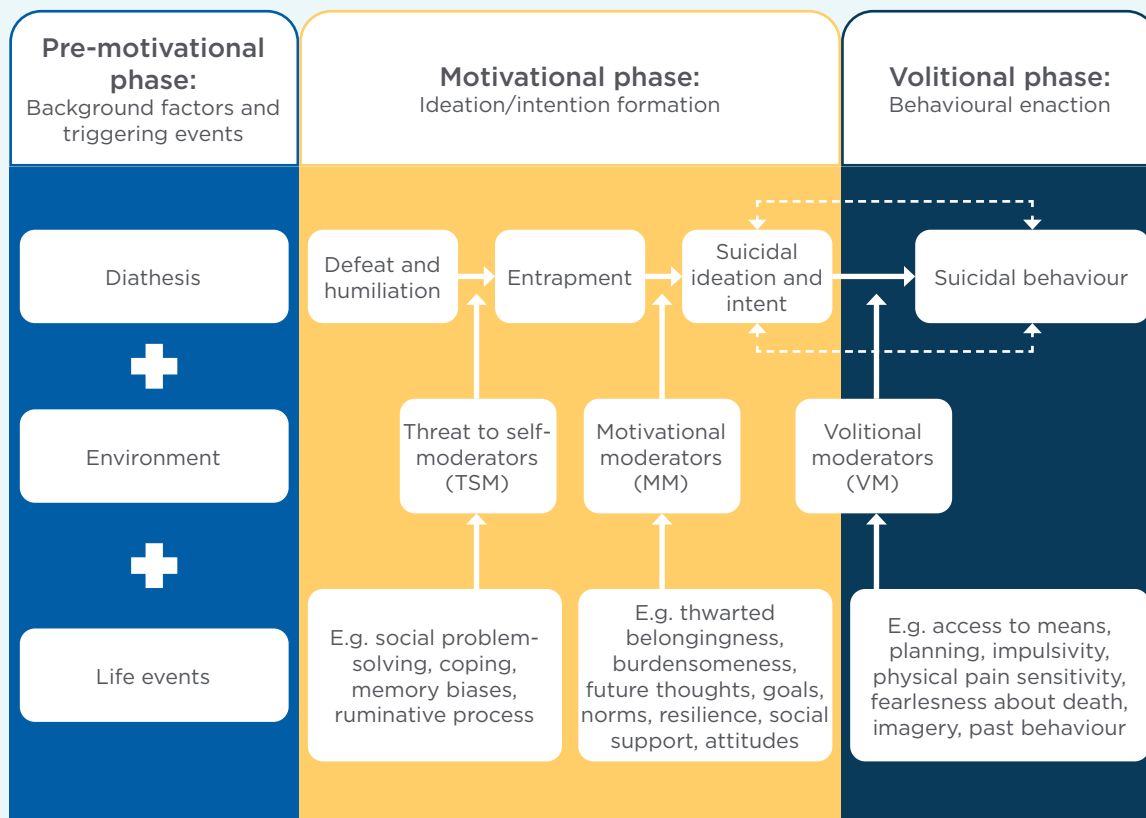
The model presents three phases consistent with the ideation-to-action framework. The first phase is the *pre-motivational phase*, consisting of a combination of diathesis, contextual or environmental and life events. It recognises how individual vulnerabilities elevate the risk for developing suicidal ideation when activated by the presence of stressors. These vulnerability factors increase the likelihood that an individual will experience an adverse psychological reaction to stress. The second phase is the motivational phase which looks at the impact of pre-motivational factors on self-moderating strategies, feelings such as defeat, humiliation and entrapment, leading to suicidal ideation. This is drawn from a concept known as 'arrested flight' (O'Connor, 2003) and describes

the experience of feeling as though one has been brought down (defeated) and has no prospect of escape or rescue (a sense of entrapment). The motivational phase addresses the development of the intention to attempt suicide. In the context of other moderators (lack of belongingness, burdensomeness, low positive future thinking), entrapment can lead one to view suicide as a solution to life circumstances, and result in suicidal intent. The third phase is the volitional phase, outlining the factors that govern the transition from suicidal ideation or intent to enactment, such as access to resources, planning, past exposure to death or suicide, impulsivity, physical pain endurance, fearlessness about death and past suicidal behaviour (Figure 5) (O'Connor, Kirtley, 2018).

Rationale for the Current Research

While research on understanding suicide risk has advanced, the knowledge on specific risk markers remains limited in the context of adolescents. Along with this, there is a growing consensus that the diagnosis of mental disorders is insufficient to understand and predict suicide. An appropriate framework is required, which integrates more complex explanations about the interplay between biological, clinical and social risk and protective factors. There is also a need to better understand the spectrum of suicide risk with regards to the intensity of the experience and the thoughts, which when compounded may increase the risk of action.

Figure 5: The Integrated Motivational-Volitional Model: The Three Phases



Source: O'Connor RC, Kirtley OJ. The integrated motivational-volitional model of suicidal behaviour. 2018

/ Objectives of the Study

The objectives of the study are three folded:

1. Identify risk factors and their prevalence that contribute to suicidal behaviour amongst adolescents in India.
2. Explore the linkages between transitions from suicide risk to ideation, planning and action through the lens of the IMV model.
3. Explore potential data sources that can provide evidence for the above objectives.

Methodology

A systematic literature review was conducted using information from two sources, published journal articles and news reports. Given the paucity of available information on suicide among adolescents, this method was relevant to (1) find gaps in the literature and data and (2) make recommendations on possible interventions (Uman, 2011). For our study purpose, only research articles consisting of primary quantitative and/or qualitative data were considered. Along with this, a review of news reports was collated and analysed, upon meeting the inclusion criteria. Our search resulted in 17 published articles being considered for our study and 150 news reports. The age of the sample considered was between 10-19 years, and published articles and news reports from 2008-2022 were considered. Further details are provided in the Appendix.

To analyse and synthesise findings from shortlisted published journal articles and news reports, a thematic analysis

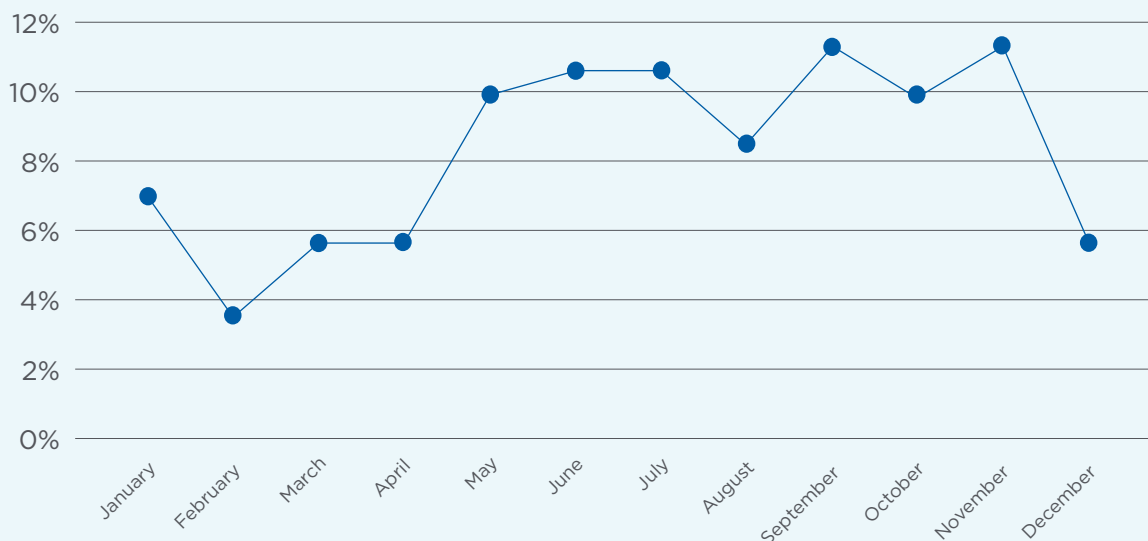
technique was used based on the Integrated Motivational-Volitional (IMV) Model. The aim was to identify and report patterns and trends observed in the research articles in the form of themes and sub-themes (Braun & Clark, 2006). Sampling using databases and PRISMA guidelines were ensured.

Data from News Reports

For the purpose of this study, Google News was used as the database for the scoping of news reports. The included news reports mentioned were from various parts of the country, with some providing details of the death of the young person, the age and gender of the person, the time of their death and the location where it took place. Some reports have been able to provide additional information surrounding the events leading up to suicide, police history, the familial background and other information that was deemed relevant to the case.

Distribution of News Reports: A total of 150 news reports that met the inclusion criteria were analysed. The top three news aggregators were The Indian Express, NDTV and India Today.

Seasonal trends among suicidal deaths: During the reference period (2008-2022), the highest number of news reports on adolescent suicide were usually published during the July - September quarter and the lowest number was reported during the January - March quarter for each year. It is to be noted that the July - September quarter coincides with the time when school examination results are announced (Figure 6).

Figure 6: Percentage of News Reports - Month-Wise

Methods of Suicide: WHO Guidelines for Media Professionals² recommends that the description of the method used should be avoided in news reports, as this may increase the risk of ideation and attempts among vulnerable consumers of the news. With regards to adolescent suicide, there is still a lack of clarity in terms of guidelines around reporting (Vijayakumar, 2019).

Among the news reports analysed for this study, only 32 per cent of them followed these guidelines.

Data from Journal Articles

17 articles were shortlisted from an initial sample of 575 articles, and the risk factors from each study were enumerated and applied using the IMV model, into the pathways leading to suicide, as most studies look at individual variables and their impacts on the outcome, which in this case, is suicide or suicidal attempts. The studies included were both qualitative as well as quantitative

in nature, based on the inclusion criteria and the PRISMA guidelines for screening (Table 1. Guidelines for Screening Articles, PRISMA, 2020). An example of how selected articles are classified in the Appendix (Risk factors from Journal Articles categorised as in the IMV model).



² <https://apps.who.int/iris/bitstream/handle/10665/258814/WHO-MSD-MER-17.5-eng.pdf;jsessionid=F920F2B4847D810CA59A8FB6FE82B501?sequence=1>

/ Results

Prevalence of suicidal behaviours

Suicidal ideations were found to be present among 1.3% to 6.8% of the adolescent populations and suicide attempt among 0.4% to 4.1%. The tools used to assess and the age group of adolescents studied are varied.

Risk Factors Through the Lens of the IMV Model

Out of the news reports reviewed (n=150), the factors identified were mapped to the different phases of the IMV model and to the relevant sub-phases (Figure 7).

Vulnerabilities in the Pre-Motivational Phase

The pre-motivational phase consists of a combination of diathesis, contextual, environmental and life events. It recognises how individual vulnerabilities carry the predisposition of the risk

for developing suicidal ideation when activated by the presence of stressors.

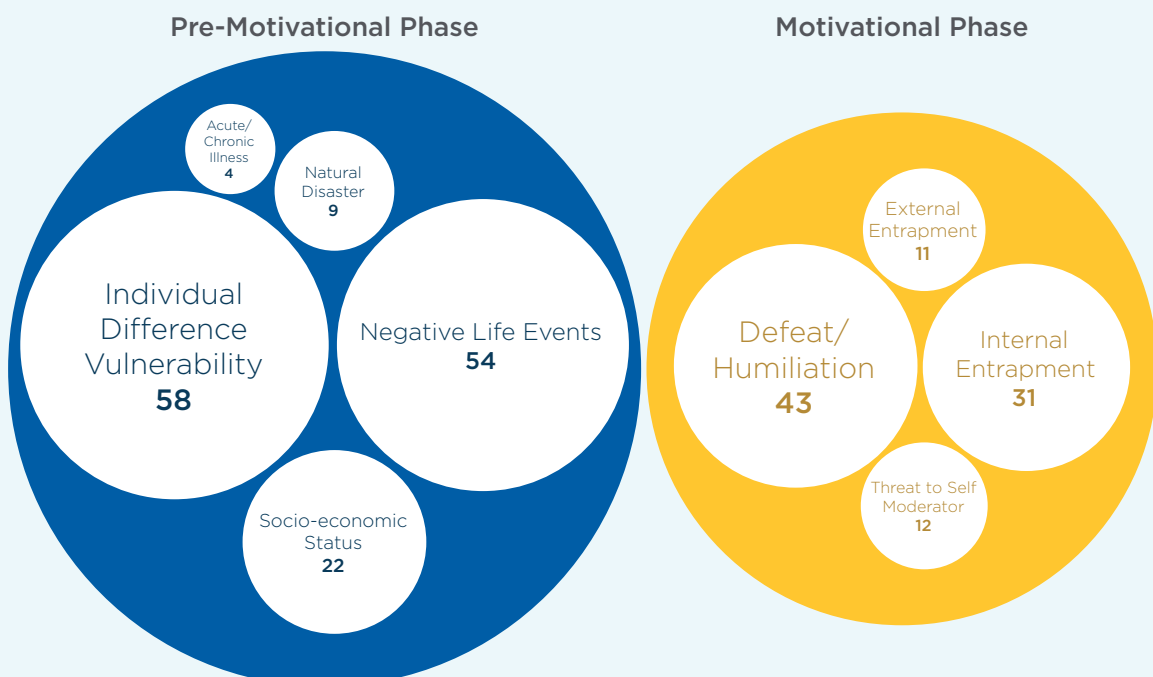
Academic pressure was the commonly described reason for adolescent suicide, followed by sexual harrasment, punishments in school, and bullying. Some news reports mentioned that children experienced depressive feelings prior to their suicidal behaviours, and the majority of these reports were in association with academic performance.

Distress in academic environments

Pressure to Perform Well in Academics:

Educational stressors have been identified as a primary factor in a large number of news reports and in some journal articles. Relatively more deaths pertaining to academics were reported from the southern states of India. Pressure emanating from 10th and 12th board exams, medical entrance examinations,

Figure 7: Distribution of Risk Factors Across the IMV model (News Reports)



and coaching classes saw the highest number of student suicides. More than half of the deaths due to academic pressure were by adolescent girls. Poor results in examinations as reasons for suicide are stated in a third of all the news reports (excerpts below)

“For the past three days she had been very upset and had told her family that she had not written the exam well,’ said a police officer. The girl’s parents -- both labourers -- said they consoled her and told her she could pursue other professions if she didn’t clear the exam, adding that she had scored 85 per cent in the Class 12 final exams.”

(Hindustan Times, 2021)³

“In a note addressed to her parents, the 19-year old said she was anxious about the exam. ‘She wrote that she would disappoint her family members and others if she did not get a medical seat,’ the officer said.”

(The Indian Express, 2020)⁴

Response to COVID-19: played a significant role in increasing educational stressors of the student. The pandemic led to sudden changes in academic systems that were not inclusive of vulnerable populations. Young people from lower socio-economic backgrounds were not able to afford devices such as a phone or television that were needed for access to educational materials, adding pressure to their inability to attend online classes.

“According to a report, the stress of online classes, coping with homework and the emotional stress of not being

able to meet her classmates pushed the 12-year-old to take the extreme step. Her father, who runs an auto garage near their house, bought her a smartphone for Rs 10,000 to help her continue with her studies. The family hasn’t been able to pay their electricity bills, said a relative.”

(India Today, 2020)⁵

III-Treatment by School Authorities and Peers:

Many reports have related suicide to incidents of severe punishment. Harassment by teachers and school authorities preceded death by suicide in many cases. Poor performance, and the inability to pay school fees led to punishments such as being hit, shamed in front of the class, reprimanded and verbally abused by higher authorities including complaints made to parents. Students reported feelings of shame, humiliation, guilt and disappointment. Losing in video games and physical appearance (obesity, colour of skin etc.) were reasons for bullying in a few articles. A few journal articles reported sexual, physical abuse and cyberbullying, as direct motivators of suicide.

“In the complaint, the family alleged that the teenage boy, a student of class nine, was scolded and thrashed by his principal during the past several days, saying he was not fit to study. They said the boy was unable to bear the torture.”

(The Print, 2020)⁶

Structural Inequalities: Very few news reports mentioned socio-economic status or caste among those who died by suicide due to academic pressure, and reported lower economic status which

³ <https://www.hindustantimes.com/india-news/3rd-neet-aspirant-dies-by-suicide-in-4-days-across-tamil-nadu-101631729579340.html>

⁴ <https://indianexpress.com/article/india/tamil-nadu-3-neet-candidates-end-life-day-before-exam-oppp-hardens-stance-6593808/>

⁵ <https://www.indiatoday.in/india/story/gujarat-teen-kills-self-over-stress-of-online-classes-1692105-2020-06-24>

⁶ <https://theprint.in/india/teen-commits-suicide-after-being-beaten-up-by-school-principal-2/1088383/?amp>

included farming families or parents who were daily wage workers along with marginalised caste identities.

“The four students, aged between 17 and 24, were anxious about jobs and upcoming exams before they hurled themselves in front of the moving carriages in Alwar. ‘An eyewitness has said that the boys were worried about jobs,’ a police official said.”

(Dawn, 2018)⁷

“The father of the deceased child is a farmer and had paid Rs 5000 and could not afford to pay the rest of the school fees.”

(India.com, 2015)⁸

According to the police, the deceased’s father, who worked as a labourer to support his family, was facing financial problems, which is why he was unable to recharge his son’s mobile phone data pack.”

(India Today, 2022)⁹

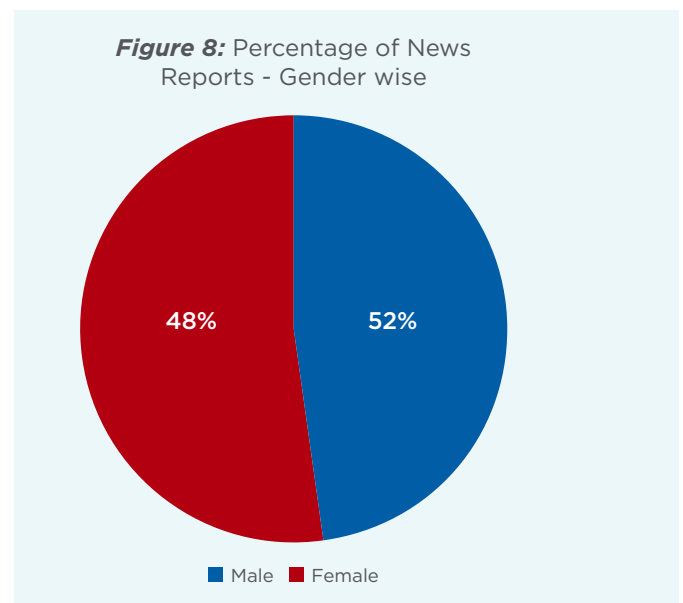
Gender showed up as a predominant factor in the predisposition towards suicide among adolescents. Girls were generally shamed and even sexually harassed by teachers for issues related to perceived disobedient behaviour, physical appearance and severe menstrual pain. It was reported that boys were likely to experience punishment due to financial insecurities and the inability to pay school fees. Abuse, early marriage among girls, and lack of employment opportunities among boys were significant risk factors, while lack of social support impacted both genders. Interestingly, one journal article from urban northern India postulated that female children from higher socio-economic backgrounds, and

males from middle-class backgrounds are at a higher risk of suicide.

“A 15-year-old girl, who according to her father, took the extreme step as she was allegedly ‘sexually exploited, oppressed and harassed’ by certain teachers and officials of her school.” (DNA, 2018)¹⁰

“A 12-year-old girl in Tamil Nadu, India, has committed suicide after her teacher shouted at and shamed her for period stains on her school uniform. ‘The school did not have sanitary pad-dispensing machines,’ the district child protection officer said. ‘They did not even give the girl a regular pad. These are questions that the management needs to answer.’” (Daily Dot, 2017)¹¹

The distribution of gender-wise deaths was found to be almost equal for young men and women, in alignment with the NCRB data, 2021 (Figure 8).



⁷ <https://www.dawn.com/news/1447028>

⁸ <https://www.india.com/news/india/15-year-old-boy-commits-suicide-in-telangana-after-not-being-able-to-pay-school-fees-595014/>

⁹ <https://www.indiatoday.in/india/story/mobile-addiction-teen-hangs-self-mobile-data-recharge-1939689-2022-04-20>

¹⁰ <https://www.dnaindia.com/delhi/report-supreme-court-agrees-to-hear-plea-for-cbi-probe-into-noida-teen-suicide-case-2598392>

¹¹ <https://www.dailydot.com/irl/period-shaming-suicide-india/>

Sexual Abuse: This was one of the leading causes of suicide according to many newspaper reports. Studies in rural southern India reported the correlation between female populations and histories of sexual abuse and dropping out of school with suicide.

This caused feelings of abject helplessness, intense fear of the act being repeated and shame around how the family or community would respond. Almost all reported suicides related to sexual abuse were by young women. One report of harassment due to sexual orientation and gender identity was reported by a young gay man, who died by suicide as a result.

Familial Milieu: Family-related distress adversely impacted young people. Patriarchal familial structures caused distress among young girls in particular, when they were threatened to be pulled out of school for marriage. One suicide was reportedly caused because the parents of the child refused to build her a toilet, and preferred saving the money for her marriage. Another reason was because the family refused to get them mobile phones or enforced time restrictions. Many journal articles have found a correlation between family distress and lack of social support as a risk factor. Conflict between the parents, external threats to the family, fights between the parents and the child, financial instability and distress (due to money lenders) were other findings.

The 18-year-old student was preparing to crack NEET, when bank officials allegedly abused her mother and threatened to get her father arrested for not clearing credit card dues, when he used his credit card to pay for his family's needs and

children's education. 'My husband lost his job during the pandemic, and our family faced an extreme financial crisis. We could not clear the dues', said the student's mother." (The New Indian Express, 2022)¹²

Psychological Distress: Very few news reports mentioned acute and chronic mental health issues as a risk factor. However, many journal articles published that psychological distress or mental illness, with moderate to severe emotional distress, depression and anxiety were common mental health concerns that were important factors related to suicide. Severe depressive disorders, anxiety disorders or obsessive compulsive disorders were related to higher suicidal intent. Self-injury was also correlated to suicidal intent.

Other Factors: Other factors under the pre-motivational phase included failed romantic relationships, poor performance in competitive sports (at the national level), a separate statehood and political unrest was a risk for self-immolation. It was reported that older adolescents between the ages of 16-18 were at far higher risks of having suicidal behaviours.

Motivational Phase: Risks Factors in a Continuum

This phase looks at the impact of pre-motivational factors on self-moderating strategies, leading to the amplification of suicidal ideation.

Difficulties in Managing Emotions: Difficulties caused by distressing events, behaviour or relationships that may lead to suicidal ideation were analysed in this phase (exams, bullying, sexual harassment), causing a sense of defeat and humiliation. Fear, sadness and pain

¹² <https://www.newindianexpress.com/states/andhra-pradesh/2022/jul/30/banks-act-took-andhra-teens-life-sayskin-2482208.html>

were strong emotions reported by children in such situations. One journal article mentioned further humiliation after a failed attempt, increasing the risk of future attempts.

Poor Social Support: Many journal articles have found a correlation between family distress and lack of social support as a risk factor. Without adequate support and the presence of a strong community or friendships, young people experienced shame, sadness, loneliness and a lack of belongingness, which further motivated feelings of suicide. Being an older female child in a distressed family setup added to isolation, fomenting suicidal intent.

“An 18-year-old woman hanged herself to death after being allegedly raped by her father in a village under the Marka police station area. She was allegedly raped by her father on Thursday night and she took her life on Friday out of despair. The accused has been arrested and the matter is being investigated,” the ASP said. (India.com, 2022)¹³

Poor Coping Mechanisms:

- **Gaming:** A large majority of the deaths pertaining to online gaming have been by male adolescents.
- **Substance abuse:** A few of the journal articles have reported the correlation of marginalisation, substance use and higher risk of suicide.

Feelings of Hopelessness/Entrapment: A third of the news reports explicitly state feelings of entrapment, both internal and external, which are caused due to pre-motivational factors viz. suicide notes and

prior conversations. Internal entrapment (depression, pain, fear, guilt and shame) and external entrapment included the inability to escape, which led to further ideation.

Volitional Phase: Ideation to Action

This phase outlines the factors that govern the transition from suicidal ideation to attempt.

There was limited information on the volitional factors of suicide in the current review.

Suicide Planning: A few news reports cited the presence of suicide notes, enrolling in a game that self-harm, forming a suicide pact, and, in one instance, procuring a gun in preparation.

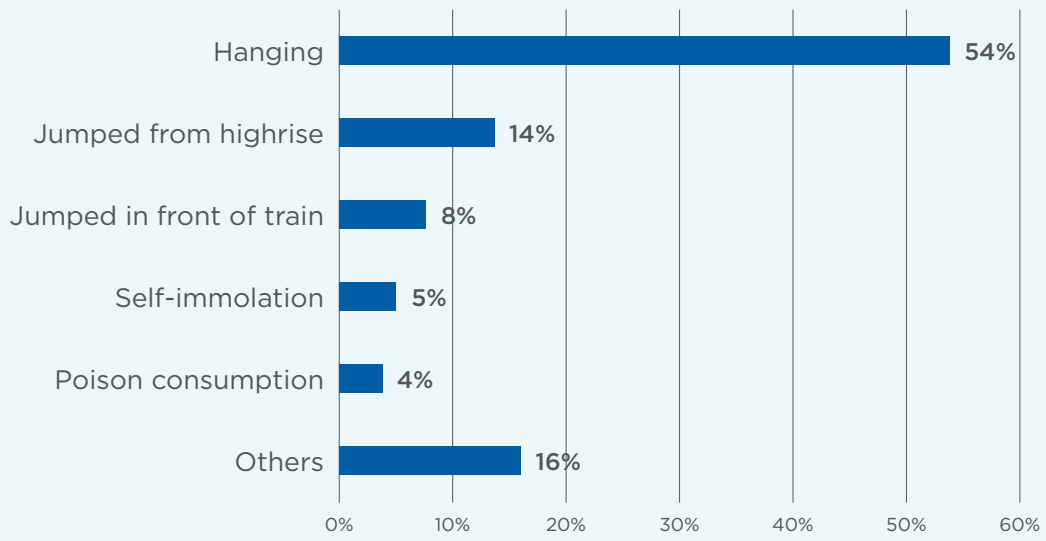
“What was even more disturbing was that the disturbed child had left the suicide note in the form of a terrifying status update on the mobile message app WhatsApp before bidding good bye to the ‘materialistic’ world after celebrating his 14th birthday.” (India.com, 2015)¹⁴

Suicidal Behaviour: The majority of news reports cited hanging as the major method of suicide. This was followed by jumping from heights, into trains, or into water bodies (rivers, lakes and the sea), along with poisoning and self-immolation (Figure 9). There were a few deaths reported by shooting or slitting of wrists. A few journal articles reported how the accessibility of means to suicide and tools was related to the higher prevalence of ideation.

¹³ <https://www.india.com/uttar-pradesh/uttar-pradesh-teen-girl-hangs-self-to-death-after-rape-by-father-5378996/>

¹⁴ <https://www.india.com/viral/a-14-year-old-delhi-boy-updated-whatsapp-status-as-suicide-note-hanged-himself-on-birthday-533615/>

Figure 9: Reported Method of Suicide



/ Discussion and Key Insights

The present study aimed to evaluate three different data sources to identify risk factors for adolescent suicidal behaviours. The results from the NCRB reports and news reports provide information pertaining to suicide, while journal articles looked at ideation, planning, attempt, and consolidated “suicidal tendencies/behaviours” as an outcome. The IMV model was used in an effort to draw out

a pathway, which did not exist previously in the data that was extracted, with most cases being reported post-hoc, while most journal articles only looked at one variable and its correlation to suicidal intent.

1.3% to 6.8% of the adolescent population had suicidal ideations while 0.4% to 4.1% attempted to die by suicide.

Insight #1: Identifying precipitating and perpetuating risk factors for adolescent and young adult suicide is a complex and multifactorial process.

Suicide is a phenomenon that has been extensively studied, or so was the perception. However, it was identified that in India suicidal behaviours among adolescent children remains to be a foggy territory. This is particularly alarming given the increase in suicide rates and the prominence of suicide as the cause of death among this population in particular.

The results from the literature review echoes with the NCRB reports, about the multifactorial processes on a continuum, in a framework like the IMV model. There is a multitude of risk factors such as gender, age, geographical location, socioeconomic status, academic milieu and pressure, peer groups, poor social support, patriarchal family structures, compounded by the pandemic, that aggregates and intensifies the individual vulnerability, such as premorbid mental health conditions, abuse in different forms, sexual orientation, and finally paves a pathway to suicide ideation. This is furthered by factors such as isolation, entrapment, emotional dysregulation which are often outcomes

of the precarious nature of the individual vulnerabilities that young people face, increasing their motivation towards greater risk. These are noted by behaviours such as substance use, excessive gaming, and addiction to devices.

The heightened nature of risks is often responsible for volitional actions such as planning and attempt. In other words, suicidal behaviours do not follow a linear process, nor is there a single risk factor associated with it. It is critical to assess situations looking at the combination of context, environment and the individual. Furthermore, the ability to not only evaluate individual risks, but the intensity of compounded risks is important.

The trajectory to suicide among adolescent children appears to begin with intersections between vulnerable identities and negative experiences at school or at home in the form of poor academic performance/anticipation of the same, or illtreatment by professors, peers, or family. This is in-line with global trends

in teenage suicide that have identified female gender and ethnic minorities/ minority groups to have a higher incidence of suicide, when confronted by negative events such as bullying/ victimisation (McLoughin et al., 2015).

Deaths pertaining to the academic environment may not be as direct as it appears. There is growing academic stress, as universally recognised, for all youth. In India, the social mobility of vulnerable families has become dependent on the younger generations' ability to enter careers with growing salaries, which are in-turn linked to their academic performances. Such career opportunities are limited, with less than 10 percent of the 140 crore Indian population earning average salaries. For children with existing stressors of their vulnerable/ minority identities, as delineated by the Minority Stress model that explains how such financial difficulties and discrimination fuel conflicts within and outside families, the pressure to score

can be a huge emotional burden. COVID did exacerbate the situation. The decision to shift to online classes was a highly disruptive experience that did not take into account persons who could not afford a device. Thus, risk factors are deeply entrenched in the functioning of the conventional academic systems coupled with lack of average salaried employment opportunities.

The onus of managing such enormous stressors is on the youth themselves. While some have strong support systems to assist them, those with familial conflicts and/or poor peer networks may struggle with coping. They are further said to have poor emotional regulation if unable to positively cope with this system.

Marraccini et al. (2022) posits that when looking at this phenomenon through the lens of the Ecological systems theory, schools have influence across all levels from ontosystem to exosystem and thus school-level interventions are pertinent.



Insight #2: The IMV model offers a basic yet insufficient framework for understanding the pathways that lead to adolescent suicide.

The Integrated Motivational-Volitional model posits that when an individual experiences distress, an association is formed between the feeling of distress and, in this case, suicidal ideation. The impact of the distress is triggered by the environment and the ecosystem, negative life events compounded by individual vulnerabilities, which resonates with systems theories surrounding development (Bronfenbrenner, 1979).

The three phases helped to understand the complexity of the pathway and how each factor in each phase appeared to contribute to the behaviours. This may help in predicting future behaviours and enable stakeholders to provide better support interventions.

There is a need to view an individual's trajectory across stages:

Academic environment/family conflict/negative life events/SES → isolation, poor emotional management, enrolling in games that promote self-harm, feelings of humiliation/entrapment, fear, poor social support → suicide planning (suicide note, procuring pesticide/gun) & suicide.

Aspects such as decision making ability, and any other related factors that may influence trajectory from ideation to action do not seem adequately covered in the IMV model. Thus a new model for adolescent suicide using such a framework as a base must be developed.



Insight #3: Gaps in available data make it difficult to track linkages between ideation, planning, and the act.

There is a dearth of specific data available to adequately study suicide risk factors, their prevalence along with tracking linkages between various stages. While NCRB data provides suicide rates, it lacks many dimensions and nuances required to understand specific risk factors (and combinations) that led to suicide. Even in peer-reviewed articles, some risk factors such as diet and tobacco use did not come through. Furthermore, the data could be more complete. For example, if data from public health repositories are concomitantly analysed, it would provide a more comprehensive overview. Public health data would need to be carefully analysed by sorting out cases with high probability of suicide (for example, death by poisoning/stomach ache, etc.).

Given the current data gap, alternative sources could be useful to add dimensions to better understand phenomena. In our study, we explored two types of data, news reports and peer-reviewed journals. News reports are in general a source of data that allows us to see immediate trends as well as up to date information, along with being a widely accessible source of information. Inversely, they also have some constraints such as limited depth of information and lack of peer-review. In the specific case of suicide, newspaper reporting is post-hoc, leaving gaps on information related to suicide. There is under-reporting

on suicides related to homelessness, indigenous communities, refugees and migrants, LGBTQ+ communities, as these are vulnerable groups at a higher risk of suicide. There is a need to investigate the ideation behind reported deaths related to drug abuse, overdoses and road accidents. Many news reports have also reported adolescent suicide through the lens of impulsivity. Impulsivity is often associated with suicidal behaviour but escapes the need to look at influencing factors, therefore moving away from a framework of ideation-to-action (Pillai et al., 2009; Balaji et al., 2023).

Peer reviewed journal articles can also be explored to access more in-depth information related to suicide. They provide a source of credible, trust-worthy and in-depth data. They also can be very detailed, making it difficult to aggregate information. For this particular study on suicide, the peer-reviewed journal articles validate as well as complement the information provided from other sources.

Given the complex and multifactorial nature of risk factors for adolescent suicide, access to reliable, timely and comprehensive data is critical. The lack of easily accessible data sources that enable us to track, monitor and understand risk factors is an important contributor to developing an adequate strategy that addresses risk factors for adolescent suicide.

/ Recommendations

Implementation

Relevant stakeholders need to be sensitised and trained on the potential risk factors based on the IMV model (students as peers, teachers, parents, community leaders, volunteers across rural and urban areas) and also trained as first responders in identifying risk factors, providing first aid, and referring to other services based on need. A stakeholder network can be formed to work towards strengthening family and peer support, identify ways to reduce pressure on academic performance, along with prevention of and redressal mechanisms for abuse and harassment. It is also important to ensure that recommendations in the national suicide prevention strategy have implementation plans. Mass media-based information campaigns to raise awareness about the complex interplay between suicide, mental health issues including substance use, and socio-economic factors are much needed ways of reducing stigma and non-judgement. Journalists trained on appropriate reporting of suicide is also required to move away from sensationalisation or using a reductionist approach to describe the complex phenomenon considering it impacts suicides directly.

Suicide Prevention or Health Promotion Strategies

It is important to note that suicide prevention strategies must focus on promoting the general health of populations: macroeconomic policies aiming at social justice, schemes to meet

basic human needs, building resilience, organising support systems within vulnerable sections of society (youth; gay, lesbian, and transgenders; those discriminated based on caste, etc.), reducing access to dangerous materials, addressing gender issues, and increasing public awareness through the mass media rather than merely focusing on medical, psychiatric, and other strategies that target individuals (e.g., treatment of mental illness, counseling, etc.). Using affordable innovations in technology for increasing awareness and enhancing crisis support (chatbots, tele-helplines, etc.) is the need of the hour. Providing Helping Adolescents Thrive (HAT) training as recommended by the WHO to build resilience and improve capabilities of adolescents may have significant impact of adolescents MH (Helping Adolescents Thrive Toolkit, 2021).

Improving Research Around Suicide in India

Identifying Research Gaps: There is a need for more robust data collection and assessments which include adolescent children from vulnerable communities (such as refugees, migrants, street children, those living in children's shelters, LGBTQIA+ community members, indigenous communities and other marginalised individuals). Individual risk factors anecdotally portrayed by popular media and news reports, such as relationship issues, internet/gaming-related addictive behaviours and impulsivity need further scientific exploration. The sociocultural and systematic risk factors in local

contexts such as poverty, caste-based discrimination and violence and their impact on suicidal thought also need further research.

Refining Research Tools: Validation and utilisation of ideation-to-action, theoretical frameworks to conceptualise suicide and understand factors along the pathway to suicide is required. Exploring designs such as ecological momentary assessments with context analysis for collecting suicide-related data will be beneficiary. A comprehensive analysis of all risk factors is required to understand patterns and the severity of the ideation-to-action pathway.

Limitations and Way Forward:

Newspapers provided a narrow view of the deaths by suicide, cannot be used to gain a complete picture of the event while screening news reports, only national English daily news reports were considered due to resource limitations. The smaller sample size can limit the possibility of generalisability. Better sources of information and research into causes and not just prevalence of suicide need to be explored.

Only articles that had results specific to 10-19 year old adolescents were used for this analysis. An appropriate model for the population was not available for this study.

/ Conclusion

The systematic review looked at identifying different risk factors and their movement towards a trajectory of suicide. Multifactorial processes play a role in understanding suicidal behaviors and pathways, and the IMV framework

provides a nuanced outlook towards adolescent suicide in India. This study is a step towards contextualising the multifactorial ways in which distress can lead to suicide among adolescents in India.



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/ Appendix

Inclusion Criteria: The published journal articles were selected using the following inclusion criteria.

1. Participants cited must be between the age of 10-19 years
2. Participants must be residing in or citizens of India
3. The research article should have been published in the last 15 years (2008-2022)
4. The independent variable is the "risk factor" experienced by the individual and includes education status, educational pressure, societal pressure, romantic relationships, parental education, adverse childhood experiences (ACEs), socio-economic status (SES) and the COVID-19 Pandemic. ACEs consisted of physical abuse, verbal abuse, sexual abuse, physical neglect, emotional neglect, an alcoholic parent, witnessing domestic violence of their mother, a family member jailed, a mentally ill family member, and loss of a parent due to divorce, death, or separation (Felitti et al., 2020)
5. The ACE had to have occurred before the age of 19
6. The dependent variable includes "suicidal behaviour". This includes any form of attempt to suicide, suicidal ideation, self harm and death by suicide
7. Lastly, studies that meet ethical guidelines of consent, anonymity, data protection and sensitivity were included.

Process of review: Published Journal articles This review followed a semi-structured approach. The relevant

literature was collected using TISSOL, access provided by Tata Institute of Social Sciences, to access online journals; databases such as PubMed, Google Scholar, Scopus, and PsychInfo were used. The keywords entered into the system for searching the papers included: "risk factor"; "cause"; "socio-economic status"; "pandemic"; "COVID-19"; "chronic illness"; "mood disorder"; "substance use"; "adverse childhood experiences", "physical abuse"; "education status"; "romantic relationships"; "incarcerated parent"; "educational pressure"; "domestic violence"; "maltreatment"; "mental disorder"; "illness"; "suicide"; "suicide ideation"; "suicidal behaviour"; "suicide attempt"; "death"; "trauma"; "traumatic experience"; "dissociation".

Studies that meet the inclusion criteria were shortlisted and screened.

News Reports: All articles obtained through a Google news search were used to collect the press media reporting of suicide cases. The news was searched using keyword combinations - "Adolescent/student/teen/youth", "India", & "Suicide". English was the preferred language for the selected news reports, as they were likely to be representative of a national perspective rather than the use of region-specific news. Online news reports from Deccan, The News Minute, India Today, Indian Express, The Economic Times, Deccan Chronicle, The Hindu, India.com, Deccan Herald, Khaleej Times, Hindustan Times, DAWN, NDTV, DNA India, Daily O, The Bridge, The Print, The Week, News18, Gulf News, ABP News, The Telegraph, Business Standard, The Logical Indian, Asianet, Republic World, The Hans India, and Fox News, were obtained. Multiple rounds of screening included checking for duplicates and ensuring that the inclusion criteria were met.

Figure 10: Guidelines for Research Studies - PRISMA (2020)

