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A Comparative Assessment of Knowledge on Suicidal Behavior: Risk Factors and Preventive Measures among Adolescent Girls and Boys (Aged 16–19 Years) in Selected Schools of Ludhiana District, Punjab

Kamaldeep Kaur*

Abstract

Background: *The prevalence of suicidal behavior among adolescent students is a significant concern, as it involves the tragic loss of vital years of life. According to WHO estimates for the year 2018, around one million people worldwide lost their lives to suicide, and there were 10 to 20 times more suicide attempts. This study aimed to assess and compare the knowledge about risk factors and preventive measures related to suicidal behavior among adolescent girls and boys aged 16–19 in selected schools in Ludhiana, Punjab.* ***Aim:*** *The study aims to evaluate the understanding of risk factors and preventive measures related to suicidal behavior among adolescent girls and boys aged 16–19 and to compare the knowledge of these aspects between adolescent girls and boys.* ***Materials and Methods:*** *The research was conducted in a chosen school. The study was comparative in nature having 126 adolescent girls and boys (63 boys and 63 girls). The adolescent girls and boys were selected by random sampling technique. Firstly, the demographic tool, tool regarding risk factors and tool regarding preventive measures of suicidal behavior was prepared and then administered.* ***Findings and Conclusion:*** *Based on the study's findings, it can be concluded that both adolescent boys (87.10%) and girls (93.85%) possessed moderate knowledge about the risk factors, and 93.85% of boys and 80.65% of girls had knowledge about preventive measures. The results indicate that adolescent boys exhibited a higher level of knowledge regarding both risk factors and preventive measures for suicidal behavior compared to girls. No statistically significant relationship was found with the demographic variables (age, gender, education, family income per month, family type, size of family, marital status of parents, source of information, and family history of suicide.*

Keywords: Adolescent boys and girls, preventive measures, risk factors, school, suicidal behavior

"The pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty."

—Winston Churchill

***Author for Correspondence**
Kamaldeep Kaur
E-mail: kamalvirk72@yahoo.in

Student, Department of Nursing, Baba Farid University of Health Sciences, Faridkot, Punjab, India

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INTRODUCTION

It is an established reality that all living organisms on Earth engage in a struggle for survival and continued existence. Individuals contemplating or committing suicide likely experience a sense of being overwhelmed by their challenges. They may find it difficult to cope with intense pressures and perceive death as the sole means of escape. The poignant act of self-inflicted death has consistently drawn the interest of both the medical and legal

communities. Life is inherently fraught with risks, requiring individuals to make decisions about the level of peril they are prepared to confront [1].

The term "suicide" is derived from the Latin words "sui," meaning oneself, and "cudium," meaning to kill, referring to the deliberate act of ending one's own life. Coined by Sir Thomas Brown in 1642 in his work "Religio Medici," the term has sparked diverse responses in the public consciousness [2].

Suicidal behavior is characterized as a deliberate preoccupation or action with the intent of causing one's own death voluntarily. This behavior is typically categorized into various forms, including suicide ideation, suicide threats, suicide gestures, suicidal attempts, and completed suicide. It is essential to note that suicide is not a general ailment but rather a manifestation of an individual's distressed and narrow reasoning within an internally felt state. Bhagavat Gita is against self-torture and self-killing. Islam is also against the snatching life from the hands of the God. Untidiest Augustine (354–430 AD) declared that it is as in punishable by eternity of hell [3].

The most vulnerable age to commit suicide is adolescents. The World Health Organization has categorized "adolescents" as individuals aged 10–19 years. Presently, India boasts one of the largest adolescent populations globally. This generation is pivotal in determining the future of India, and addressing the health and developmental requirements of adolescents is a crucial commitment for the country's prospective economic, social, and political advancement, and stability [4].

Adolescence, spanning from ages 11 to 20, marks a distinct developmental stage characterized by significant shifts in growth and learning. During this period, young individuals embark on a journey of self-discovery, grappling with questions about their identity and contemplating their future path. Adolescence entails substantial changes, encompassing transformations in the body, thoughts, and emotions. The developmental phase is laden with stress, confusion, fear, and uncertainty, coupled with the pressure to succeed. Teenagers experience heightened emotional states and an enhanced ability to think in novel ways, influencing their problem-solving and decision-making capacities. Faced with these challenges and lacking effective coping mechanisms, adolescents may feel overwhelmed, resorting to escapist measures such as developing a negative attitude towards themselves, others in society, and, ultimately, contemplating suicide [5].

Knowledge refers to the understanding or awareness that adolescents possess regarding the risk factors and preventive measures associated with suicidal behavior. There is a significant imperative to provide adolescents with information about suicide. Teenage suicide often follows a stressful life event, such as perceived academic failure, the termination of a romantic relationship, the loss of a loved one, marital separation, or a significant family dispute. Disruptions in routine life, such as changes in family structure (e.g., parental divorce or relocation to a new community), alterations in friendships, academic challenges, or other forms of loss, can be highly distressing and overwhelming. Some individuals may find problems insurmountable or too embarrassing to address, leading suicide to appear as a seemingly perfect solution [6].

Psychiatric diagnosis is a significant risk factor; more than 90% of youth suicides have at least one diagnosis. This statistic highlights the prevention and intervention needs among our own clinical populations. Depressive disorders are most prevalent, and depression alone is a more serious risk factor for girls. Substance abuse is also strongly linked with suicide attempts, especially when combined with mood or anxiety symptoms. Recent research (Epstein & Spirito, 2009) highlights drug use along with victimization by peers and health problems as critical risk indicators. Self-mutilative behavior is also associated with increased risk, contrary to popular thought [7].

Adolescents whose parents have a history of depression or substance abuse are at increased risk, as are children who have been physically or sexually abused. Consideration of adolescent internal

resources, such as coping and problem-solving skills and self-esteem, are important. External resources, particularly availability of social support, are also a critical risk mitigation factor. Social support systems are especially important for already vulnerable adolescents, such as those with serious mental illness or disability. Another risk factor is the level of stress, with a particular focus on the adolescent's perception of stressful events. In terms of types of stressors, suicidal behavior is linked to interpersonal conflict or loss, typically parent-child conflict for young adolescents and romantic problems for older teens. Given teens' impulsivity, even short-term stressors may prove critical. In addition, cultural and family factors are important [8].

Bullying has consistently elevated the likelihood of experiencing suicidal thoughts and engaging in suicidal behavior. Recent studies on peer victimization, encompassing the prevalent occurrence of cyberbullying, indicate that young individuals who are threatened or harmed by peers are 2.4 times more prone to report suicidal thoughts and 3.3 times more inclined to report engaging in suicidal behavior compared to their non-victimized counterparts. Additionally, there is a heightened risk of "copycat" behavior among gay, lesbian, and bisexual youth, making them more susceptible to suicide [9].

Teen suicide risk factors encompass depression, which includes feelings of isolation or hopelessness, substance abuse like alcohol or drugs, a family history involving abuse, suicide, or violence, prior suicide attempts, recent significant losses such as death, breakup, parental divorce, or illness, reluctance to seek help due to fear of ridicule, experiencing bullying either as a victim or perpetrator, exposure to instances of suicide by peers or media figures, and having access to firearms (with nearly half of teen suicide deaths involving guns) [10].

A study in South Korea aimed at exploring the occurrence and risk factors of suicidal behavior among adolescents revealed a prevalence of 5.2% for suicide attempts. The risk factors identified were suicidal ideation (31.83), depression (7.98), drugs abuse (4.67), currently smoking (3.19), feeling unhappiness (2.77), stress (2.60), currently drinking alcohol (2.39), sexual activity (2.33), living with neither parent(2.24), initial alcohol drinking by age 9 (1.80), health status (2.15), skipped breakfast (1.75), disease (1.65), and school records (1.22) [11].

The adolescent suicide rate has greatly increased in recent years. Suicides among individuals aged 15 to 24 years used to constitute 5% of all suicides in 2000, but this proportion has now risen to 14% by 2008. Consequently, suicide ranks as the third leading cause of death among adolescents. Specifically, suicide rates have tripled for males aged 10–14 years, quadrupled for males aged 15–19 years, and doubled for females. Males in the 15–19 age group are nearly five times more likely to commit suicide than their female counterparts. According to the American Association of Suicidology, in 2001, a total of 30,622 suicides were reported, with 3,971 occurring among individuals aged 15 to 19 years [12].

Recognizing and intervening early in mental and substance abuse disorders is the most effective strategy for preventing suicide and suicidal behavior. Addressing stress and imparting coping skills can also contribute to preventing suicidal tendencies. Promoting positive lifestyle changes, including maintaining a healthy diet, ensuring adequate sleep, and spending at least 30 minutes outdoors or in nature each day, is essential. Exercise plays a crucial role by releasing endorphins, alleviating stress, and fostering emotional well-being. Developing a safety plan and eliminating potential means of suicide, along with providing ongoing support, are crucial. Research indicates that suicide prevention programs with the highest likelihood of success focus on identifying and treating mental illness and substance abuse, managing stress, and controlling aggressive behaviors [13].

NEED OF THE STUDY

Suicidal behavior in adolescent students is a significant concern, given the tragic loss it poses during their prime years. According to WHO estimates for the year 2018, around one million individuals

worldwide died by suicide, and there were 10 to 20 times more suicide attempts. On average, this equates to one death every 40 seconds and one suicide attempt every 3 seconds [14]. In the last two decades, official figures of suicide rate have increased from 7.9 to 10.3 per 100,000 in India as reported by Vijay Kumar (2017). The true number of suicides is understandably higher than the officially reported figures [15].

Y S Rana had reported that the suicide cases in Punjab rises by 23.9 percent during last decade, majority are youth in Chandigarh. The report states that the main reason of death among the youth in the country is suicide. More than one lakh persons (1,34,599) lost their lives by committing suicides in the country in 2010. It indicates an increase of 5.9 per cent over the previous year's figure (1,27,151), adds the report. The city has recorded a 5.3 percent decrease in suicide cases in 2010 over 2009. 26.8 percent suicides victims in Chandigarh were middle-level education. The city has recorded 7 percent suicide cases due to failure in examination; 8.5 per cent due to love affairs and 12.7 per cent have committed suicide on account of unemployment in the city. Most of the suicides victims in Punjab were illiterate (33.4 percent) [16].

A female student enrolled in the fashion design program at a local college reportedly took her own life by hanging in her hostel room on April 13, 2013, according to the police. The student, identified as Tajinder Kaur, aged 20, hanged herself from a ceiling fan in the Gujranwala Guru Nanak College Hostel. Davinder Chaudhri, the Station House Officer (SHO) of Model Town police station, mentioned that there was no discovery of a suicide note in her room. Surjit Singh, the father of the deceased, who arrived after learning about his daughter's demise, informed the media that Kaur might have experienced stress due to the academic workload [17].

In Sharma's study conducted in 2008, it was discovered that 15.8% of adolescents reported contemplating suicide, and 5.1% had made actual suicide attempts. These figures were higher among females than males. The study identified statistically significant correlations with the students' age, parental living arrangements, the employment status of mothers, and whether the student engaged in part-time work [18].

The study conducted by the department of Psychiatry at the Government Medical College and Hospital in Chandigarh aimed to examine suicide cases in the year 2013. The objective was to evaluate the socio-demographic characteristics, psychosocial factors, and psychiatric and physical comorbidities associated with completed suicide. A total of 101 suicide cases were examined using a semi-structured proforma to record information on socio-demographic profiles, psychosocial variables, and treatment details. Most suicide victims (59.4%) were in the age group of 12 to 19 years, with a slightly higher proportion of males (57.4%) compared to females (42.57%). Hanging was the most prevalent method used (72.2%), and psychosocial stressors were identified in 60.3% of the cases. Psychiatric illness was present in 33.6% of cases, but only 48.5% of these individuals sought treatment before attempting suicide. Additionally, behavioral changes were observed in 57.4% of subjects before the suicidal attempt [19].

A controlled study was undertaken in Karnataka in 2006 to evaluate the knowledge and attitudes of adolescents concerning suicide prevention. Adolescence is recognized as a phase characterized by challenges and emotional turmoil, making adolescents susceptible to suicidal tendencies. The research involved 250 participants selected from specific schools. The result revealed that the adolescent boys have knowledge mean score (14.04), which is more than the adolescent girls. Hence, the study concludes that adolescent girls have less knowledge regarding the prevention of suicide [20].

Suicide stands as the second most prevalent cause of mortality, trailing only motor vehicle accidents, in teenagers and young adults. On average, adolescents aged 15 to 19 years exhibit an annual suicide rate of approximately 1 in 10,000 individuals. Within the 12 to 16-year age group, up to 10% of boys

and 20% of girls have contemplated suicide. Additionally, gay and lesbian adolescents are more prone to suicide attempts than their heterosexual counterparts. First Nations and Inuit teens face suicide rates 5 to 8 times higher than the general population [21].

In 2015, approximately 877,000 lives were lost globally due to suicide. Some developed nations have introduced national suicide prevention plans, typically suggesting various interventions; however, their efficacy is seldom assessed. Suicide is a significant concern in the Indian context, with over one lakh (one hundred thousand) lives lost annually to suicide in the country. Over the last two decades, the suicide rate has risen from 7.9 to 10.3 per 100,000. Notably, there is substantial variation in suicide rates across different regions of the country [22].

The occurrence of suicide-risk behavior was identified as significantly elevated and warrants attention as a public health concern. As indicated by the existing literature, it is widely recognized that adolescents, particularly those in the age range of 15 to 19 years, are more susceptible to engaging in suicidal behavior. In our daily life, whenever we read the newspaper, we found that one or two cases are of adolescent suicide. Recently there was news that one student of ninth standard in Ludhiana committed suicide because of the fear that she will fail in academics. This incident was reported in the Ajit Newspaper, highlighting that it occurred due to a lack of knowledge about preventive measures. Consequently, adolescents need awareness about both the risk factors and preventive measures for suicidal behavior. Recognizing this need, the researcher decided to conduct the study to assess adolescents' knowledge of risk factors and preventive measures related to suicidal behavior [20].

AIM

The aim of the study is to assess the knowledge of adolescent girls and boys (Age 16–19 years) regarding risk factors and preventive measures and to compare knowledge of adolescent girls and boys regarding risk factors and preventive measures of suicidal behavior.

OBJECTIVES

1. To assess the knowledge regarding risk factors and preventive measures of suicidal behavior among adolescent girls and boys (age 16–19 years).
2. To evaluate and contrast the understanding of risk factors and preventive measures related to suicidal behavior among adolescent girls and boys aged 16 to 19 years.
3. To find out the relationship between knowledge regarding risk factors and preventive measures of suicidal behavior with the selected demographic variables.
4. To prepare and distribute the information booklet to reduce the risk factors and prevent suicidal behavior among adolescent boys and girls based on study findings.

ASSUMPTIONS

1. Adolescent girls and boys may have some knowledge regarding the risk factors and preventive measures of suicidal behavior.
2. Adolescent girls and boys may have some knowledge difference regarding the risk factors and preventive measures of suicidal behavior.

DELIMITATION OF THE STUDY

Study is limited to adolescent boys and girls (age 16–19 years) studying in the Government Senior Secondary School of district Ludhiana, Punjab.

OPERATIONAL DEFINITIONS

1. *Knowledge:* It refers to the awareness of adolescents regarding risk factors and preventive measures of suicidal behavior as elicited by knowledge questionnaire.
2. *Risk factors:* It refers to any situation that increases the chances of developing suicidal behavior among adolescents.

3. *Preventive measures:* It refers to the measures which diminish the possibilities of occurrence of suicidal behavior among adolescents.
4. *Suicidal behavior:* It refers to thoughts or actions of adolescents that may lead to self-inflicted death or severe injury.
5. *Adolescents:* These are the individuals whose age is between the age group (16–19) years who are studying in Victoria Public School, Lehra, and Government Senior Secondary School, Dehlon, Ludhiana.

CONCEPTUAL FRAMEWORK

Conceptualization is a process of forming ideas, designs, and plans. A conceptual framework involves organizing relevant concepts to address a research problem, providing a reference framework for clinical practice, research, and education. It holds significance for the nursing profession, connecting with nursing theories that guide professional practice, education, and research. Nursing theories contribute to shaping these aspects, offering insights for both practice settings and research frameworks. This study seeks to evaluate the awareness and knowledge of risk factors and preventive measures related to suicidal behavior among adolescents aged 16 to 19 years and aims to raise awareness about these factors among adolescents. The conceptual framework employed in this study draws from Dorothy Johnson's Behavior System Model (1986). According to Johnson's model (1980), a nursing client is conceptualized as a behavioral system, with nursing-relevant behaviors organized into seven subsystems. Each subsystem is analogous to the anatomy of a biological subsystem, and it identifies the components and subcomponents for recognizing the behavior subsystem (Johnson, 1990). Johnson (1980) explains that any imbalance in the behavioral subsystems leads to disequilibrium. Human beings, according to Johnson, have two major systems: the biological system and the behavioral system. She defines the human being as a behavioral system that continuously adjusts to achieve, maintain, or restore balance to the steady state, which is adaptation (Figure 1) [23].

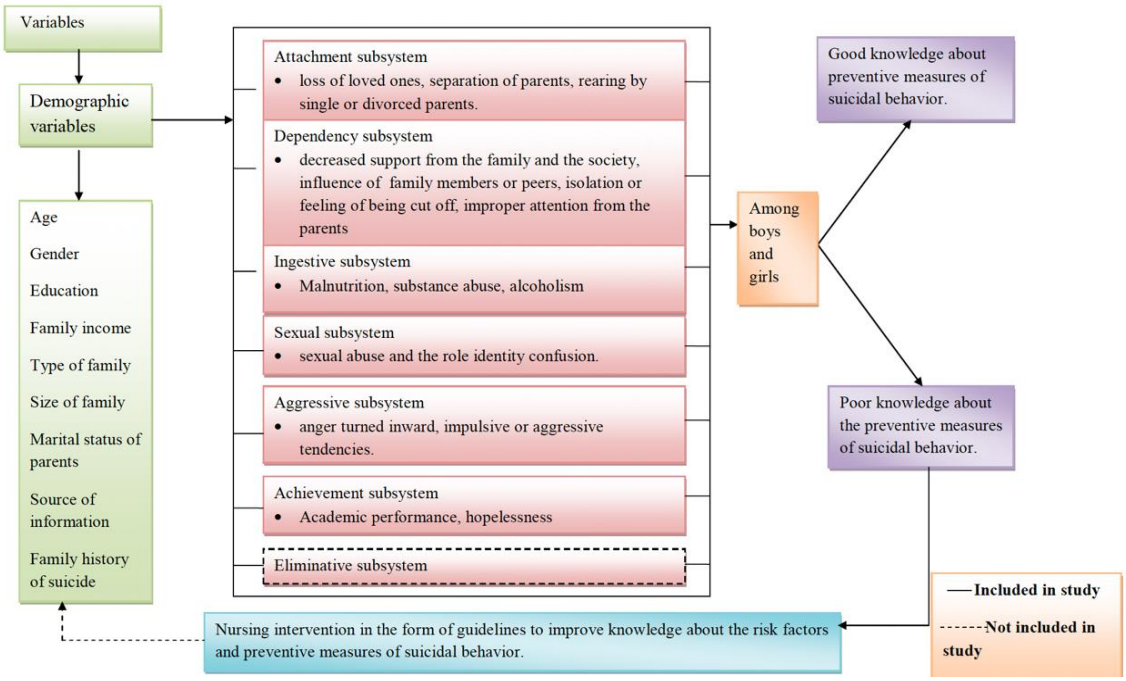

Figure 1. Conceptual framework: Jhonson's behaviour system model.

In accordance with this theory, variables refer to external factors that impact the behavior of the system, yet the system lacks the ability to alter them. In the study, the variables which affect the behavior system are age, gender, education, family income, type of family, size of family, marital status of the parents, and source of information.

Seven Subsystems

1. *Attachment or affiliative subsystem:* It fulfills the requirement for security by means of social inclusion or intimacy. In the study the attachment subsystem includes the risk factors such as loss of loved ones, separation of parents, rearing by single or divorced parents.
2. *Dependency subsystem:* These behaviors are intended to attract attention, recognition, and physical assistance. But it includes decreased support from the family and society, influence of family members or peers, isolation or feeling of being cut off, improper attention from the parents as a risk factor for the suicidal behavior in the present study.
3. *Ingestive subsystem:* It meets the biological needs for food and fluids, serving the purpose of appetitive satisfaction. But the same subsystem in the form of negative influence includes the risk factors such as malnutrition, substance abuse and alcoholism or any physical illness.
4. *Eliminative subsystem:* It relates to behaviors surrounding the excretion of wastes product from the body.
5. *Sexual subsystem:* It fulfills the biological needs for procreation and reproduction. But in this age group the risk factors concerned with the sexual subsystem are negative which is sexual abuse and the role identity confusion.
6. *Aggressive subsystem:* It serves the purpose of self and social protection and preservation. In the study the aggressive subsystem is in negative form concerned with the anger turned inward, impulsive, or aggressive tendencies.
7. *Achievement subsystem:* It serves the purpose of mastering and controlling the self or the environment. But in this age group they are more concerned with academic performance, hopelessness which are the risk factor which is concerned in the study as achievement subsystem.

Functional Requirements of the Individual According to this Theory

1. Protection from unwanted disturbance stimuli.
2. Nurturance through giving input from the environment (food, friendship and caring).
3. Stimulation by experience, behavior that enhance growth and prevent stagnation.

These subsystems continue to maintain the balance as both the internal and external environment are orderly, predictable and each requirement is met. In the study, if there is balance between the subsystems then there is good knowledge about the risk factors and preventive measures of suicidal behavior and hence decreased rates of suicide among the adolescents. If the balance is disturbed, then there is poor knowledge about the preventive measures of suicidal behavior and hence increased rates of suicide.

In accordance with the theory, nursing acts as an external regulatory force aimed at modifying or changing the subsystem. In the present study nursing care is provided in the form of guidelines regarding the risk factors and the preventive measures of suicidal behavior. Hence, the researcher feels that giving guidelines regarding the risk factors and preventive measures of suicidal behavior will enhance their knowledge and help them to prevent further suicidal behavior and tendencies [24].

REVIEW OF LITERATURE

The review of literature is a crucial stage in the research process, representing a continuous endeavor in nursing research where insights from previous studies form an essential component. In this phase, researchers scrutinize existing knowledge before embarking on a new study and assess the applicability of new knowledge in the context of nursing practice. The literature review is an extensive review of the studies to gain good insight in interest [25].

The review of literature in the present study is divided into two parts:

1. Literature review related to knowledge regarding risk factors of suicidal behavior among adolescent girls and boys.
2. Literature review related to knowledge regarding preventive measures of suicidal behavior among adolescent girls and boys.

1. Literature Review Related to Knowledge Regarding Risk Factors of Suicidal Behavior Among Adolescent Girls and Boys

Sigurden E, Stlaey D, Matas M, Hidhal K, and Squair K. (2017) conducted a study in Seine-Saint-Denis, a French department. The association between suicidal risk and various psychological or biographical factors in teenagers or young adults is already well documented. A total of 1,139 individuals, aged between 16 and 25, who consecutively sought assistance at a preventive health center supported by the National Health Insurance System, were invited to undergo a semi-structured interview with a psychologist using Hamilton's Depression Rating Scale and Beck's Hopelessness Scale. The results indicated that 1,004 records were analyzed concerning self-administered questionnaires, and among those, 576 were included in the interview with the psychologist, providing data related to suicidal risk. The study concluded that these findings could be valuable for enhancing awareness within educational, social, and healthcare circles, facilitating the development of more effective screening and preventive programs [26].

According to American Academy of Pediatrics (2017), the most common risk factors nowadays is cyberbullying which is leading to suicide among adolescents. At the national conference in New Orleans, the American Academy of Pediatrics identified a distinct correlation between cyberbullying and suicide. In the study, researchers collected data about youth suicides from the Internet, including information about the demographics of the individuals involved. Of the 41 suicide cases they identified, researchers found that 78% of the people involved had been victims of bullying at school and online. Less than 20%were targeted solely online. The authors note that 32% of the adolescents who took their lives were reported to have a mood disorder, while 15% experienced symptoms of depression. The study concludes that cyberbullying is only one of many issues involved in youth suicide. They note that face-to-face bullying is also a factor that preceded suicide among youth [27].

In a 2015 article by Carly Weeks discussing new research on the connection between bullying and teen suicide, it was noted that a study published in the Archives of Pediatrics and Adolescent Medicine revealed that individuals aged 10 to 17 who had been subjected to peer victimization in the past year were 2.4 times more prone to "suicidal ideation," indicating thoughts or plans related to suicide. The study identified bullying as just one of several risk factors for suicidal thoughts. Young people who had experienced sexual assault in the past year were 3.4 times more likely to have suicidal ideation, while those who faced mistreatment by a parent or caregiver were 4.4 times more likely to contemplate suicide [28].

A research study was conducted on youth suicide in South Delhi by Lalwari S, Sharma GA, Kabar SK, Girdhar S, and Dogra TD (2011–2012), recognizing it as a significant concern requiring a comprehensive investigation for the development of prevention strategies. The study involved a retrospective analysis of 222 cases of suicide deaths in the age group of 10–18 years. The postmortem examinations were performed at the Department of Forensic Medicine and Toxicology, All India Institute of Medical Sciences, New Delhi, covering the period from January 1, 1991, to December 31, 2000. The cases were examined based on age group, gender, suicide method, and reasons for the act. Among the 222 cases, 123 (55.4%) were females (female: male ratio of 1.24:10). The most common age group involved in both sexes was 15–18 years. Hanging was the most prevalent method for suicide (57% in girls, 49.5% in boys), followed by poisoning (37.4% in girls, 49.5% in boys) [29].

According to Pridutt Bansal (2011), various methods followed by the adolescents for suicide and psychiatric disorders are the risk factors for suicide. This was explained by a cross-sectional study that was done for a period of 1 year in a medical college and research center in North India. Most of the participants in the study were males (61%), and 70% were below the age of 20. The study's results indicated that the primary method of suicide was self-poisoning (69%), followed by burning, hanging, electrocution, and being run over by trains. The predominant psychiatric illness identified was affective disorder (57%), with depressive disorder (46%) being a significant category within affective disorders. The study emphasizes the need for awareness programs, preventive measures, and the establishment of

an effective psychiatric referral system to mitigate the incidence of suicides. Despite the prevalence of suicide, there is a scarcity of data on this topic from India [30].

The results from a national cohort study by Windfuhr K, While D, Hunt IM, Shaw J, Appleby L, and Kapur N (2010) aimed at examining the influence of narrative verdicts on suicide statistics among 10–19 year-olds in England and Wales utilized mid-year population estimates from the Office for National Statistics (ONS). Rates per 100,000 population for suicide (including undetermined and suicide verdicts) and accidental deaths (such as poisoning and hanging) were calculated for the age groups 10–14 and 15–19. The study identified a total of 1523 suicides, resulting in a rate of 2.25 per 100,000. The highest suicide rates were observed in the age group 15–19 years (4.04 per 100,000), with males exhibiting a rate of 3.14 per 100,000. The study concludes that there is little knowledge among adolescents about suicide [31].

A cross-sectional study by Kar N (2010) to assess the risk factors associated with suicide in Unao on 149 suicide attempters and found that male to female ratio was around 1:3 in adolescents and most of the attempters were from rural areas. The attempters reported childhood trauma (76%), had addiction (63.45%). Most attempters belonged to extended families, and most of them had expressed suicidal ideas before the actual act. Most of the attempters had a middle socioeconomic status (SES). Hence, it was concluded that childhood trauma and addiction play significant role in suicide [32].

A study was conducted by Maneranjithrm SD, Rajkumar AP, Thangadurai P, Parsad J, Jayakarn R, and Jacob KS (2010) on risk factors for suicide in department of psychiatric nursing, Christian Medical College, Vellore, India. The main goal was to identify significant risk factors for suicide in rural South India. The study employed a matched case-control design and utilized psychological autopsy to evaluate 100 living controls. The findings emphasized that factors such as psychological stress and social isolation, as opposed to psychiatric morbidity, contribute to suicide in rural South India [33].

A cross-sectional study was conducted Priti Arun and B.S Chavan (2009) on school students in the urban area of Chandigarh city to investigate stress, psychological health, and the presence of suicidal ideas, as well as to explore any correlations between these variables. Data was collected from 2402 students in classes VII to XII. Among the students, 1078 (45.8%) reported psychological problems, 1201 students (half of the total) perceived issues in their roles as students, 930 (45%) reported academic decline, 180 (8.82%) students felt that life was burdensome, 122 (6%) reported suicidal ideas, and 8 (0.39%) students mentioned attempting suicide. The study concluded that students facing academic challenges and experiencing an unsupportive home environment were more likely to perceive life as burdensome and exhibit the highest rates of suicidal ideation [34].

Aglan A, Kerfoot M, and Pickles A (2008) conducted prospective studies which indicated that individuals who intentionally harm themselves during adolescence experience elevated levels of adversity and psychiatric disorders in their adult outcomes. The goal of this study was to identify pathways linking childhood risk factors to early adult outcomes of suicidal adolescents. A follow-up study was conducted on a clinical sample of 158 adolescents who intentionally poisoned themselves, tracking them six years later. In early adulthood, 80% of the cohort (n = 126) participated in interviews utilizing standardized measures to assess psychopathology and social functioning. The study found that a sizable portion of the influence of child sexual abuse and hopelessness on the likelihood of deliberate self-harm in early adulthood was mediated by high adversity and the duration of major depression. However, chronic major depression emerged as the sole risk factor independently linked to deliberate self-harm in adulthood once the correlation with adversity was considered [35].

According to Takahiro Hasumi et al. (2008), parental support and involvement is related to the mental health of the individual. The researchers investigated the correlation between parental involvement and mental well-being in a nationally representative sample of 6721 school-going adolescents aged 13 to 15 years who participated in India's Global School-based Student Health Survey (GSHS) in 2007. The

students reported a decline in parental involvement, including homework checking, parental understanding of their problems, and parental knowledge of their free-time activities, as they grew older. Concurrently, poor mental health indicators, such as loneliness, insomnia due to anxiety, sadness, and hopelessness, increased with age. The study indicates a prevalent occurrence of mental health issues, particularly symptoms of depression, among Indian adolescents that escalate with age. Additionally, it suggests that adolescents reporting higher levels of parental involvement tend to exhibit lower levels of depression, loneliness, and anxiety [36].

A school-based health survey was conducted by Rudatsikira E, Muula AS, Sizuya S, and Twa-Twa J (2008) to determine the prevalence of suicide ideation and explore factors associated with it among school-going adolescents in rural Uganda. Both bivariate and multivariate logistic regression analyses were employed to assess associations. The findings revealed that 21.6% of the participants, with 21.3% of males and 23.5% of females, had seriously considered committing suicide in the past 12 months. Loneliness and worry showed a positive association with suicidal ideation. Males were less likely to contemplate suicide seriously compared to females [OR= 0.70; 95% CI (0.50, 0.98)]. The study emphasized that adolescent suicidal ideation constitutes a significant public health concern in rural Uganda [37].

Gururaj G and Issac MK (2007) concluded the risk factors of suicide was further quantified in a case-control study in Bangalore, India. The study involved 269 families of completed suicides and 269 living controls from the city's broader population, utilizing psychological autopsy methods. The findings indicated that significant risk factors for completed suicides included a history of previous suicide attempts by oneself (42.62), interpersonal conflicts, alcoholism (23.38), the presence of mental illness (11.07), and domestic violence (6.82). Individuals who committed suicides lacked a positive outlook toward life, effective problem-solving approaches, and coping skills. The conclusion emphasized the need for intervention strategies that encompass both macro and micro-level efforts targeting individuals, families, and society [38].

According to Krishnakumar P, Geeta MG, and Gopalan AV (2005), children who were referred to the child guidance clinic for assessment following recovery from poisoning effects during the five-year period from 2000 to 2005 were the focus of this study. The evaluation included an assessment of stress factors, psychiatric disorders, and the nature and method of deliberate self-poisoning. Deliberate self-poisoning accounted for 0.9% of the total admissions related to poisoning during this period. The study involved 10 boys and 2 girls aged between 16 and 18 years. Both acute and chronic stress in family and school settings were found to be linked to deliberate self-poisoning. Most of these individuals had psychiatric disorders, and the most common poison used was rat poison (zinc phosphide). Interestingly, two children reported getting the idea from watching TV serials [39].

A cross-sectional survey was conducted by Chen PC, Lee LK, Wong KC, and Kaur J (2005) in Malaysian schools aimed to explore factors associated with suicidal behavior among adolescents. The study involved 4,500 adolescent students surveyed through a structured questionnaire administered in a supervised, self-administered manner. The findings indicated that 7% (312 out of 4,454) of adolescent students had seriously contemplated attempting suicide. Female adolescents were more prone to translating their suicidal thoughts into actions compared to their male counterparts. Additionally, Malay, and Indian individuals were more likely than the Chinese to report feelings of sadness and hopelessness, concerns about safety at school, riding with an alcohol-consuming driver, engaging in physical fights, and experiencing school absenteeism. So, the adolescents need to be focused on the suicidal behavior as explained in the study [40].

Sankey M and Lawrence R (2005) examined the suicide and risk-taking deaths of adolescent aged 12–18 years between January 1996 and December 2000. The methodology involves a review of government records, specifically case files. The study focused on 187 adolescents (133 males, 54

females) who died by suicide and engaged in risk-taking behaviors. The adolescents were categorized into three distinct groups based on the circumstances surrounding their deaths: those resulting from enduring difficulties (124 cases), pivotal life events (26 cases), and adolescent experimentation (28 cases). The conclusion drawn from the study underscores the urgent need to decrease the suicide rate among adolescents [41].

Aseltine (2004) conducted exploratory study to assess the knowledge regarding suicide and signs of suicide in Tamil Nadu. 2,100 students in 5 high schools were randomly selected. Self-administered questionnaire was completed by students. The results revealed that 23.33% of high school students had knowledge regarding suicide. Students exhibited significantly elevated rates of suicide attempts, coupled with lower levels of knowledge and less adaptive attitudes regarding depression and suicide [42].

Gururaj G, Issac MK, Subbakrishna DK, and Rajani R conduced on risk factors for completed suicide in Bangalore, Karnataka. The study aimed to identify and quantify risk factors for completed suicides in Bangalore by conducting psychological autopsy interviews with the families of 269 completed suicides and 269 living controls within the broader population of the city. The significant factors associated with completed suicides included the presence of a previous suicidal attempt in oneself [odds ratio (OR) = 42.62], interpersonal conflicts and marital disharmony with a spouse [OR = 27.98], alcoholism in oneself [OR = 23.38], the presence of mental illness [OR = 11.07], sudden economic bankruptcy [OR = 7.1], domestic violence [OR = 6.82], and unemployment [OR = 6.15]. Individuals completing suicides did not exhibit a positive outlook towards life, problem-solving approaches, and coping skills [43].

Srivastava MK, Sahoo RN, Ghotekar LH, and Dutta S (2004) conducted a case-control study to evaluate the risk factors linked to attempted suicide in individuals residing in and around Pondicherry, involving 137 consecutive cases of attempted suicide admitted to Jawaharlal Institute of Postgraduate Medical Education and Research. In 6(4.34%) cases there was history of parental loss, 2(1.5%) cases had history of suicide /suicide attempt in their family, and 2 (1.5%) cases had history of pervious suicide attempt. In the controls, parental loss was found in only one subject, and none had any history of suicide in their family. Forty-seven (34.3%) cases and 16 (11.75) control subjects had experienced stressful life events during the previous six months [44].

A retrospective review was done in Department of Pediatrics University of Utah, USA. This study describes the pattern of adolescent suicide details in New Mexico. The study examined autopsies of adolescent suicides aged 20 years and younger from 1990 to 1994, identifying 184 cases. Factors such as demographics, depression, previous suicide attempts, and substance use were analyzed. The overall suicide rate was 12.9 per 100,000. Notably, 15% of decedents had previous suicide attempts, and 50% had alcohol or drugs present at the time of death. Among American Indian/Alaska Natives, this figure rose to 74% (p= .0003). The study underscores the importance of training medical professionals, educators, and youth leaders to recognize behavioral signs and limit access to firearms, advocating for firearm removal from households as a preventive measure [45].

A descriptive and retrospective study was conducted by Werenko DD et al. (2001) at the Department of Psychiatry, University of Manitoba, Winnipeg, analyzed 204 cases from the Chief Medical Examiner's office involving youths aged 24 years and younger who died by suicide between 1984 and 1988 in Manitoba. The study revealed a significant male predominance, a notable presence of younger adolescents, and a suicide rate among the Native population that was ten times higher than among non-Natives. Suicide methods varied by gender and race, with males more frequently using hanging and overdose, while Natives were more prone to hanging compared to non-natives, who more often used firearms. Urban areas saw the highest percentage of Native suicides. Risk factors identified included depression and substance abuse. The study suggests several recommendations for improving post-suicide information gathering and implementing prevention and intervention programs [46].

2. Literature Review Related to Knowledge Regarding Preventive Measures of Suicidal Behavior among Adolescent Girls and Boys

An article LEADS (2017) says that a study compared students at three schools who received LEADS (linking education and awareness of depression and suicide) with students at five schools who did not receive the intervention. Intervention group students completed the pretest, posttest, and follow-up survey (at 3-month follow-up), and control group students completed the posttest survey only, prior to receiving a suicide prevention presentation. At posttest, a significantly higher percentage (45.93%) of students in the intervention than control group correctly answered "true" to the statements. This study reveals the effectiveness of LEADS in improving the knowledge regarding suicide and depression [47].

Nandagaon V (2017) conducted an evaluative study to assess the knowledge of adolescents regarding prevention of suicidal behavior by evaluating the effectiveness of structured teaching programme (STP). The sample consisted of 60 adolescent students and selected by convenient sampling technique by administering the structured knowledge questionnaire. The study found that the average pre-test knowledge score was 19.3, while the average post-test knowledge score was 30.1, demonstrating a notable increase in knowledge. Based on these findings, the researcher concluded that the structured teaching program effectively imparted knowledge about preventing suicidal behavior among adolescents [48].

According to Smith Filip (2015), the online training is also effective in decreasing suicide rates hence improving the health status of the individuals. A randomized controlled trial was conducted to evaluate the efficacy of Mental Health Online, an online training program comprising eight brief e-learning modules designed to address recognition, guidance, and referral processes for suicidal adolescents aged 12 to 20 in Dutch. The study involved 154 adolescents who participated in the program, which enabled them to access information on adolescent suicide prevention flexibly and conveniently, at their own pace and from any location with internet connectivity. Hence it concluded that the online training program is effective in reducing suicides [49].

Swartz KL, Cox TS (2010) conducted a study to evaluate the effectiveness of a school-based adolescent depression education program in Baltimore, Maryland. The study aimed to reduce the suicide rate among adolescents linked to depression. Over the period from 2001 to 2005, a total of 3,538 students were surveyed regarding their understanding of depression before and after exposure to the ADAP curriculum. Results indicated a significant increase in the number of students achieving a score of 80% or higher on the assessment tool, rising from 701 during the pre-test to 2,180 in the post-test, suggesting the effectiveness of the ADAP curriculum. However, the study emphasized the need for further investigation and replication to ascertain whether enhanced knowledge leads to greater willingness to seek treatment [50].

Kalafat J and Elias M (2010) conducted an experimental study to evaluate the effectiveness of a school-based suicide awareness intervention among adolescents in Tamkur, Karnataka on 60 adolescent students in the selected school. Data collection was conducted through a self-report questionnaire. Findings indicated that the experimental groups exhibited notable improvements in pertinent knowledge regarding suicide prevention compared to the control groups. Additionally, they displayed significantly more favorable attitudes towards seeking help and intervening with distressed peers [51].

According to Portzky G and van Heeringen K (2009), there is a great need for suicide related education to be provided at schools. The effectiveness of the school based educational program on suicide prevention in adolescence was assessed. Structured questionnaires were given to students aged 14 to 18 before and after the program to evaluate its impact on knowledge, attitudes, coping mechanisms, and feelings of hopelessness. The study revealed a positive impact on knowledge, with a post-test score averaging 87.22%. Additionally, it identified an interaction effect between the program and gender regarding attitudes. Results indicated that gender and pre-test scores influenced knowledge, attitudes, and coping strategies. While psycho-educational programs in schools were found to influence

knowledge and attitudes toward suicide, they did not seem to affect coping styles or levels of hopelessness, as suggested by the study's findings [52].

A psychological autopsy study conducted by Moskos M, Olson L, and Halbern S (2005) to delve deeper into youth suicide in Utah underscores the significance of screening programs in suicide prevention. The study concentrated its interviews on pinpointing which individuals in the deceased's life were able to identify risk factors for suicidal behavior, symptoms of mental illness, and obstacles to accessing mental health treatment. The findings suggest that parents and friends emerge as the most suitable individuals for such identification, and the implementation of innovative screening programs could prove to be an effective strategy in curbing adolescent suicide [53].

A study was conducted by Vin Washington, USA, aimed to evaluate the effectiveness of a school-based prevention program in reducing suicide risk among high-risk youth. The study involved 105 participants at risk of suicide who took part in a three-group intervention study, with data collected at pre-intervention, 5-month, and 10-month follow-up assessments. Results indicated that all groups experienced reductions in suicide risk behaviors, depression, hopelessness, stress, and anger, alongside increased levels of self-esteem and social support networks. These findings demonstrated the potential effectiveness of the experimental school-based prevention program. The study concluded that implementing necessary and effective strategies for suicide prevention is crucial [54].

A paper by Lalwani S and Girdhar S (2004) throws light on the incidence and trends of suicidal behavior among Indian youth. This study focused on examining the occurrence and patterns of suicide among children and adolescents in northern India, aiming to develop effective prevention strategies. Employing a retrospective analysis, the study investigated 222 cases of suicidal deaths within the age range of 10 to 18 years, all of which underwent postmortem examinations at the Department of Forensic Medicine and Toxicology. Findings revealed that out of the 222 cases, 123 (55.4%) were females, with the most prevalent age group being 15 to 18 years for both genders. Consequently, the study suggests that implementing suicide prevention strategies based on identifying risk factors could be more efficacious than solely restricting access to specific methods [55].

A study was conducted by Gayers BN, West SL, Ford LA, Frame P. Klein J, and Lohr KN (2004) to assess the effectiveness of various suicide-prevention interventions, focusing on primary outcomes such as suicidal behavior (including completion, attempts, and ideation), as well as secondary outcomes like treatment-seeking behavior, identification of at-risk individuals, and rates of antidepressant prescription/use and referrals. Experts from 15 countries reviewed studies falling into three main categories with clearly defined research questions: systematic reviews and meta-analyses (n=10), quantitative studies such as randomized controlled trials (n=18) or cohort studies (n=24), and ecological or population-based studies where formal meta-analysis was not feasible, leading to a narrative synthesis of findings. The study concludes that understanding which components of suicide prevention programs effectively reduce suicide rates and attempts is crucial for optimizing the allocation of limited resources [56].

A study was conducted by Polewka A (2003) in Collegium Medicum University Jagiellonskiego Krakowie. The aim of the study is to investigate the current state of knowledge concerning suicidal behavior and attempted suicide in adolescents and young and adults. The analysis of literature on the topic includes a focus on suicide epidemiology, risk factors, prevention, and treatment. Notably, there has been a significant rise in the suicide rate within this age group in recent years. A multicenter study by the World Health Organization (WHO) on suicidal behavior highlights that young females aged 15 to 24 years exhibit the highest average yearly rates of suicide attempts in Europe. The authors conclude by emphasizing the crucial need for an interdisciplinary approach when working with individuals at risk of suicide. Attention has also been drawn to the importance of personal contact and the necessity to accompany the individual in suicidal crisis from the beginning to the end of the therapy [57].

A study was conducted by Orbach I, Bar- Joseph (2003) in Israel to evaluate the impact of a suicide prevention program for adolescents on variables including suicidal tendencies, hopelessness, ego identity, and coping ability. The study involved 393 adolescents from six schools who were randomly assigned to either experimental (n=215) or control (n=178) groups. Participants in the experimental group attended seven weekly 2-hour sessions as part of the program. Utilizing a pre-test-post-test design, students completed questionnaires assessing the variables before and after the program. Statistical analysis revealed that the experimental group outperformed the control group, indicating the effectiveness of the program, as evidenced by improvements in at least some of the measured outcomes [58].

METHODOLOGY

The methodology for the study is defined as the way pertinent information is gathered in order to answer the research question or analyse the research problem. It allows the researcher to outline the framework of the conducted research. Abdellah (1997) defines research methodology as the structured process through which the researcher progresses from identifying the initial problem to reaching a conclusion.

This article outlines the methodology devised for problem selection and is organized into the following sections:

- Research approach
- Research design
- Variables
- Research settings
- Population
- Sample and sampling technique
- Sampling criteria
- Development and description of data collection tool
- Content validity and Reliability of the tool
- Data collection procedure
- Pilot study
- Ethical consideration
- Data analysis
- Organization of data for analysis

Research Approach

The research approach entails outlining the strategy to examine the phenomenon being studied. The researcher has chosen a quantitative research approach to evaluate the extent of knowledge concerning risk factors and preventive measures of suicidal behavior among adolescents aged 16 to 19, encompassing both girls and boys.

Research Design

The research design serves as a blueprint for conducting research activities and encompasses the plan for gathering and analyzing data, with provisions for enhancing both internal and external validity, as described by Polit and Hungler. Employing a non-experimental, comparative research design, the study aims to compare the levels of knowledge concerning risk factors and preventive measures of suicidal behavior among adolescent girls and boys aged 16 to 19, as depicted in Figure 2.

Variables under Study

- *Demographic variables:* It consists of age, gender, education, family income per month, type of family, size of family, marital status of the parent, source of information, family history of suicide.
- *Dependent variable:* Knowledge regarding risk factors and preventive measures of suicidal behavior.

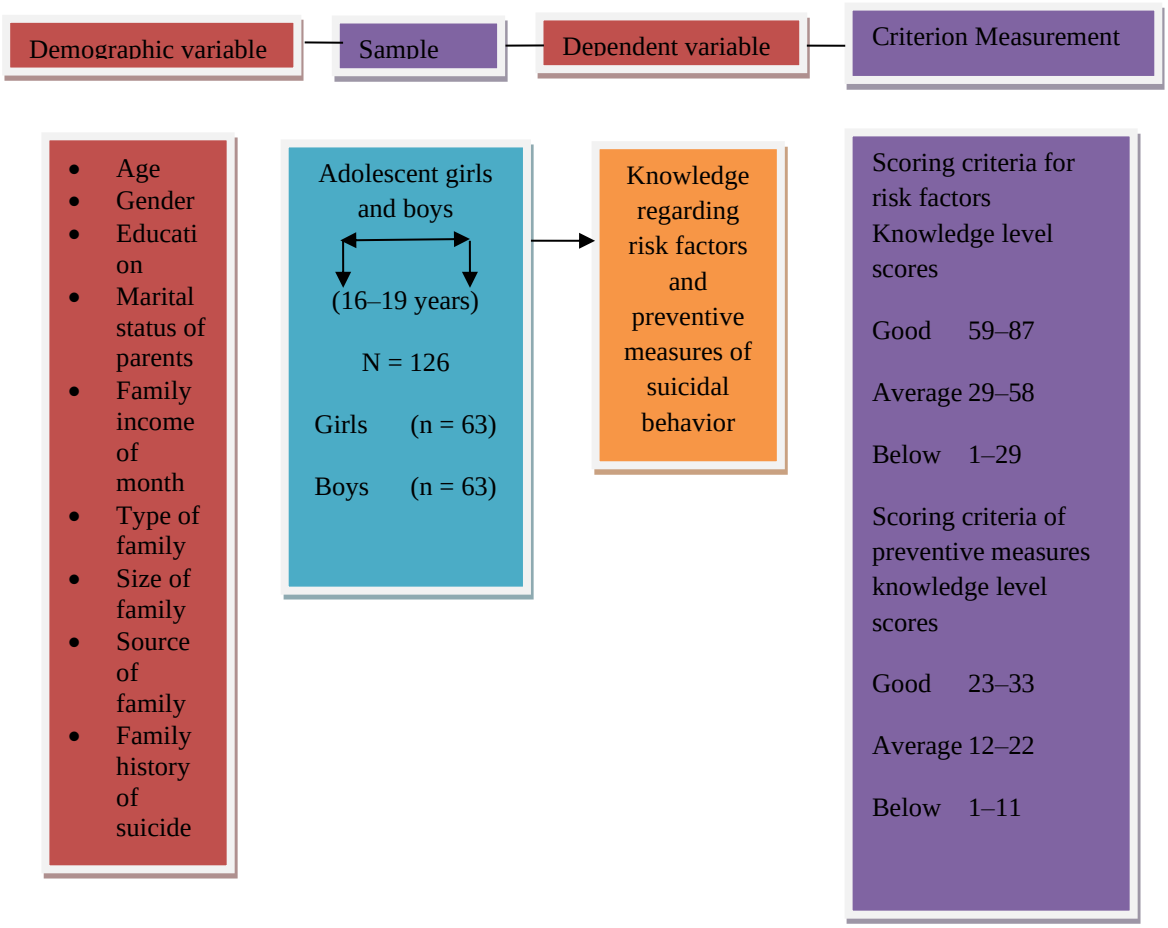

Figure 2. Research design.

Research Setting

The study was conducted in a selected school, Ludhiana, Punjab. The selected school was Government Senior Secondary School, Dehlon, Ludhiana, Punjab. It was 18 kilometres away from Sigma Nursing Training Institute, Ludhiana. The school was situated in 2.0-acre area. It was the most populated school in the area. The school was a senior secondary school having students from 6th to senior secondary. The school was having medical, non-medical, arts, and vocational sections. There were a total of 30 teachers and the total population of the school was 1100 students. There were good drinking water and sanitation facilities. The school had three big playgrounds, a computer lab, library, canteen, bookshop, and many good modern teaching and learning facilities. The school was affiliated to the PSEB board.

Population

All the accessible adolescent girls and boys (Age 16–19 years) studying in the school was the population. The total population of adolescent girls and boys was 250. The target population of adolescent boys and girls (Age 16–19 years) studying in the school was 170 out of which 88 were the girls and 82 were the boys.

Sample

Sample size was calculated by using power analysis method which was found to be 126 Sample comprised of 126 adolescent girls and boys (age 16–19 years) studying in the selected school who fulfill the inclusion criteria. The sample size of the adolescent girls (age 16–19 years) was 63 and adolescent boys (age 16–19 years) was 63.

N = 126

Girls (n = 63), Boys (n = 63)

Sampling Technique

A non-probability sampling method was employed to select the sample for evaluating the understanding of risk factors and preventive measures of suicidal behavior among adolescents aged 16 to 19, encompassing both girls and boys. Purposive sampling, which involves selecting samples based on the study's objectives, was utilized. This method relies on the researcher's understanding of the population and the study's aim to select suitable participants.

Sampling Criteria

Inclusion criteria

- Adolescent girls and boys of age group 16–19 years
- Adolescent girls and boys (Age 16–19 years) who were studying in selected schools.

Exclusion criteria

- Adolescent boys and girls above the age of 19 years and below the age of 16 years.
- All those who were not available at the time of data collection.

Development and Description of Data Collection Tool

The study utilized a structured questionnaire as the primary tool to evaluate the understanding of risk factors and preventive measures of suicidal behavior among adolescent girls and boys aged 16 to 19 years enrolled in the chosen schools. The selection of questionnaire items was informed by an extensive literature review, student interviews, and researcher observations. The questionnaire comprised three distinct sections:

Part I: Socio-demographic variables

Part II: Self-structured questionnaire to assess the knowledge regarding risk factors for suicidal behavior.

Part III: Self-structured questionnaire to assess the knowledge regarding preventive measures for suicidal behavior.

Description of Tool

Part I: Socio-demographic variables (demographic tool) consist of age, gender, education, income, type of family and source of information, marital status of parents, and family history of suicide.

Part II: Self-structured questionnaire to assess the knowledge regarding risk factors. It consisted of 29 items related to risk factors of suicide. It had a total score of 87. A score of 67 and above indicates good knowledge. From total 29 items, 13 and 17 were the items of negative scoring.

Scoring Criteria

Knowledge level	***Scores***	***Percentage***
Good	59–87	66.7–99.9%
Average	30–58	33.4–66.6%
Below	1–29	33.3%

Part III: Self-structured questionnaire to assess the preventive measures for suicidal behavior. It consisted of a total of 11 items. It had a total score of 33. A score of 25 and above indicates good knowledge about preventive measures of suicide. Of a total of 11 items, 6th item had a negative scoring.

Scoring Criteria

Knowledge level	***Scores***	***Percentage***
Good	22–33	66.7–99.9%
Average	12– 22	33.4–66.6%
Below	1–11	33.3%

Content Validity of the Tool

Validity is the degree to which an instrument measures what it is intended to measure. Content validity was done by obtaining the valuable opinions and suggestions from the experts in psychiatric field such as psychiatrist, clinical psychologist, professors and assistant professors in mental health nursing, community health nursing, obstetric and gynaecological nursing, paediatric nursing. Opinions were also taken from lecturers in medical surgical nursing and paediatric nursing.

Reliability of the Tool

Reliability refers to the consistency of a measure. A tool is considered reliable if the same results are obtained repeatedly. Reliability was calculated by applying split half method and Karl Pearson's correlation coefficient. The reliability of the risk factors of suicidal behavior tool was 0.68. The reliability of preventive measures of suicidal behavior was 0.63. Hence, the tool was reliable to conduct study.

Data Collection Procedure

Data collection procedure is described in Figure 3.

Pilot Study

Pilot study was conducted on 1/10th of total samples. Pilot study was conducted in the month of January with the objective to determine reliability of the tool, feasibility of the study, the analysis technique, and to make the necessary modifications which will be needed to conduct the study in more efficient manner.

Ethical Considerations

- Permission was taken from the Research Ethical Committee of Sigma Nursing Training Institute and principal of school to conduct the study.
- Written consent was taken from the adolescent girls and boys (age 16–19 years) of the selected schools prior to participating in research study.
- Adolescent girls and boys were free to participate in the study according to their willingness.
- Confidentiality of the information obtained from adolescent girls and boys was maintained.

Problem Faced by the Researcher

- It was difficult to obtain permission from the school because of sensitivity of the topic. Their doubts related to the purpose of the study were clarified.
- It was difficult to make the sample understand the study as it was concerned with the knowledge regarding the risk factors and preventive measures of suicide.
- Some medical terms like family history were not understood by the students, which was clarified.

Data Analysis

Data analysis is a method rendering quantitative information in meaningful and intelligent manner. Statistical procedure enables the researchers to organize, analyse, interpret, and communicate numerical meaningful. Data analysis involved utilizing both descriptive and inferential statistics in line with the study's objectives. Descriptive statistics such as mean, percentage, and standard deviation were employed to understand sample dispersion and average values. Inferential statistics including the t-test and Chi-square method were utilized for data analysis. The t-test was utilized to compare knowledge levels regarding risk factors and preventive measures of suicidal behavior between boys and girls. Chi-square analysis was employed to assess the alignment of demographic variables between boys and girls and to delineate demographic characteristics. Additionally, the t-test was utilized to examine the relationship between knowledge regarding risk factors and preventive measures of suicidal behavior and selected demographic variables.

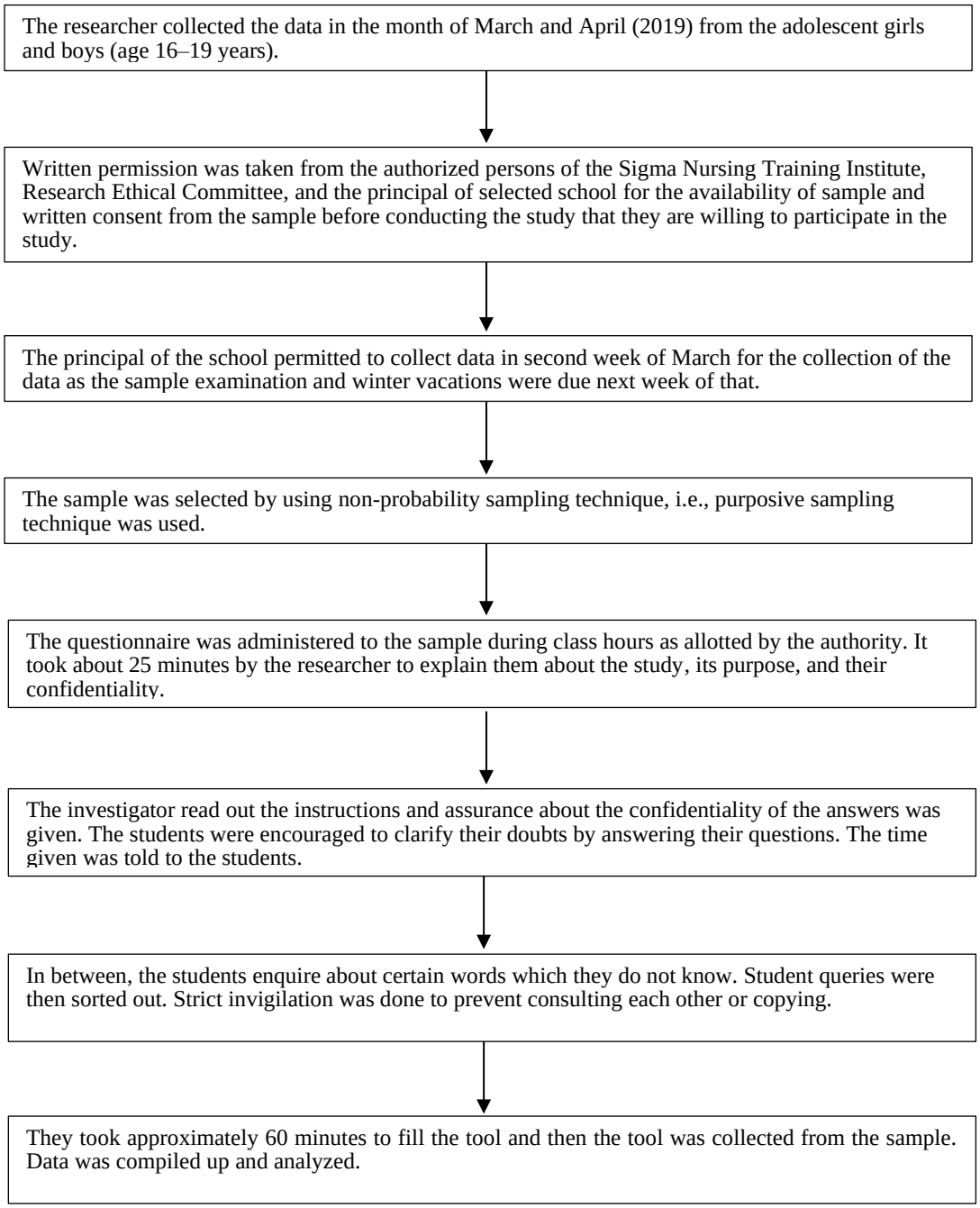

Figure 3. Data collection procedure.

Organisation of Data for Analysis

The analysis of data was done in accordance with the objectives of the study.

- *Section I:* It describes the demographic characteristics of the sample with percentage distribution of sample characteristics. In Section I, Chi square was applied.
- *Section II:* Findings related to mean score of knowledge regarding risk factors and preventive measures of suicide among adolescent girls and boys were gathered. The mean and standard deviation was calculated to find out the percentage of adolescent girls and boys in each category. Comparison of knowledge regarding risk factors and preventive measures was done among adolescent boys and girls by comparing knowledge with the help of unpaired 't' test.
- *Section III:* To find out the relationship of mean knowledge score of adolescent girls and boys in the selected school with the selected demographic variables. The relationship of knowledge

regarding risk factors and preventive measures of suicide with the selected demographic variables was determined with the help of unpaired 't' test.

- *Section IV:* To prepare and distribute an information booklet to reduce the risk factors and prevent suicidal behavior among adolescent boys and girls based on study findings.

Analysis and Interpretation

This article focuses on analyzing and interpreting data to evaluate the understanding of risk factors and preventive measures of suicidal behavior among adolescent girls and boys aged 16 to 19 in selected schools. According to Kerlinger (1973), analysis involves categorizing, organizing, manipulating, and summarizing data to address research questions. The aim of analysis is to condense data into a comprehensible and interpretable format to facilitate the study and testing of relationships between variables. The collected data from the self-structured questionnaire was organized, tabulated, analyzed, and interpreted using descriptive and inferential statistics.

Plan of Analysis

Data analysis was conducted in alignment with the study's objectives, employing both descriptive and inferential statistics. Descriptive statistics, including mean and standard deviation, were computed to understand sample dispersion and average values. Inferential statistics, such as the t-test and Chi-square methods, were utilized for data analysis. The tables and bar diagram were used to present the data. The level of significant chosen was at $p \leq 0.05$, level.

Table 1 shows that the adolescent girls and boys were distributed into various categories according to their age, gender, education, family income per month, type of family, size of family, marital status of parents, source of information, family history of suicide.

According to age, the maximum number of adolescent girls belongs to the age group of 16–17 years (55.38%) and the least in the age group of 18.1–19 years (10.78%), whereas in boys, an equal number of boys were in the age group of 17.1–18 years and 16–17.1 years (46.67%) and the least were in 18.1–19 years (6.66%). According to gender, there are an equal number of boys and girls (100%). It can be concluded that the number of boys (63) and girls (63) was the same in my study.

According to education, maximum adolescent girls were educated up to higher secondary (52.31%) and least in matric (10.76%) whereas in boys, maximum number of adolescent boys were educated up to 10+1(51.61%) and least in matric (4.84%). It can be concluded that most students studied up to secondary class.

As per the family income per month in girls, maximum number of girls were having family income of ₹ 10,001–20,000/- (46.15%) and least in family income less than ₹ 10,000/- (23.8%) whereas in boys maximum adolescent boys fall in the category of family income of ₹ 10,000 (24.19%).

According to family type, maximum number of adolescent girls were from joint family (64.62%) and least adolescent girls were from nuclear (35.38%) whereas in boys, maximum number of adolescent boys were from nuclear family (53.22%) and least were from joint family (46.78%). It can be concluded that maximum numbers of adolescent girls belong to joint family and minimum number of adolescent girls belongs to nuclear family. It can be concluded that maximum number of adolescent boys belong to nuclear family as well as least adolescent boys belong to joint family.

As per the size of family, the maximum number of girls have 5–8 members (53%) and least have less than 4 members (15.38%) whereas in boys, maximum adolescent boys have 5–8 members (38.71%) and least adolescent boys have less than 4 (25.81%). It can be concluded that the maximum number of adolescent girls were having 5–8 members.

According to marital status of parents, maximum girls had married parents (81.54%) and least were having separated parents (1.54%) and in boys, maximum adolescent boys had married parents (95.16%) and least had divorced parents (1.62%). As per source of information, maximum number of girls had obtained information from mass media (60%) and least from others (1.54%) whereas in boys, maximum adolescent boys obtained information from mass media (50%), and least from others (3.22%).

According to family history of suicide, all adolescent girls and boys both have no family history of suicide (100%). It can be concluded that all adolescent girls and boys have no previous family history of suicide.

Hence, it was concluded that most of the girls were in the age group of 16–17 years, had family income per month ₹ 10,001–20,000/-, had higher secondary education, were from joint family, had 5–8 members in family, had married parents, had information from mass media and had no family history of suicide. In the case of boys, majority were in age group 16–18, had family income ₹ 10,001–20,000/-, were in 10+1 standard, were from nuclear family, had 5–8 members, had married parents, obtained information from mass media, and had no family history of suicide.

Hence, it was concluded that matching of the sample in both girls and boys was done according to variables by using homogeneity (chi square). All the variables matched among boys and girls.

Objective 1: To Assess the Knowledge Regarding Risk Factors and Preventive Measures of Suicidal Behaviour among Adolescent Girls and Boys (Age 16–19 Years)

Table 2 depicts that maximum number (93.85%) of adolescent girls had average level of knowledge score and 4.62% of the adolescent girls had proficient level knowledge and only 1.53% had low level of knowledge. On the other hand, maximum (87.10%) number of adolescent boys had average level of knowledge, 11.29% had good knowledge and only 1.61% had below average knowledge score regarding risk factors of suicide.

Hence, it can be concluded that maximum students had average knowledge score regarding risk factors of suicide.

Table 1. Percentage distribution of sample characteristics (N = 126).

Characteristics	**Girls (n = 63) n %**	**Boys (n = 63) n %**	**df (χ^2)**
Age (in years)			
a. 16–17	36 55.38	29 46.77	1 2.19^{NS}
b. 17.1–18	20 33.84	29 46.77	
c. 18.1–19	7 10.78	5 6.66	
Gender			
a. Male	-	63 100	0
b. Female	63 100	-	
Education			
a. Matric	7 10.77	3 4.854	1 3.44 ^{NS}
b. 10+1	24 36.92	32 51.61	
c. Higher secondary	32 52.31	28 43.	
Family income per month (in ₹)			
a. ≤ 10,000/-	15 23.08	16 24.19	1 0.46 ^{NS}
b. 10,001–20,000/-	28 46.15	25 40.32	
c. ≥ 20,001	20. 30.77	22 35.49	
Type of family			
a. Nuclear	23 35.38	33 53.22	2 4.08 ^{NS}
b. Joint	40 64.62	30 46.78	
Size of family			
a. ≤ 4	8 15.38	17 25.81	1 2.67 ^{NS}
b. 5–8	35 53.85	24 38.71	
c. ≥ 9	20 30.77	22 35.48	

Marital status of parents			
a. Married	51 81.54	60 95.16	1 5.41 NS
b. Divorced	5 7.69	1 1.62	
c. Separated	1 1.54	-	
d. Widow/widower	6 9.23	2 3.22	
Source of information			
a. Family	19 32.31	16 25.81	1 6.59 NS
b. Friends	4 6.15	14 20.97	
c. Mass media	39 60	31 50	
d. Others	1 1.54	2 3.22	
Family history of suicide			
a. No	63 100	63 100	0
b. Yes	-	-	

*NS: Non-significant *: Significant at p≤0.05 level*

Table 2. Frequency and percentage distribution of level of knowledge score regarding risk factors of suicidal behavior among adolescent girls and boys (N = 126).

Level of knowledge	Score	Girls (n = 63)		Boys (n = 63)	
		n	*%*	*n*	*%*
Good	59–87	3	4.62	7	11.29
Average	30–58	59	93.85	55	87.10
Below	01–29	1	1.53	1	1.61

Maximum knowledge score = 87
Minimum knowledge score = 29

Table 3. Frequency and percentage distribution of level of knowledge score regarding preventive measures of suicidal behavior among adolescent girls and boys (N = 126).

Level of knowledge	Score	Girls (n = 63)		Boys (n = 63)	
		n	*%*	*n*	*%*
Good	22–33	4	6.15	11	17.74
Average	12–22	59	93.85	51	80.65
Below	01–11	-	-	1	1.61

Maximum knowledge score = 33
Minimum knowledge score = 11

Table 3 depicts that maximum number of adolescent girls (93.85%) and boys (80.65%) had average level of knowledge score and 6.15% of the adolescent girls and 17.74% of adolescent boys had satisfactory level of knowledge regarding preventive measures of suicidal behavior. 1.61% of adolescent boys and 0% of adolescent girls had below average knowledge regarding preventive measures of suicidal behavior.

Hence, it can be concluded that maximum adolescent girls and boys had average knowledge score regarding preventive measures of suicidal behavior. Therefore, minimum adolescent girls and boys had good knowledge score regarding preventive measures of suicidal behavior.

Objective 2: To Compare the Knowledge Regarding Risk Factors and Preventive Measures of Suicidal Behavior between Adolescent Girls and Boys (Age 16–19 Years)

Table 4 reveals that according to gender, boys had higher mean knowledge score regarding risk factors of suicidal behavior (62.11) than girls (61.87). Based on t table, the calculated value was less than tabulated critical value so that finding was non-significant. Standard deviation was 5.80 and 4.21 regarding risk factors of suicidal behavior in adolescent girls and boys.

Hence, it was concluded that gender had no impact on knowledge regarding risk factors of suicidal behavior among adolescent girls and boys.

Table 5 and Figure 4 reveals that higher mean knowledge score regarding preventive measures was higher in the boys (23.38) and lower was in girls (22.23).

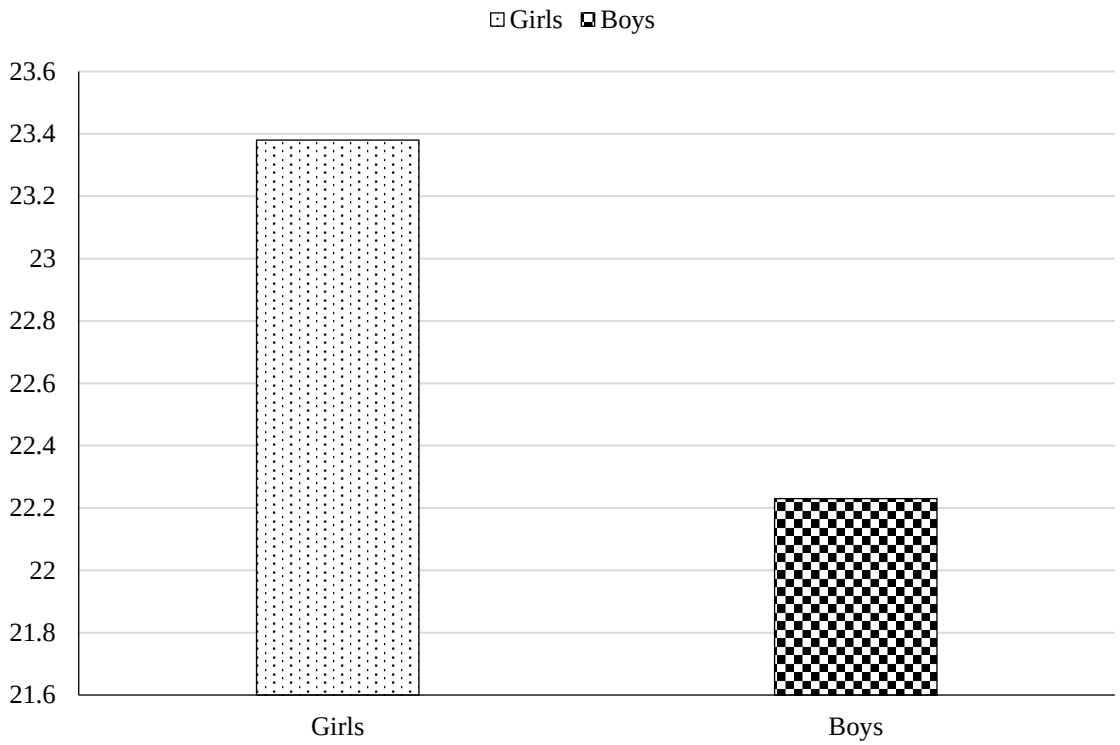

Figure 4. Comparison of level of knowledge score among adolescent girls and boys regarding preventive measures of suicidal behaviour.

Based on t table, the calculated value was more than tabulated critical value so that finding was significant at p≤0.05. Hence, it revealed that gender had impact on knowledge regarding preventive measures of suicidal behavior among adolescent girls and boys. But the mean knowledge score shows that boys had higher knowledge than the girls regarding preventive measures of suicidal behavior.

Table 4. Comparison of knowledge score among adolescent girls and boys regarding risk factors of suicidal behavior (N = 126).

Gender	**Knowledge score regarding risk factors**				
	N	***Mean***	***SD***	***df***	***t***
Boys	63	62.11	5.80	124	1.05^{NS}
Girls	63	61.87	4.21		

Maximum knowledge score = 87, NS = Non-significant
Minimum knowledge score = 29, Significant at p≤ 0.05 level*

Table 5. Comparison of percentage distribution of level of knowledge score among adolescent girls and boys regarding preventive measures of suicidal behavior (N = 126).

Gender	**Knowledge score regarding risk factors**				
	N	***Mean***	***SD***	***df***	***t***
Boys	63	23.38	2.98	124	2.3^{*}
Girls	63	22.23	2.79		

*Maximum knowledge score = 33 * Significant at p≤ 0.05 level*
Minimum knowledge score = 11

Hence, it was concluded that gender had an impact on knowledge regarding preventive measures of suicidal behavior among adolescent girls and boys.

Objective 3: To Find Out the Relationship Between Knowledge and the Selected Demographic Variables Such as Age, Gender, Education, Family Income, Type of Family, Size of Family, Marital Status of the Parents and Source of Information, Family History of Suicide

Table 6 reveals that in girls, highest mean knowledge score is in the age group of 17.1–18 years (62.18) and lowest in the age group of 18.1–19 years (59.71). In boys, highest mean knowledge score was in the age group 18.1–19 years (63) and lowest in the age group of 16.1–17 years (61.86). The calculated t value was less than tabulated value, so findings were non-significant.

Hence, it was concluded that age had no impact on knowledge regarding risk factors of suicidal behavior among adolescent girls and boys.

Table 6. Relationship of mean knowledge score among adolescent girls and boys regarding risk factors of suicidal behavior according to age (N = 126).

Age (in years)	Knowledge scores regarding risk factors							
	Girls (n=63)			Boys (n=63)				
	n	*Mean*	*SD*	*n*	*Mean*	*SD*	*df*	*t*
16–17	36	62.11	3.39	29	61.86	7.04	63	0.31^{NS}
17.1–18	20	62.18	3.31	29	62.24	3.89	47	0.38^{NS}
18.1–19	7	59.71	8.80	5	63	8.83	10	0.56^{NS}

Maximum knowledge score = 87, NS= Non-significant
Minimum knowledge score = 29

Table 7. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measures of suicidal behavior according to age (N = 126).

Age (in years)	Knowledge score regarding preventive measures							
	Girls (n=63)			Boys (n=63)				
	n	*Mean*	*SD*	*n*	*Mean*	*SD*	*df*	*t*
16–17	36	22.44	2.62	29	24.10	3.30	63	1.31^{NS}
17.1–18	20	21.81	3.31	29	22.68	2.67	47	0.89^{NS}
18.1–19	7	22.42	1.90	5	23.25	1.50	10	1.21^{NS}

Maximum knowledge score = 33, NS= Non-significant
Minimum knowledge score = 11

Table 7 reveals that in girls, highest mean knowledge score regarding preventive measures of suicidal behavior was in the age group of 16–17 years (22.44) and 24.10 in boys. Mean knowledge score regarding preventive measures of suicidal behavior was lowest in the age group of 17.1–18 years (21.81) in girls and 22.68 in boys. The calculated t value was less than tabulated value, so findings were non-significant. Hence, it revealed that age had no impact on knowledge regarding preventive measures of suicidal behavior among adolescent girls and boys.

Hence, it was concluded that age had no impact on knowledge regarding preventive measures of suicidal behavior among adolescent girls and boys.

Table 8. Relationship of mean knowledge score among adolescent girls and boys regarding risk factors of suicidal behavior according to education (N = 126).

Education level	Knowledge regarding risk factors							
	Girls (n = 63)			Boys (n = 63)				
	n	*Mean*	*SD*	*n*	*Mean*	*SD*	*df*	*t*
Matric	7	63.71	4.53	3	61	8.66	8	0.52^{NS}
10+1	24	60.83	5.28	32	61.84	6.36	54	0.67^{NS}
Senior secondary	38	62.23	3.10	27	62.55	4.95	58	0

Maximum knowledge score = 87, NS= Non-significant
Minimum knowledge score = 29

Table 8 reveals that according to education in girls, the highest mean knowledge score regarding risk factors was in those who were in matric (63.71) and lowest in 10+1 (60.83). In boys, the highest mean knowledge score was in those who were in senior secondary (62.55), and lowest in matric (61). The calculated t value was less than tabulated critical value, so findings were non-significant. Df was more in senior secondary (38) and lowest in matric (7) in boys. Hence, it revealed that education had no impact on knowledge regarding risk factors of suicidal behavior among adolescent girls and boys.

Table 9. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measure of suicidal behavior according to education (N = 126).

Education level	**Knowledge score regarding preventive measures**							
	Girls (n=63)			**Boys (n=63)**				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	***df***	***t***
Matric	7	23.85	3.48	3	21.66	2.51	8	1.12^{NS}
10+1	24	22.87	1.45	32	24.21	3.38	54	1.71^{NS}
Senior secondary	38	21.44	3.15	28	22.59	2.51	58	1.59^{NS}

Maximum knowledge score = 33, NS = Non-significant
*Minimum knowledge score = 11 * significant at p≤0.05 level*

Table 9 and Figure 5 reveals that according to education in girls, the highest mean knowledge score regarding preventive measures was in those who were in matric (23.85) and lowest in senior secondary (21.44). In boys, the highest mean knowledge score was in those who were in 10+1 (24.21) and lowest in those who were in matric (21.66). The calculated t value is less than tabulated t value, so findings were non-significant.

Hence, it was concluded that education had no impact on knowledge regarding preventive measures of suicidal behavior in adolescent girls and boys.

Table 10. Relationship of mean knowledge score among adolescent girls and boys regarding risk factors of suicidal behavior according to family income per month (N = 126).

Family income per month (in rupees)	**Knowledge scores regarding risk factors**							
	Girls (n=63)			**Boys (n=63)**				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	***df***	***t***
≤10,000/	15	62.06	3.69	16	61.4	8.49	29	0.27^{NS}
10,001- 20,000/	28	61.66	3.25	25	62.68	4.65	51	0.92^{NS}
≥20,001/	20	62.05	5.78	22	61.95	4.92	40	0.06^{NS}

Maximum knowledge score = 87, NS= Non-significant
Minimum knowledge score = 29

Table 10 reveals that according to family income per month, in girls, highest mean knowledge score regarding risk factors was in the girls having income ≤ 10,000/- (62.06) and lowest in the 10,001–20,000/-(61.66). In boys, highest mean knowledge score was in those having income 10,001–20,000 (62.68) and lowest in <10,000/-(61.4). The calculated t value was less than tabulated critical value so that findings were non-significant.

Hence, it revealed that family income per month had no impact on knowledge regarding risk factors of suicidal behavior among the adolescent girls and boys.

Table 11. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measures of suicidal behaviour according to family income per month (N = 126).

Family income per month (in rupees)	**Knowledge regarding preventive measures**							
	Girls (n=63)			**Boys (n=63)**				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	***df***	***t***
≤10,000/	15	23.13	3.15	16	22.26	3.71	29	0.69^{NS}
10,001–20,000/	28	22.2	2.80	25	23.68	2.13	51	2.24*
≥20,001/	20	21.6	2.41	22	23.81	3.20	40	2.56*

Maximum knowledge score = 33, NS= Non-significant
*Minimum knowledge score = 11 * significant at p≤0.05 level*

Table 11 reveals that according to family income per month, in girls, the highest mean knowledge score regarding preventive measures of suicidal behavior was in the girls having income ≤10,000/- (23.13) and 22.26 in boys. Adolescent girls and boys having family income ≥ 20,001/- have lowest mean knowledge score (21.6) and (23.81) regarding preventive measures of suicidal behavior. The calculated t value is more than tabulated t value so that findings were significant which revealed that there is difference in the knowledge level regarding preventive measures of suicide between girls and boys having family income per month of 10,001–20,000/- and ≥ 20,001/-.

Hence, it was concluded that family income per month had no impact on knowledge regarding preventive measures of suicidal behavior among adolescent girls and boys.

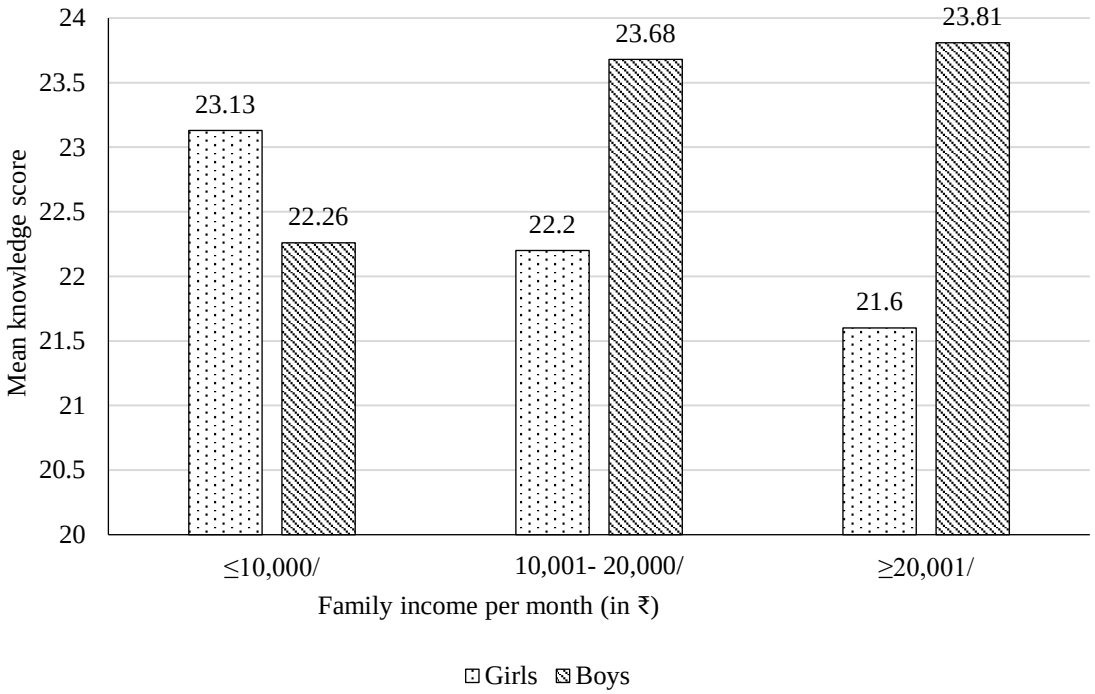

Figure 5. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measure of suicidal behaviour according to family income per month.

Table 12. Relationship of mean knowledge score among adolescent boys and girls regarding risk factors of suicidal behaviour according to family type (N = 126).

Family type	**Knowledge scores regarding risk factors**							
	Girls (n = 63)			**Boys (n = 63)**				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	***df***	***t***
Nuclear	23	62.39	3.51	33	61.93	5.02	54	0.40^{NS}
Joint	40	61.59	4.56	30	62.31	6.66	68	0.51^{NS}

Maximum knowledge score = 87, NS= Non-significant
Minimum knowledge score = 29

Table 12 reveals that according to family type, higher mean knowledge score regarding risk factors of suicidal behavior was higher in nuclear family (62.39) in girls and lowest (61.93) in boys. On the other hand, adolescent boys' knowledge score was highest in joint family (62.31) as compared to adolescent girls (61.59). The calculated t value was less than tabulated critical value, so findings were non-significant.

Hence, it revealed that family type has no impact on knowledge regarding risk factors of suicidal behavior among adolescent girls and boys.

Table 13. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measures of suicidal behaviour according to family type (N = 126).

Family type	Knowledge regarding preventive measures							
	Girls (n=63)			Boys (n=63)				
	n	*Mean*	*SD*	*n*	*Mean*	*SD*	*df*	*t*
Nuclear	23	22.26	3.01	33	23.21	2.14	54	0.29^{NS}
Joint	40	22.21	2.7	30	23.58	3.74	68	0.38^{NS}

Maximum knowledge score = 33, NS= Non-significant
Minimum knowledge score = 11

Table 13 reveals that according to family type, in girls, the higher mean knowledge score regarding preventive measures of suicidal behavior was in nuclear family (22.26) and lower in the joint family (22.21). In boys, the higher mean knowledge score was in joint family (23.58), and lower in nuclear (23.21). Maximum number of adolescent girls having knowledge regarding preventive measures of suicidal behavior belongs to nuclear family and boys belongs to joint family. The calculated t value was less than tabulated critical value so that findings were non-significant.

Hence, it revealed that family type has no impact on knowledge regarding preventive measures of suicidal behavior among adolescent girls and boys.

Table 14. Relationship of mean knowledge score among adolescent girls and boys regarding risk factors of suicidal behaviour according to size of family (N = 126).

Size of family	Knowledge scores regarding risk factors							
	Girls (n = 63)			Boys (n = 63)				
	n	*Mean*	*SD*	*n*	*Mean*	*SD*	*df*	*t*
Less than ≤4	8	62.6	3.97	17	61.68	8.45	23	0.38^{NS}
5–8	35	61.17	4.58	24	62	4.09	57	0.73^{NS}
≥ 9	20	62.75	3.56	22	62.54	5.28	40	0.15^{NS}

Maximum knowledge score = 87, NS= Non-significant
Minimum knowledge score = 29

Table 14 reveals that according to size of family, highest mean knowledge score regarding risk factors of suicidal behavior in girls and boys was in family size of more than 9 (62.75) and (62.54) respectively. Minimum knowledge score of adolescent girls and boys regarding risk factor of suicidal behavior having 5–8 family members in their family. The calculated t value was less than tabulated critical value so that findings were non-significant. The least knowledge score of adolescent girls and boys belongs to less than 4 family members in their families.

Hence, it revealed that size of family had no impact on knowledge regarding risk factors of suicidal behavior among the adolescent girls and boys.

Table 15. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measure of suicidal behaviour according to size of family (N = 126).

Size of family	Knowledge scores regarding preventive measures							
	Girls (n=63)			Boys (n=63)				
	n	*Mean*	*SD*	*n*	*Mean*	*SD*	*df*	*t*
Less than ≤4	8	21.5	1.71	17	23.25	3.89	23	1.59^{NS}
5–8	35	22.4	3.36	24	23.41	2.97	57	0.90^{NS}
≥ 9	20	22.3	2.07	22	23.45	2.30	40	1.71^{NS}

Maximum knowledge score = 33, NS = Non-significant
Minimum knowledge score = 11

Table 15 reveals that according to size of family, in girls, the highest mean knowledge score regarding preventive measures of suicidal behaviour was in family size of 5–8 (22.4) and lowest in the family size of less than 4 (21.5). In boys, the highest mean knowledge score was in family size of more than 9

(23.45) and lowest in less than 4 (23.45). The calculated t value was less than tabulated value so finding was non-significant.

Hence, it revealed that size of family had no impact on knowledge regarding preventive measures of suicidal behavior. However, the mean knowledge score regarding preventive measures of suicidal behavior was more in boys than in girls.

Table 16. Relationship of mean knowledge score among adolescent girls and boys regarding risk factors of suicidal behaviour according to marital status of parents (N = 126).

Marital status of parents	**Knowledge regarding risk factors**							
	Girls (n = 63)			**Boys (n = 63)**				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	**df**	***t***
Married	51	61.64	4.45	60	62.45	4.59	109	0.96^{NS}
Divorced	5	62.8	2.68	1	66	-	4	2.69^{NS}
Separated	1	66	-	-	-	-	-	-
Widow/widower	6	62.5	3.08	2	50	22.62	6	0.77^{NS}

Maximum knowledge score = 87, NS= non-significant
Minimum knowledge score = 29

Table 16 reveals that according to marital status of parents, adolescent girls living with separated parents have same mean knowledge score regarding risk factors of suicide behavior (66) as in boys (66) living with divorced parents. Knowledge score regarding risk factor of suicidal behavior was lowest in adolescent girls living with married parents (61.64) and adolescent boys living with widow/widower (50). The calculated t value was less than tabulated value so that finding was non-significant.

Hence, it revealed that marital status of parents had no impact on knowledge regarding risk factors of suicidal behaviour among adolescent girls and boys.

Table 17. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measure of suicidal behaviour according to marital status of parents (N = 126).

Marital status of parents	**Knowledge score regarding preventive measures**							
	Girls (n = 63)			**Boys (n = 63)**				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	**df**	***t***
Married	51	22.30	3.04	60	23.25	2.92	109	1.72^{NS}
Divorced	5	21.6	1.14	1	24	-	4	**4.8***
Separated	1	23	-	-	-	-	-	-
Widow/widower	6	22	1.26	2	27	4.24	6	1.65^{NS}

Maximum knowledge score = 33, NS= non-significant
*Minimum knowledge score = 11 * Significant at p≤ 0.05 level*

Table 17 and Figure 6 reveals that according to marital status of parents, adolescent girls living with separated parents have highest mean knowledge score regarding preventive measures of suicidal behavior (23) and was lowest in those living with divorced parents. On the other hand, adolescent boys living with widow/widower parents have highest mean knowledge regarding preventive measures of suicidal behavior and lowest in boys living with married parents.

The calculated t value is more than tabulated value so that finding was significant in divorced parents. Hence, it revealed that marital status of parents had impact on knowledge regarding preventive measures of suicidal behaviour.

Table 18 reveals that according to source of information, in girls, the highest mean knowledge score regarding risk factors of suicidal behavior was in those who get information from mass media (62.12) and lowest in those who get information from others (60). In boys, mean knowledge score was highest in those who get information from others (64.5) and lowest in adolescent boys who get information

from friends (59.92). The calculated t value was less than the tabulated value so that finding was non-significant.

Hence, it revealed that the source of information had no impact on knowledge regarding risk factors of suicidal behavior among adolescent girls and boys.

Table 18. Relationship of mean knowledge score among adolescent girls and boys regarding risk factors of suicidal behaviour according to source of information (N = 126).

Source of information	**Knowledge regarding risk factors**							
	Girls (n = 63)			**Boys (n = 63)**				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	**df**	***t***
Family	19	61.61	2.99	16	60.06	4.9	32	1.12^{NS}
Friends	4	61.25	3.68	14	59.92	8.48	16	0.44^{NS}
Mass media	39	62.12	5.54	31	63.93	4.39	68	1.53^{NS}
Others	1	60	-	2	64.5	2.12	1	3.21^{NS}

Maximum knowledge score = 87, NS = Non-significant
Minimum knowledge score = 29

Table 19. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measure of suicidal behaviour according to source of information (N = 126).

Source of information	**Knowledge regarding preventive measures**							
	Girls (n = 63)			**Boys (n = 63)**				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	**df**	***t***
Family	19	21.95	2.01	16	22.18	3.16	33	0.25^{NS}
Friends	4	23	0.81	14	24.07	2.56	16	1.32^{NS}
Mass media	39	22.23	3.26	31	23.6	3.01	68	1.94^{NS}
Others	1	25	-	2	24	2.82	1	0.50^{NS}

Maximum knowledge score = 33, NS = Non-significant
Minimum knowledge score = 11

Table 19 reveals that according to source of information, in girls, the highest mean knowledge score regarding preventive measures was in those who get information from others (25) and lowest in those who get information from family (21.95). In boys, the highest mean knowledge score was in those who received information from friends (24.5), and lowest in those who get information from family (22.18). The calculated t value was less than tabulated value so that finding was non-significant.

Hence, it revealed that the source of information had no impact on knowledge regarding preventive measures of suicidal behavior among the adolescent girls and boys.

Table 20. Relationship of mean knowledge score among adolescent girls and boys regarding risk factors of suicidal behaviour according to family history of suicide (N = 126).

Family history of suicide	**Knowledge scores regarding risk factors**							
	Girls (n = 63)			**Boys (n = 63)**				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	**df**	***t***
Yes	-	-	-	-	-	-	-	-
No	63	61.87	4.21	63	62.11	5.80	124	0.26^{NS}

Maximum knowledge score = 87, NS= non-significant
Minimum knowledge score = 29

Table 20 reveals that according to family history of suicide, mean knowledge score regarding risk factors of suicidal behavior was highest in adolescent boys (62.11) having no family history of suicide than the girls (61.87). The calculated value was less than tabulated critical value so that findings were non-significant. Standard deviation regarding risk factors of suicidal behavior in girls was 4.21 and 5.80 in boys.

Hence, it was concluded that family history played no key role in knowledge regarding suicidal behavior risk factors, but mean knowledge scores show that boys have more knowledge regarding risk factors of suicidal behaviour.

Table 21. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measure of suicidal behaviour according to family history of suicide (N = 126).

Family history of suicide	Knowledge scores regarding preventive measures							
	Girls (n = 63)			Boys (n = 63)				
	n	***Mean***	***SD***	***n***	***Mean***	***SD***	**df**	***t***
Yes	-	-	-	-	-	-	-	-
No	63	22.23	2.79	63	23.38	2.98	124	2.5*

*Maximum knowledge score = 33 * significant at p≤0.05 level*
Minimum knowledge score = 11

Table 21 reveals that according to family history of suicide, the highest mean knowledge score regarding preventive measures of suicidal behavior was in adolescent girls having no family history of suicide (22.23) and in boys (23.38). The calculated value was more than tabulated critical value and it was significant at p≤0.05. The mean knowledge score shows that boys had more knowledge than the girls regarding preventive measures of suicidal behaviour.

Hence, it was concluded that family history played a key role in knowledge regarding preventive measures of suicidal behavior.

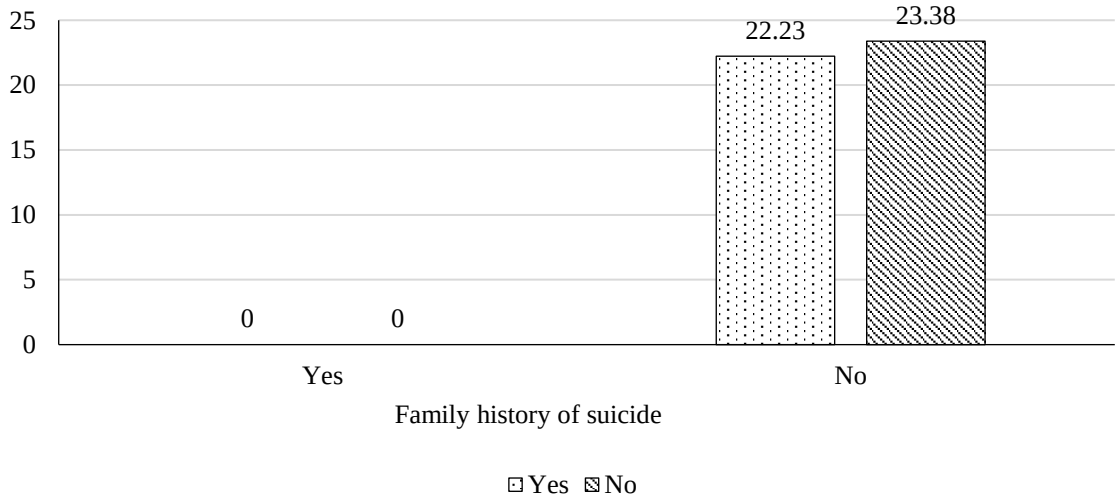

Figure 6. Relationship of mean knowledge score among adolescent girls and boys regarding preventive measures of suicidal behaviour according to family history of suicide.

DISCUSSION

In this section, the investigator interpretively discusses the results of the study. In the discussion, the investigator ties together all the loose ends of the study. The results and the discussion of the study are the investigator's opportunity to examine the logic of the theoretical framework, the methods, and the analysis.

Based upon the findings from the analysis of data and review of literature, discussion was done according to the objectives of the study.

Objective 1: To assess the knowledge regarding risk factors and preventive measures of suicidal behavior among adolescent girls and boys (Age 16–19 years)

The findings regarding knowledge of risk factors show that the maximum number (93.85) of adolescent girls had an average knowledge score, and only 1.53% had a low level of knowledge.

According to the boys, the maximum (87.10) had an average level of knowledge and only 1.61 had below-average knowledge. These findings were in accordance with the study conducted by Shriharsha C (2013), who conducted an experimental study to assess the effectiveness of STP on knowledge of risk factors for suicidal behavior in adolescents in Bagalkot, Karnataka. Findings show that 92% of the adolescents had average knowledge and 8% of them had inadequate knowledge regarding the risk factors in pre-test [59].

The findings regarding knowledge of preventive measures of suicidal behavior shows that maximum number (93.85) of adolescent girls had average level of knowledge score and 6.15% of the adolescent girls had a satisfactory level of knowledge. According to boys, maximum (80.65) had average level of knowledge, and only 1.61 had below-average knowledge. The major findings of the study showed that during the pre-test, 09 (15%) of the subjects had good knowledge, 42 (70%) of the subjects had average knowledge and 09 (15%) of the subjects had poor knowledge regarding prevention of suicidal behavior. This study also shows that maximum students had average level of knowledge regarding preventive measures of suicidal behavior [60].

Objective 2: To compare the knowledge regarding risk factors and preventive measures of suicidal behavior between adolescent girls and boys (Age 16–19 years)

According to the analysis of the second objective, to compare the knowledge regarding risk factors and preventive measures of suicidal behavior, the findings show that there was no statistically significant difference in the knowledge regarding risk factors of suicide among the adolescent girls and boys, but the mean knowledge score shows that boys had more knowledge than the girls regarding risk factors of suicidal behavior. According to preventive measures of suicide, it also revealed that no statistically significant difference was found among girls and boys regarding preventive measures' knowledge. The mean knowledge score shows that boys had more knowledge than the girls regarding preventive measures of suicidal behavior. These findings were in accordance with the study done by Rahul Sharma, "a cross-sectional study to assess suicidal behavior among adolescents in South Delhi". His findings reveal that most of the females commit suicide as they have lesser knowledge regarding the risk factors and preventive measures of suicide [18].

Objective 3: To find out the relationship between knowledge regarding risk factors and preventive measures of suicidal behavior and the selected demographic variables such as age, gender, education, family income per month, type of family, size of family, marital status of the parents, and source of information and family history of suicide

According to age, in girls, the highest mean knowledge score is in the age group of 17.1–18 years (62.18), and lowest in the age group of 18.1–19 years (59.71). In boys, the highest mean knowledge score was in the age group of 18.1–19 years (63), and lowest in the age group of 16.1–17 years (61.86). The relationship was found to be statistically non-significant. Hence, it was revealed that age had no impact on knowledge among the adolescent girls and boys.

According to preventive measures and age, in girls, the highest mean knowledge score regarding preventive measures was in the age group of 16–17 years (22.44), and lowest in the age group of 17.1–18 years (21.81). In boys, the highest mean knowledge score was in the age group of 16–17 years (24.10), and lowest in the age group of 17.1–18 years (22.68). The relationship with age was statistically non-significant at $p<0.05$ level. Hence, it revealed that age had no impact on knowledge regarding preventive measures of suicidal behavior among adolescent girls and boys. These findings were supported by the study conducted by Nalini M.S, and Jyothi [61] conducted a study to assess the adolescents' knowledge regarding risk factors and preventive measures and found that age had no impact on knowledge regarding risk factors and preventive measures of suicide.

According to education in girls, the highest mean knowledge score regarding risk factors was in those who were in matric (63.71), and lowest in 10+1 (60.83). In boys, the highest mean knowledge score

was in those who were in senior secondary (62.55), lowest in matric (61). The difference was statistically non-significant. Therefore, it was evident that education did not influence the knowledge concerning risk factors of suicidal behavior among adolescent girls and boys.

Regarding preventive measures, the highest mean knowledge score in girls was observed in those in matric (23.85), with the lowest in senior secondary (21.44). In boys, the highest mean knowledge score was found in those in 10+1 (24.21), and the lowest was in matric (21.66). However, the difference was non-significant. Therefore, it indicated that education had no impact on knowledge regarding preventive measures of suicidal behavior among adolescent boys. These findings were consistent with the study conducted by Bhasin SK [60] and Sharma R in Delhi, which concluded that education did not play a significant role in knowledge regarding suicidal behavior.

According to family income per month in girls, the highest mean knowledge score regarding risk factors was in the girls having income ⩽ 10,000/- (62.06), and lowest in the 10,001–20,000/-(61.66). In boys, the highest mean knowledge score was in boys having family income 10,001–20,000/-(62.68), and lowest in ⩽ 10,000/- (61.4). The difference was non-significant. Hence, it revealed that family income per month had no impact on knowledge regarding risk factors of suicidal behavior among the adolescent girls and boys [62].

According to preventive measures, in girls, the highest mean knowledge score regarding preventive measures was in the girls having income ⩽ 10,000/- (23.13), and lowest in the ⩾ 20,001/- (21.6) range. In boys, the highest mean knowledge score was in boys having family income ⩾20,001/-(23.81), and lowest in ⩽ 10,000/- (22.26) range. The difference was non-significant. Therefore, it indicated that the monthly family income had no influence on knowledge about preventive measures of suicidal behavior among adolescent girls and boys. The study findings reveal that most of females predominate in committing suicide below 24 years of age and there was significant relationship with the family income per month and source of information on suicide.

According to family type, in girls, the highest mean knowledge score regarding risk factors was higher in nuclear family (62.39), and lower in the joint family (61.59). In boys, the higher mean knowledge score was in joint family (62.31), and lower in nuclear (61.93). The difference was non-significant. Hence, it revealed that family type has no impact on knowledge regarding risk factors of suicidal behavior among the adolescent girls and boys.

According to preventive measures, in girls, the highest mean knowledge score regarding preventive measures was higher in nuclear family (22.26), and lower in the joint family (22.21). In boys, the higher mean knowledge score was in joint family (23.58), and lower in nuclear (23.21). The difference was statistically non-significant. Hence, it revealed that family type has no impact on knowledge regarding preventive measures of suicidal behavior among the adolescent girls and boys. Findings reveal that no association was there with family income, type, and age of the adolescents with the knowledge.

According to size of family, in girls, the highest mean knowledge score regarding risk factors was in family size of more than 9 (62.75), and lowest in the family size of 5–8 (61.17). In boys, the highest mean knowledge score was in family size of more than 9 (62.54) and lowest in less than 4 (61.68). The difference was statistically non-significant at $p \leqslant 0.05$ level. Hence, it revealed that size of family had no impact on knowledge regarding risk factors of suicidal behavior among the adolescent girls and boys.

According to preventive measures, in girls, the highest mean knowledge score regarding preventive measures was in family size of more than 5–8 (22.4) and lowest in the family size of less than 4 (21.5). In boys, the highest mean knowledge score was in family size of more than 9 (23.45) and lowest in the

family size of less than 4 (23.45). The difference was statistically non-significant at $p \leqslant 0.05$ level. Hence, it revealed that size of family had no impact on knowledge regarding preventive measures of suicidal behavior among the adolescent girls and boys. These findings were similar to a study conducted by Shriharsha C (2013) who conducted an experimental study to assess the effectiveness of STP on knowledge regarding risk factors for suicidal behaviors in adolescents in Bagalkot, Karnataka [59]. Findings reveal that no association was there with family income, type, and age of the adolescents with the knowledge.

According to marital status of parents, in girls, the highest mean knowledge score regarding risk factors was in separated parents (66), lowest in the married parents (61.64). In boys, the highest mean knowledge score was in divorced parents (66), and lowest in widow/widower (50). The disparity was statistically significant at the $p \leqslant 0.05$ level for boys but not significant for girls. Hence, it revealed that marital status of parents had no impact on knowledge regarding risk factors of suicidal behavior among the adolescent girls, but it had impact on the knowledge regarding risk factors in boys.

According to preventive measures, in girls, the highest mean knowledge score regarding preventive measures was in separated parents (23), and lowest in the divorced parents (21.6). In boys, the highest mean knowledge score was in widow/widower parents (27) and lowest in married (23.25). The difference was non-significant in girls but significant in boys. Therefore, it was disclosed that the marital status of parents did not affect the knowledge concerning preventive measures of suicidal behavior among adolescent girls and boys.

According to the source of information, in girls, the highest mean knowledge score regarding risk factors was in those who get information from mass media (62.12), and lowest in others (60). In boys, the highest mean knowledge score was in others (64.5) and lowest in friends (59.92). The difference was non-significant at $p \leqslant 0.05$ level. Hence, it revealed that the source of information had no impact on knowledge regarding risk factors of suicidal behavior among the adolescent girls and boys.

According to preventive measures, in girls, the highest mean knowledge score regarding preventive measures was in those who get information from others (25), and lowest in family (21.95). In boys, the highest mean knowledge score was in those who received information from friends (24.5) and lowest in family (22.18). The difference was non-significant at $p \leqslant 0.05$ level. Hence, it revealed that the source of information had no impact on knowledge regarding preventive measures of suicidal behavior among the adolescent girls and boys. The findings were like the findings as found in the study that was conducted by Nandgaon Vareesh at Tamkur, Karnataka [48]. He concluded that the source of information had no impact on knowledge regarding suicide.

According to family history of suicide, the highest mean knowledge score regarding risk factors was in adolescent girls having no family history of suicide (61.87) and in boys also, the highest mean knowledge score was in no family history of suicide (62.11). Hence, it revealed that there is no significant difference between boys and girls regarding knowledge of risk factors of suicidal behavior but the mean knowledge score shows that boys had more knowledge than the girls regarding risk factors of suicidal behavior.

According to preventive measures, the highest mean knowledge score regarding preventive measures was in adolescent girls having no family history of suicide (22.23) and in boys also, the highest mean knowledge score was in no family history of suicide (23.38). Hence, it revealed that there is significant difference between boys and girls regarding knowledge of preventive measures of suicidal behavior and the mean knowledge score shows that boys had more knowledge than the girls regarding preventive measures of suicidal behavior. The results of this study contradicted those of a study conducted by

Nalini M.S and Jyothi [61], which aimed to assess adolescents' knowledge of risk factors and preventive measures. Their study found that family history had no influence on knowledge related to the risk factors and preventive measures of suicidal behavior.

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

The article provides a concise overview of the study, encompassing the derived conclusions from the findings, the study's implications for nursing education, nursing administration, nursing practices, and nursing research. Additionally, it touches upon the study's limitations and offers recommendations.

Summary

The investigator conducted the current study to evaluate the understanding of risk factors and preventive measures for suicidal behavior among adolescent girls and boys (aged 16–19 years) in a chosen school in Ludhiana, Punjab. The study adopted a comparative approach, involving 126 participants (63 girls and 63 boys) selected through random sampling. The assessment of knowledge levels was carried out using a tool focusing on risk factors and preventive measures.

Demographic Variables

It consists of age, gender, education, family income, type of family, size of family, marital status of the parent, source of information, family history.

Dependent Variable

Knowledge regarding risk factors and preventive measures of suicidal behavior.

The conceptual framework for the current study relies on Dorothy Johnson's Behavioral Model. A conceptual framework is a collection of concepts and assumptions organized into a meaningful configuration. In this research, Dorothy Johnson's Behavioral Model serves as the conceptual framework. Johnson (1980) conceptualized a nursing client as a behavioral system, with behaviors of interest to nursing organized into seven subsystems of behavior.

Each one of the subsystems is analogous to the anatomy of a biologic subsystem. It identifies the components and the subcomponents by which we can identify the subsystem of the behavior (Jhonson, 1990). An imbalance in any of the behavioral subsystems leads to disequilibrium. According to Johnson (1980), human beings are characterized by two major systems: the biological system and the behavioral system. The concept of a human being is defined as a behavioral system that continually strives to make adjustments to achieve, maintain, or restore balance to the steady-state, which is adaptation.

The research focused on adolescent girls and boys (age 16–19 years) in Victoria Public School, Lehra and Government Senior Secondary School, Ludhiana, Punjab. A self-structured tool assessing knowledge regarding risk factors and preventive measures was utilized in the study, divided into three parts.

Part I: Socio-demographic variables
Part II: Self-structured questionnaire to assess the knowledge regarding risk factors for suicidal behavior.
Part III: Self-structured questionnaire to assess the knowledge regarding preventive measures for suicidal behavior.

Before starting the study, written permission was obtained from ethical committee of Sigma Nursing Training Institute, Ludhiana and from the principal of selected school to conduct the study. Pilot study was conducted in the month of January on adolescent girls and boys studying in the selected school. This was done to find out the feasibility and accountability in the tool items and to find out the generalizability of the study.

For final study, non-probability sampling was done to obtain a sample of 126 adolescent girls and boys: 63 boys and 63 girls. The data was collected during the month of March and April from the adolescent girls and boys studying in the school. Additionally, written consent was secured from the adolescent girls and boys who willingly chose to participate in the study, ensuring they were not compelled to join. Adolescent girls and boys were explained that researchers will interact with them for an hour per day so that they can fill the tool from which researcher can assess the knowledge regarding risk factors and preventive measures of suicidal behavior.

The study employed both descriptive and inferential statistical analyses in accordance with its objectives. Descriptive statistics, including mean and standard deviation, were computed to understand sample dispersion and determine the average value. Additionally, inferential statistics such as the 't' test and chi-square tests were utilized for data analysis.

MAJOR FINDINGS

According to Demographic Variables

According to age, the maximum number of adolescent girls belong to age group of 16–17 years (55.38) and least in age group of 18.1–19 years (10.78) whereas in boys, equal number of boys were in age group of 17.1–18 years and 16–17.1 years (46.67), and least were in 18.1–19 years (6.66).

According to gender, there is an equal number of boys and girls (100).

According to education, the maximum adolescent girls were educated up to higher secondary (52.31), and least in matric (10.76) whereas in boys, the maximum number of adolescent boys were educated up to 10+1 (51.61), and least in matric (4.84).

As per the family income per month, in girls, the maximum number of girls were having family income of ₹ 10,001–20,000/- (46.15) and least were in family income less than ₹ 10,000/- (23.8) whereas in boys, the maximum adolescent boys fall in the category of family income of ₹ 10,001–20,000/-(40.32), and least adolescent boys were having family income of ₹ 10,000 (24.19).

According to family type, the maximum number of adolescent girls were from joint family (64.62) and least adolescent girls were from nuclear family (35.38) whereas in boys, the maximum number of adolescent boys were from nuclear family (53.22) and least were from joint family (46.78).

As per the size of family, the maximum number of girls had 5–8 members (53) and least had less than 4 members (15.38) whereas in boys, the maximum adolescent boys had 5–8 members (38.71), and least adolescent boys had less than 4 (25.81).

According to marital status of parents, the maximum girls had married parents (81.54), and least were having separated parents (1.54), and in boys, the maximum adolescent boys had married parents (95.16) and least had widowed parents (3.22) and divorced (1.62).

As per source of information, the maximum number of girls had obtained information from mass media (60), and least from others (1.54) whereas in boys, the maximum adolescent boys obtained information from mass media (50), and least from others (3.22).

According to family history of suicide, all adolescent girls and boys both have no family history (100).

According to Objective 1, the aim of the study was to evaluate the knowledge of risk factors and preventive measures for suicidal behavior in adolescent girls and boys (Age 16–19 years).

The findings indicated that most adolescent girls (93.85%) demonstrated an average level of knowledge, while for boys, the highest percentage (87.10%) fell into the average knowledge category. Thus, the conclusion can be drawn that most students possessed an average level of knowledge concerning the risk factors of suicide.

According to preventive measures of suicide, the maximum number (93.85) of adolescent girls had average level of knowledge score. According to boys, the maximum (80.65) had average level of knowledge. Hence, it can be concluded that maximum students had average knowledge score regarding risk preventive measures of suicide.

According to Objective 2, we compared the knowledge regarding risk factors and preventive measures of suicidal behavior between adolescent girls and boys (Age 16–19 years).

Higher mean knowledge score regarding risk factors was in the boys (62.11) and lower in girls (61.87). The mean knowledge score shows that boys had more knowledge than the girls regarding risk factors of suicidal behavior.

According to preventive measures of suicide, the higher mean knowledge score regarding preventive measures was in the boys (23.38) and lower in girls (22.23). The mean knowledge score shows that boys had more knowledge than the girls regarding preventive measures of suicidal behavior.

According to Objective 3, we find out the relationship between knowledge and the selected demographic variables such as age, gender, education, family income, type of family, size of family, marital status of the parents and source of information, family history of suicide.

- Among the boys, marital status of parents had impact on knowledge regarding risk factors of suicidal behavior. Whereas in girls, education was found to have significant impact on knowledge regarding preventive measures of suicidal behavior.
- Among boys and girls, age, gender, education, family income per month, type of family, size of family, marital status of parents, source of information, family history of suicide had no impact on the knowledge regarding risk factors and preventive measures of suicidal behavior.

Limitation

The sample size was limited to 126 individuals, comprising 63 girls and 63 boys, making it challenging to draw extensive generalizations.

Implications

The study findings have certain important implications for the nursing profession, i.e., nursing education, nursing administration, nursing practices, and community health nursing.

Nursing Education

Education is the key for development of excellent nursing practice. Nurses should engage in continuous learning throughout their careers, and there should be provisions for ongoing educational opportunities for them.

- Suicide as a separate unit should be included in the curriculum of GNM, B.Sc. and ANM so that they become familiar with the topic.
- Nursing students should be trained enough to provide specialized care to suicidal clients.
- Nursing personnel and students should be provided in-service education regarding care of the suicidal client and prevention of suicidal behavior.
- Various therapeutic techniques to relieve stress like group therapy, no suicidal contract should be taught to the students.

Nursing Practice

- At least one trained personnel in counseling should be appointed in each college or school.

- Nurses working in adolescent psychiatry need to be empowered in providing health education regarding suicide, its risk factors, preventive measures, and care of suicidal client.
- Workshops and seminars should be conducted to introduce new therapeutic techniques of relieving everyday stress and, hence reducing the suicidal rates.

Nursing Administration

- The nursing administration especially of adolescent wards can organize continuing education on identifying the risk factors and warning signs of suicide with the help of workshops, seminars, and conferences.
- The administration can encourage the nurses to use different psychotherapeutic interventions in reducing stress and depression among the adolescents and further preventing the risk of suicidal behavior.
- A staff nurse can be trained especially to provide help to the suicidal client.
- Nurse administrators must set up a suicidal helpline and communicate the importance and approach to the common people so that help can be rendered in each and every step and is easily approachable.
- Nurse administrator can link up or communicate with the directors of schools to work collaboratively for the promotion of health of adolescents and to provide education regarding identifying the risk factors and preventive measures of suicidal behavior among the adolescent students.

Community Health Nursing

- Community health nurses should be trained to assess the presence of suicidal behavior and risk factors of suicidal behavior among the adolescents residing in the community.
- Community health nurses should be trained to provide education regarding preventive measures of suicidal behavior in the community.
- At least one trained personnel should be appointed in the community health centre so that he can render the services in care of suicidal client.

Recommendations

Based on the findings of the study, following recommendations are offered:

1. A retrospective study can be done to assess the causative factors of suicide among adolescents.
2. It can be conducted on large samples to generalize the findings.
3. An experimental study can be conducted to see the effectiveness of workshops or seminars in schools and in community regarding risk factors and preventive measures of suicidal behavior.
4. A similar type of study can be conducted to see the effect of various preventive measures to reduce stress and suicidal behavior.
5. A qualitative approach can be applied to study the presence of suicidal behavior and suicidal ideation.

CONCLUSION

Based on study findings, the following conclusion was reached. Adolescent boys and girls had average knowledge regarding risk factors and preventive measures. Boys in adolescence exhibited greater awareness than girls regarding both the risk factors and preventive measures associated with suicidal behavior. Statistically significant relationship was found with the marital status of parents in boys and education in girls.

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