OPEN ACCESS

Saudi Journal of Medicine
Abbreviated Key Title: Saudi J Med
ISSN 2518-3389 (Print) | ISSN 2518-3397 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Original Research Article

Demographic Influences on Suicide Attempts: A Study of Age, Gender, Socioeconomic Status and Profession

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DOI: https://doi.org/10.36348/sjm.2024.v09i10.002 | **Received:** 27.08.2024 | **Accepted:** 05.10.2024 | **Published:** 09.10.2024

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Abstract

Introduction: Suicide remains a significant public health concern globally, with its prevalence reflecting complex interactions among various factors such as age, gender, socio-economic status, and profession. This study aimed to assess the patterns of suicide attempts, focusing on age, gender, socio-economic status, and profession. ***Methods:*** This descriptive cross-sectional study was carried out at Department of psychiatry, Sheikh Hasina Medical college, Jamalpur, Bangladesh during the period from January 2018 to December 2018. All patients with suicide attempts admitted in the different wards of Community-Based Medical College, Mymensingh, and fulfilling the inclusion and exclusion criteria were selected as a sample for the study. A total of 90 patients were selected as study subjects by purposive sampling technique. Data analysis was done by SPSS (Statistical Package for Social Sciences) version 20. ***Result:*** The study revealed that the majority of suicide attempts occurred in the 21-30 years age group (52%), with middle-class individuals contributing the highest number (47.8%) of attempts. Unmarried individuals, particularly females, had the most attempts (58%), while students accounted for the largest percentage of suicide attempts by profession (38%), primarily in the 11-21 years age group. Rural residents had more attempts (70%) compared to urban residents (30%), and individuals from joint families (66%) were more likely to attempt suicide than those from nuclear families (34%). ***Conclusion:*** Young adults (21-30 years) and adolescents (11-21 years) are the most vulnerable age groups, with suicide attempts being notably higher among unmarried individuals and those from middle socio-economic backgrounds. Females exhibit a higher rate of attempts than males, especially among the unmarried. Professionally, students and unemployed individuals are particularly at risk.

Keywords: Suicide, Age, Socio-economic status, Profession.

INTRODUCTION

According to the World Health Organization (WHO), more than 804,000 suicide deaths occur worldwide each year, accounting for 1.8% of the global disease burden. By 2020, it was projected that the global suicide burden would rise to 2.4%, with one suicide occurring every 20 seconds. Suicide is defined as an intentional act with a fatal outcome, performed by an individual with the knowledge or expectation of death [1]. In contrast, attempted suicide is a non-fatal act, where a person deliberately harms themselves or ingests excessive amounts of a substance, often referred to as a suicide attempt, parasuicide, or deliberate self-harm [2, 3]. Suicide represents a major cause of mortality and places a significant demand on healthcare resources, while also being a preventable public health issue globally [4]. WHO estimates that every three seconds, a suicide attempt occurs, and a completed suicide takes place approximately every minute, leading to more deaths from suicide than from armed conflicts. Consequently, reducing suicide rates has become a critical international health objective [5]. Suicide among adolescents and young adults is a significant public health concern and a national tragedy. Over the past few decades, suicide has become a leading cause of death among teenagers [6]. While the exact prevalence of attempted suicide is unclear, epidemiological data suggest that the 12-month prevalence rate for suicide attempts is around 4.6% [7]. It is estimated that for every completed suicide, there may be 8-25 suicide attempts

[8]. Globally, men are over four times more likely to die by suicide than women [9]. In India, a study conducted in Ludhiana, Punjab, found that 41% of attempted suicides occurred among individuals aged 20-29, 32% among those under 20, 22% among those aged 30-39, and only 5% were over 40 years old. The majority of attempts were among males (58%) from middle-class, nuclear families [10]. In Bangladesh, a study in Dhaka found that 45.6% of suicide attempts occurred in individuals under 25 years old, 42.6% in the 26-35 age group, and 11.8% among those over 36 years. Unlike India, more females (54.4%) than males (45.6%) attempted suicide in Dhaka [11]. Other research also indicates that women exhibit nonfatal suicidal behavior two to three times more frequently than men [12]. Patterns of suicide differ between developed and developing countries. In developed nations, psychoactive substances are often used, whereas agrochemicals are more commonly employed in developing countries. Methods of self-harm include self-poisoning (with benzodiazepines, analgesics, or antidepressants in 89.5% to 92.5% of cases) and self-injury (such as cutting, jumping, or hanging in 10.7% to 12.1% of cases) [13]. Suicidal behavior is influenced by a variety of factors, including biological, cognitive, psychological, social, and familial elements, with Western studies often highlighting psychiatric disorders as the primary risk factors in adult suicides. This study aimed to assess the patterns of suicide attempts, focusing on age, gender, socio-economic status, and profession.

METHODS

This descriptive cross-sectional study was carried out at Department of psychiatry, Sheikh Hasina Medical college, Jamalpur, Bangladesh during the period from January 2018 to December 2018. The total number of study subjects was 90 in number. All patients with suicide attempts admitted in the different wards of Community-Based Medical College, Mymensingh, and fulfilling the inclusion and exclusion criteria were selected as a sample for the study. A purposive sampling technique was followed for the selected study subjects. Informed consent was taken from the patients. Attempters were interviewed using the semi-structured questionnaire containing socio-demographic and other relevant information about attempted suicide. A mental state examination of all suicide attempters was done and recorded in an MSE sheet. The interview was held in a peaceful, non-threatening environment. After collecting data editing was done manually and was analyzed with the help of computer software programs such as SPSS version 20. Different statistical methods were adopted for data analysis. For all analytical tests, a value of 5% or less ($p= 0.05$ or $p< 0.05$) was considered significant. Ethical clearance was taken from the ethical committee of Community Based Medical College.

Inclusion criteria:

- All patients with suicide attempts.
- Patients who were willing to give required information.

Exclusion criteria:

- Mute, stupor, non-communicable patients.
- Seriously ill patients.
- Patients who denied giving any information.

RESULTS

Table 1: Distribution of suicide attempts by age and socio-economic status (N=90)

Age Group (Years)	Higher Class (n)	Middle Class (n)	Lower Class (n)	Total (n)	% of Total
11-21	5	12	10	27	30.0
21-30	5	22	20	47	52.0
31-40	2	4	1	7	8.0
41-50	1	2	1	4	4.0
51-60	0	3	1	4	4.0
≥61	1	0	1	2	2.0
Total	14	43	34	90	100.0

The 11-21 years age group shows the highest number of attempts (27, or 30%), with 5 from the higher class, 12 from the middle class, and 10 from the lower class. Following closely, the 21-30 years age group accounts for 47 attempts (52%), predominantly from the middle class (22) and lower class (20). In contrast, older age groups report significantly fewer attempts, with the 31-40 years age group having only 7 attempts (8%) and the ≥61 years group recording just 2 attempts. In terms of socio-economic status, the higher class accounts for 14 attempts (15.6%), while the middle class has the highest at 43 (47.8%), and the lower class contributes 34 (37.8%). [Table 1]

Table 2: Distribution of suicide attempts by marital status and gender (N=90)

Marital Status	Male (n)	Female (n)	Total (n)	% of Total
Unmarried	22	30	52	58%
Married	16	18	34	38%
Widow/er	3	1	4	4%
Total	41	49	90	100%

The data reveals that unmarried individuals account for the highest number of attempts, totaling 52 (58%), with 22 males and 30 females. This suggests a significant vulnerability among the unmarried population, particularly females.

In the married category, there are 34 attempts (38%), with 16 males and 18 females, indicating that married individuals also face a considerable risk. Lastly, the widow/er category has the fewest attempts, totaling 4 (4%), comprising 3 males and 1 female. [Table 2]

Table 3: Distribution of suicide attempts by profession and age group (N=90)

Profession	11-21 Years (n)	21-30 Years (n)	31-40 Years (n)	41-50 Years (n)	51-60 Years (n)	≥61 Years (n)	Total (n)	% of Total
Student	25	9	0	0	0	0	34	38.0
Housewife	0	14	2	1	1	0	18	20.0
Service	0	3	1	0	0	0	4	4.0
Business	0	4	2	1	0	0	7	8.0
Cultivator	0	2	2	0	0	0	4	4.0
Day laborer	0	2	2	0	0	0	4	4.0
Unemployment	2	13	0	1	2	2	20	22.0
Total	27	47	7	4	3	2	90	100.0

The data shows that students have the highest number of suicide attempts, with 34 attempts (38% of the total), predominantly occurring in the 11-21 years age group (25 attempts), indicating a significant risk among this demographic. The 21-30-year-old age group also shows notable attempts from housewives (14 attempts) and unemployed individuals (13 attempts), contributing to a total of 18 attempts (20%) and 20 attempts (22%) respectively. This suggests that both housewives and unemployed individuals in their twenties face considerable mental health challenges. In the 31-40 years age group, the attempts are relatively lower, with 7 total attempts recorded. The professions represented include housewives (2 attempts), business (2 attempts), cultivators (2 attempts), and day laborers (2 attempts). The 41-50 years age group has 4 attempts, while the 51-60 years age group has 3 attempts, predominantly from housewives and unemployed individuals. The ≥61 years age group shows the least number of attempts, totaling 2, with no specific profession dominating. [Table 3]

Table 4: Distribution of suicide attempts by family type and socioeconomic status (N=90)

Family Type	Higher Class (n)	Middle Class (n)	Lower Class (n)	Total (n)	% of Total
Joint	10	28	21	59	66.0
Nuclear	4	15	13	32	34.0
Total	14	43	34	90	100.0

It was observed that individuals from joint families constitute the majority of suicide attempts, totaling 59 (66% of the total), with 10 from the higher class, 28 from the middle class, and 21 from the lower class. This suggests a notable prevalence of suicide attempts among those in joint family structures, particularly in the middle class. In contrast, the nuclear family category shows a lower incidence of attempts, with a total of 32 (34% of the total), comprising 4 from the higher class, 15 from the middle class, and 13 from the lower class. [Table 4]

Table 5: Distribution of suicide attempts by living status and profession (N=90)

Living Status	Student (n)	Housewife (n)	Service (n)	Business (n)	Cultivator (n)	Day laborer (n)	Unemployment (n)	Total (n)	% of Total
Urban	12	9	2	2	0	0	2	27	30.0
Rural	22	9	2	5	4	4	18	63	70.0
Total	34	18	4	7	4	4	20	90	100.0

The findings indicate that individuals residing in rural areas account for the majority of suicide attempts, totaling 63 (70% of the total), compared to 27 (30%) in urban areas. Within the urban category, the highest number of attempts comes from students (12 attempts), followed by housewives (9 attempts), and smaller numbers in other professions such as service and business (each with 2 attempts). The unemployed individuals in urban settings contribute 2 attempts. In the rural category, students also show a significant number of attempts (22 attempts), alongside unemployed individuals (18 attempts). Housewives contribute 9 attempts, while business (5 attempts), cultivators (4 attempts), and day laborers (4 attempts) represent smaller proportions. [Table 5]

DISCUSSION

In terms of age distribution, the highest number of suicide attempts was observed in the 21-30 years age group (52%), followed by the 11-21 years group (30%). This aligns with prior studies that have identified young adults and adolescents as the most vulnerable populations for suicidal behavior. For instance, a study by Narang *et al.,* [10] in Ludhiana found that 41% of attempted suicides were among individuals aged 20-29 years. The socio-economic distribution in this study revealed that individuals from the middle class had the highest number of suicide attempts (47.8%), followed by those from the lower class (37.8%). This pattern of suicide attempts among middle-class individuals aligns with prior research in India, which indicated that socio-economic pressures, particularly in middle-income groups, are significant contributors to suicide attempts [10]. While the lower socio-economic group also shows substantial vulnerability, fewer studies have focused specifically on this demographic, suggesting that more research is needed in this area. Marital status showed a clear trend, with unmarried individuals accounting for the highest proportion of suicide attempts (58%), particularly among females. This finding is consistent with research by Sadock [13], which indicated that unmarried individuals, especially women, are at greater risk of suicidal behavior due to factors such as social isolation, lack of emotional support, and societal pressures. Additionally, a study by Perkins and Hartless [6] supports the idea that unmarried status is associated with higher vulnerability to mental health issues and suicidal behavior. Married individuals in this study also represented a considerable portion of the suicide attempts (38%), suggesting that marital challenges could contribute to suicidal tendencies, as seen in other studies. Regarding profession, students emerged as the most affected group, contributing to 38% of the total suicide attempts, primarily in the 11-21 years age group. This aligns with existing literature indicating that academic stress, fear of failure, and uncertainty about the future are significant risk factors for suicide among students [4]. The study by Perkins and Hartless [6] also highlights the pressures faced by young people in academic settings, contributing to a heightened risk of suicidal behavior. Unemployment was another significant factor, with unemployed individuals accounting for 22% of attempts, predominantly in the 21-30 years group. The association between unemployment and suicidal behavior is well-established, as financial instability and loss of social identity can lead to despair and hopelessness [14]. Family structure played a role in the distribution of suicide attempts, with individuals from joint families constituting 66% of the total attempts, particularly among the middle class. While joint family systems are traditionally considered supportive, this study suggests that internal family conflicts, lack of privacy, and increased expectations may exacerbate stress and contribute to suicidal behavior, especially in middle-class settings. This finding contrasts with earlier research, where nuclear families were more often associated with suicide attempts due to isolation and lack of extended family support [15]. Further research is needed to explore these dynamics in more detail. In terms of living status, rural residents accounted for the majority of suicide attempts (70%), with students and unemployed individuals being the most affected. This is consistent with studies by Grootenhuis *et al.,* [12], which found that rural populations in developing countries are at higher risk of suicide due to limited access to mental health services, economic hardship, and social isolation.

Limitations of The Study

The study was conducted in a single hospital with a small sample size. So, the results may not represent the whole community.

CONCLUSION

Young adults (21-30 years) and adolescents (11-21 years) are the most vulnerable age groups, with suicide attempts being notably higher among unmarried individuals and those from middle socio-economic backgrounds. Females exhibit a higher rate of attempts than males, especially among the unmarried. Professionally, students and unemployed individuals are particularly at risk.

RECOMMENDATION

To reduce suicide attempts, targeted mental health programs should prioritize youth, especially students and unmarried individuals, who are at higher risk. Socio-economic support, including employment assistance and financial counseling, is crucial for addressing economic stress, particularly in rural areas where attempts are more prevalent.

Funding: No funding sources

Conflict of interest: None declared

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