Original Article

Factors Associated with Suicidal Behavior in Patients Coming to the Emergency of Services Hospital, Lahore

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Abstract

Background: Suicidal behavior is a serious public health problem and is commonly seen in emergency department (ED) patients, where early detection is very important. It is influenced by psychological, social, and environmental factors. In Pakistan, mental health services are limited, and there is not enough data on suicidal behavior in ED patients.

Objective: To determine the factors associated with suicidal behavior in adult patients attending the emergency department (ED) of the Services Hospital, Lahore.

Methods: This cross-sectional study was conducted over three months in the ED of Services Hospital, Lahore. A total of 227 adults were included using convenience sampling. Data were collected through a pretested questionnaire after ethical approval. SPSS version 27 was used for analysis. Chi-square test was applied, and $p < 0.05$ was considered significant.

Results: Out of 227 patients, 29.1% reported suicidal intent. Most participants (73.1%) were between 21–40 years of age, and 68.7% were single. Anxiety (18.5%) and depression (17.2%) were common diagnoses, while 51.1% had no previous psychiatric history. Substance use was denied by 60.4%, but others reported use of drugs, alcohol, sheesha, smoking, or vaping. Financial stress was strongly linked with suicidal behavior. Poor family relationships (49.3%), pessimism (46.3%), introversion (36.1%), and recent life stressors were also important factors. Substance use and gender showed a significant association, and family relations were also linked with suicidal ideation ($p < 0.05$).

Conclusion: Suicidal behavior in emergency patients was mainly linked with young age, marital status, poor family relationships, personality traits like introversion and pessimism, substance use, and recent stressful events. This study highlights the importance of paying attention to mental health in emergency settings. Simple screening for stress, substance use, and family issues can help identify at-risk patients early. Strengthening family support and providing brief counseling in EDs may reduce future risk.

Received: 14-12-2024 | **1st Revision:** 12-06-2025 | **2nd Revision:** 16-10-2025 | **Accepted:** 03-02-2026

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Keywords | suicidal behavior; risk factors; psychiatric disorders; self-harm; sociodemographic factors; emergency department

How to cite: Anwar F, Shahid A, Khanum Z, Usman J, Yasmin M, Ali S. Factors Associated with Suicidal Behavior in Patients Coming to the Emergency of Services Hospital, Lahore. Ann King Edw Med Univ.2026;32i1:39-45

Production and Hosting by KEMU

https://doi.org/10.21649/akemu.v32i1.5960

2079-7192/

Introduction

With almost 800,000 deaths annually, suicide is a major global health concern. Additionally, suicidal actions are categorized as one of the primary causes of fatalities and injuries that affect a broad spec-

trum of age groups in a number of nations. Despite worries since the end of the 20th century that suicide rates are 10–20 times higher than official statistics, the number of suicidal attempts is unknown in many nations.

Suicidal behavior does not arise from a single cause; rather, it is the result of many factors that are closely connected. Understanding these overlapping psychological, social, and clinical influences helps paint a clearer picture of why individuals present with suicidal behavior, particularly in the emergency care setting.

Although suicide is a worldwide problem, risk variables' prevalence and effects are not always the same and can differ depending on the situation, the culture, or even the facilities in the same nation.

The World Health Organization (WHO) estimates that suicide claims the lives of about 700,000 individuals annually, or almost one out of every 100 fatalities worldwide. Overtaking deaths from HIV, malaria, breast cancer, conflict, and homicide, suicide continues to rank among the world's leading causes of death.

Regional differences in suicide rates are substantial. The WHO's 2019 rates were lowest in the Eastern Mediterranean (6.4 per 100,000) and highest in South-East Asia (10.2 per 100,000), Africa (11.2 per 100,000), and Europe (10.5 per 100,000). With a global male suicide rate of 12.6 per 100,000 compared to 5.4 per 100,000 for females, men are more than twice as likely to die by suicide.

A study investigated the clinical and psychological aspects linked to suicidal ideation and attempts in a multicenter study of over 5,000 ED patients in the United States. Mental health conditions, specifically schizophrenia, bipolar disorder, and depression, were found to be important causes.

Significant triggers were also shown to be social stressors such financial difficulties, joblessness, and interpersonal disputes. Furthermore, the best indicator of future suicidal conduct was a history of prior suicide attempts, highlighting the importance of focused mental health screenings and interventions in ED.

A cross-sectional study conducted in South Korea involving 2,500 emergency department (ED) patients found that individuals aged 18–30 and those over 60 were at the greatest risk of suicide. The study highlighted that suicide attempts were often linked with chronic medical conditions, also the easy availability of lethal means, particularly in rural settings. In addition, the family history of mental illness emerged as a key risk factor. These findings strengthen the importance of doing personalized psychosocial assessments and implementing specific prevention strategies within emergency care settings.[8]

Research from emergency departments in Pakistan also shows that suicidal behavior are strongly shaped by social, cultural, and economic influences. Studies done in tertiary care hospitals indicate that psychosocial stressors have a major role in patients presenting with suicidal tendencies.[9] Common contributing factors are family conflicts and financial difficulties such as unemployment and poverty. Although many patients were experiencing anxiety and depression, prompt intervention was often delayed due to stigma and limited availability of mental health services. Substance use, specifically involving prescription medications, as well as a history of previous suicide attempts, also frequently reported.[10]

In rural areas of Punjab, challenges such as social isolation and limited access to healthcare also increased vulnerability. Chronic illnesses was commonly reported, particularly among women, many of whom linked their emotional instability to ongoing physical pain and burdens. Another pattern observed in agricultural communities were self-harm through pesticide ingestion, likely due to its easy accessibility.[11,12] Some studies highlight the complex relationship between socioeconomic circumstances, cultural norms, and barriers to healthcare access that contribute to suicide behavior in Pakistan.[13]

The objective of this study is to systematically examine the underlying causes and associated factors contributing to suicidal tendencies in patients presenting at Services Hospital, Lahore, by investigating demographic, psychological, social, and medical factors.

Methods

A descriptive cross-sectional design study was conducted over three months within the emergency department of Services Hospital, Lahore, in which the sample size of 227 was calculated by WHO software to estimate population proportion, with 95% confidence intervals, an expected population proportion of 82%, and the margin of error being 5%. The sampling technique non-probability convenient was used to select among patients above eighteen years of age who visited the medical emergency and thereafter transferred to the medical wards of Services Hospital. Excluded were seriously ill, mute aphasic, comatose, or mentally impaired individuals while those uncertain about their age were also excluded. Data were collected by means of a pretested questionnaire after obtaining IRB approval (IRB/2024/

1441/SIMS). The questionnaire covered demographic and risk factors for suicidal behavior among patients presenting to the emergency room. All questionnaires were checked for completeness by the researcher. Then, data were entered, cleaned, and analyzed using SPSS version 27. Results were displayed using bar and pie charts. Frequencies and percentages were computed for qualitative variables like gender. Chi-square test was used to test statistical significance of associations, with p-value <0.05 considered significant. Bivariate analysis was also carried out for assessment of these factors associated with suicidal behavior.

Table 1: *Frequency Distribution Of Sociodemographic Profile Of The Patient*

Variable	Category	Frequency	Percent
Age of Patient	0–20 years	38	16.8%
	21–40 years	166	73.1%
	40+ years	23	10.1%
Gender	Female	110	48.5%
	Male	117	51.5%
Marital Status	Married	63	27.8%
	Unmarried	156	68.7%
	Divorced	8	3.5%
Number of Children	0.00	172	75.8%
	1.00	10	4.4%
	2.00	16	7.0%
	3.00	9	4.0%
	4.00	8	3.5%
	5.00	5	2.2%
	6.00	4	1.8%
	7.00	1	0.4%
	8.00	2	0.9%
Education Level	None	18	7.9%
	Primary	15	6.6%
	Middle	42	18.5%
	Secondary (grades 9 and 10)	48	21.1%
	Higher Secondary (grades 11 and 12)	54	23.8%
	Graduation	36	15.9%
	Post-Graduation	14	6.2%
Employment Status	Yes	52	22.9%
	No	175	77.1%
Residence	Urban	179	78.9%
	Rural	48	21.1%

Results

Most patients were aged 21–40 (73.1%) and had a nearly equal gender distribution (51.5% males, 48.5% females, p ≤ 0.05). The majority were unmarried (68.7%), while

Table 2: *Frequency Distribution Of Mode Of Suicide And Associated Factors*

Variable	Category	Frequency	Percent
Mode of Suicide	Medicine overdose	123	54.2%
	Injuries from sharp objects	55	24.2%
	Jumping from height	22	9.7%
	Firearm	10	4.4%
	Others	17	7.5%
Accompanied to Hospital By	Relatives	166	73.1%
	Friends	34	15.0%
	Neighbors	16	7.0%
	Police	11	4.8%
Condition of Patient	Conscious	32	14.1%
	Unconscious	195	85.9%
Family History of Suicidal Behavior	Yes	21	9.3%
	No	206	90.7%
Mode of Suicide of Family Member	Medicine overdose	10	4.4%
	Injuries from sharp objects	11	4.8%
	Jumping from height	6	2.6%
	Firearm	1	0.4%
	No history	199	87.7%
Current Thoughts of Harming Oneself	Yes	52	22.9%
	No	175	77.1%
Future Suicide Intention	Yes	66	29.1%
	No	161	70.9%

Table 3: *Frequency Distribution Of Family And Spouse Background*

Variable		Frequency	Percent
Education Level of Spouse	None	11	4.8
	Primary	8	3.5
	Middle	17	7.5
	Secondary	12	5.3
	Higher Secondary	20	8.8
	Graduation	21	9.3
	Post graduation	3	1.3
	Not married	135	59.5
Employment Status of Spouse	Employed	36	15.9
	Unemployed	52	22.9
	Not married	139	61.2
Family History of Psychiatric Illness	Yes	28	12.3
	No	199	87.7
Relationship of Patient to that Family Member	Parents	9	4.0
	Sibling	7	3.1
	Grand parents	10	4.4
	Uncle/Aunt	6	2.6
	No family history	195	85.9
Recent financial crisis	Yes	65	28.6
	No	162	71.4
Congenital Illness in Children	Yes	19	8.4
	No	208	91.6

27.8% were married and 3.5% divorced ($p \leq 0.05$). Most participants (75.8%) had no children, though a few had up to eight ($p \leq 0.05$).

Medication overdose was the most common method of suicide attempt, reported by 54.2% of patients, followed by sharp injuries (24.2%) and jumping from heights (9.7%) ($p \leq 0.05$). Most patients (73.1%) were brought to the hospital by family members ($p \leq 0.05$). it was noticed that 29.1% of patients had plans for future suicide attempts, while 22.9% were having current thoughts of self-harm ($p \leq 0.05$). These findings highlights the urgent need for targeted interventions and immediate support.

Table 4: *Frequency of Psychiatric and Substance Use History*

Variable		Frequency	Percent
Psychiatric diagnosis	Anxiety	42	18.5
	Depression	39	17.2
	Bipolar disorder	12	5.3
	Obsessive compulsive disorder (OCD)	10	4.4
	Post-traumatic stress disorder (PTSD)	3	1.3
	Others	5	2.2
	None	116	51.1
Psychiatric medication	Yes	52	22.9
	No	175	77.1
Depressed mood frequency	Sometimes	34	15.0
	Rarely	10	4.4
	Often	105	46.3
	I am always depressed	78	34.4
History of recent psychological trauma	Yes	77	33.9
	No	150	66.1
Substance Abuse	Smoking	39	17.2
	Vaping	9	4.0
	Sheesha	12	5.3
	Alcohol	9	4.0
	Drugs	7	3.1
	Others (paan, beeri etc)	14	6.2
	None	137	60.4
Has the patient tried to end the addiction?	Yes	21	9.3
	No	206	90.7
Comorbity	Hypertension	30	13.2
	Diabetes Mellitus	13	5.7
	Tb	6	2.6
	Asthma	13	5.7
	Hepatitis	16	7.0
	Others	4	1.8
	None	143	63.0

Most patients (59.5%) were single, while married individuals had higher education, reaching secondary or graduat ($p \leq 0.05$). Only 15.9% were employed ($p \leq 0.05$). Around 12.3% reported family history of psychiatric illness, among close relatives ($p \leq 0.05$). The majority (71.4%) did not face financial difficulties, 28.6% had experienced financial strain, and 8.4% had childrn with congenital disorders ($p \leq 0.05$). These findings shows how marital status, family health, and financial challenges could significantly affect overall well-being.

Anxiety (18.5%) and depression (17.2%) were the most common psychiatric conditions among patients, although over half (51.1%) had no formal psychiatric diagnosis, and only 22.9% were on psychiatric medication ($p \leq 0.05$). Smoking was common form of substance use (17.2%), while 60.4% of patients had no history of substance use. Moreover, 33.9% had experienced psychological stress ($p \leq 0.05$). Among other conditions, hypertension (13.2%) and hepatitis (7.0%) were the most frequently noticed, infering the close connection between mental health and physical illnesses ($p \leq 0.05$).

The significantly linked factors were age, gender, marital status, employment, and place of residence were all significant factors($p = 0.00$). Although a family history of psychiatric illness or suicide were more frequently reported among individuals with suicidal ideas, this

Table 5: *Association of Risk Factors with Suicidal Behavior*

Variable		Suicidal Ideation		P Value
		YES	NO	
Age	0-20 Years	22	16	0.00*
	21-40	42	124	
	40+	2	21	
Gender	Male	26	84	0.00*
	Female	40	77	
Marital Status	Married	32	31	0.00*
	Unmarried	30	126	
	Divorced	4	4	
Employment Status	Employed	12	40	0.00*
	Unemployed	54	121	
Residential Area	Urban	47	132	0.00*
	Rural	19	29	
Family History of Suicidal Behaviour	Yes	18	3	
	No	30	176	0.6
Family History of Psychiatric Illness	Yes	20	8	
	No	86	113	0.2

association was not statistically significant ($p > 0.05$).

Discussion

This study provides a detailed examination of the factors associated with suicidal behavior among patients who presented to the emergency department at Services hospital Lahore. It shows that the local social and cultural influences and global trends influence suicidal behavior. The findings reflects the role of social pressures, mental health challenges, and demographic characteristics. Also it shows useful insights for developing suicide prevention strategies suited to the Pakistani context.

Most suicide attempts in this study was observed among young people, with the highest proportions at ages 23 and 24 (10.6% and 7.9%, respectively). This pattern is similar with previous research indicating that young adults represent high-risk for suicide attempts.[14] The gender distribution was relatively balanced, with 51.5% males and 48.5% females. This reflects global patterns where men have higher rates of fatal suicide, even though women tend to report more suicide attempts.

Suicide is more common among middle-aged and older men in high-income countries. Rising suicide rates in 15–29-year-olds, the second leading cause of death, are a serious concern.[15]

The patients' preference for less violent means, especially among women, is demonstrated by the fact that 24.2% of them used sharp items and 54.2% tried suicide by prescription overdose.[16] Overdoses are the most common non-lethal suicide method, while low firearm use (4.4%) in Pakistan reflects limited availability. Suicidal behavior is closely linked to substance misuse, especially alcohol and drugs, increasing risk among those with mental health issues.[17]

Our study found most suicide attempters were unmarried (68.7%), reflecting the protective role of social support in marriage. Employment status was significant, with 77.1% of attempters unemployed, highlighting financial and psychological stress. A strong correlation ($p < 0.001$) suggests unemployment exacerbates stress, especially among single individuals.

A significant 12.3% of participants had a family history of psychiatric illness, and 9.3% reported family suicide behavior, both strongly linked to suicidal conduct ($p < 0.001$). This highlights the influence of genetic and environmental factors on suicide risk.

Males had greater rates of substance use than females ($p<0.001$), and substance misuse, especially smoking (17.2%) and shisha (5.3%), was common among participants.[18] This result is in line with other studies that show substance misuse is associated with impulsivity and risk-taking behavior, both of which may raise the chance of suicide attempts. Substance use disorders are one of the main modifiable risk factors for suicide behavior, according to a study.[19]

Recent psychological trauma (33.9%) and financial hardship (28.6%) were significant factors in suicide attempts. Previous studies also link increased suicide risk to these pressures.[20]

Our findings are in line with worldwide patterns that indicate substance misuse and mental illnesses rank among the most prevalent risk factors for suicide.

Anxiety (18.5%) and depression (17.2%) were the most common diagnoses linked to suicidal behavior, with 46.3% of participants identifying as pessimists. Chronic depression was widespread, and 29.1% reported future suicide intentions. Substance misuse and mood disorders remain key factors in suicidal conduct.[21]

Poor relationships with family members were indicated by nearly half of the patients (49.3%), and this was substantially associated with suicide thoughts ($p = 0.006$).[22] Family-based therapies are necessary since family discord is a known risk factor for suicide attempts. Family is a vital source of emotional support in Pakistan, therefore its absence can be upsetting and raise the risk of suicide.[23] In line with studies highlighting the protective function of familial support in lowering suicide risk, especially in Asian cultures[24] where family ties are essential to mental health, our study also discovered a strong correlation between suicidal behavior and social isolation or weak family relationships.

Our study highlights that lower socioeconomic status significantly increases suicidal behavior, especially in resource-limited settings like Pakistan. Poverty, compounded by poor mental health care access, is a major driver of suicide in low- and middle-income countries.[25]

The results in our group are consistent with a study that examined the relationship between financial difficulty and suicide risk, especially during periods of financial instability.

Conclusion

Socioeconomic status, substance addiction, and mental illness predict suicidal behavior in SIMS emergency patients, especially young, single, unemployed adults under stress. The risk of suicide is increased I presence of personal or family history. It shows that effective prevention strategies are must to integrate mental health services into emergency care.

Limitations:

- Only one hospital based and cross sectional study design, so can not be generalized.
- Variations in psychiatric service availability may have led to underdiagnosis.
- Longitudinal studies are needed to better understand trends over time.

Future Recommendations

Emergency settings need comprehensive strategies that include psychiatric screening, multidisciplinary support to prevent such epsodes. Also interventions for psychiatric, socioeconomic, and other risk factors are necessary. Strong amily support and financial assistance can help minimize suicide risk. Influence of social media, stigma and intervention effectiveness can be implemented in future in low-resource settings like Pakistan.

Ethical Approval: The Institutional Ethical Review Board, NMU Multan approved this study vide letter No. letter No.18958/NMU.

Conflict of Interest: The authors declare no conflict of interest.

Funding Source: None

Author's Contribution:

FA: Conception & design, acquisition of data, analysis & interpretation of data, drafting of article

AS: Drafting of article, final approval of the version to be published,

ZK: Critically revised it for important intellectual content, final approval of the version to be published

JU: Acquisition of data, drafting of article

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