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International Journal of Pharmacognosy and Phytochemical Research 2023; 15(4); 01-06

eISSN: 0975-4873, pISSN: 2961-6069

Research Article

Community-Based Case-Control Study to Evaluate the Mental Health Disorders for Suicide

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Received:30th August 23; Revised: 26th Sept. 23; Accepted: 24th Nov. 23; Available Online: 25th Dec. 23

ABSTRACT

In order to improve students' understanding and perspective on suicide, the intervention research used a systematic educational intervention. Many members of the local community saw suicide as a way out of interpersonal, familial, and financial problems, according to the qualitative research. This was true for both healthy persons and those suffering from mental illness. Only a small the psychological autopsy revealed the proportion of suicide victims who suffered from severe mental illness investigation. Psychosocial stress and social isolation also showed up as potential causes of suicide among local residents, according to the psychological autopsy research.

Keywords: students', intervention, suicide, Mental Health Disorders, Community-Based Case-Control.

INTRODUCTION

Our knowledge of the causes of suicide has been greatly advanced by epidemiology, as it has been in other branches of public health. Our preventative initiatives have been better shaped and prioritized thanks to the results of research on risk factors. The foundation of all three types of interventions—universal, selective, and indicated—is the need to identify and reduce risk for specific groups. In this editorial, we'll go over a few things that may go wrong when doing certain kinds of suicide risk epidemiology research. Research on suicidal ideation and attempts has comparable and distinct challenges to the ones we identify here, but our emphasis is on research where suicide is the end result.

Two main categories of research—psychological autopsy studies and register-based studies—contribute significantly to our understanding of suicide risk factors. In psychological autopsy investigations, the individual who has committed suicide is thoroughly investigated by interviewing close relatives and friends as well as reviewing any available medical and coronation data. Modern psychological autopsy research often employs case-control designs, often including live controls, as opposed to the descriptive case series that characterized earlier research.

At their heart, register-based studies have consistently gathered mortality data. These usually connect this mortality data with census records and other databases that document information on social and clinical variables that may confer risk, such as educational attainment, welfare use, criminal justice involvement, and psychiatric diagnoses, as well as the use of general and mental health services and the prescription of psychotropic or other medications. While some studies use a registry to track the whole cohort, others use case-control studies embedded inside broader cohort studies.

Literature Review

One definition of suicide is intentionally hurting oneself with the goal of death. The World Health Organization (WHO) says that every year more than 700,000 people kill themselves. An increasing number of college students are taking their own lives, making suicide a major public health concern. Suicidal thoughts among college students have a prevalence that ranges from 1.3% to 32.7% globally. Because of this, we need to identify the variables that put college students at risk for suicidal thoughts and rank them according to their significance level. Only then will we be able to help those students who exhibit these traits. We used the We ranked the 18 factors that put individuals at risk for suicidal ideation using the Analytic Hierarchy Process (AHP) technique, which was derived from a comprehensive literature for this study. Therefore, we found that having a past of suicide attempts, having a mental illness, or having been through a stressful event in your life were the most important factors that led to suicidal ideas. When it came to reasons for suicidal thoughts, gender and neighborhood ranked last. Our ability to compare different risk factors is greatly enhanced by utilizing the AHP method.[10]

The factors that put people at risk of suicide have been the subject of numerous epidemiological

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studies. The goal of this study was to learn more about research on the variables that put adolescents and young adults at risk for suicidal thoughts and actions adults so that the studies could be ranked by their level of evidence (LoE). To find certain studies that were important, we looked through PubMed and psycINFO. Many of the 36 studies that we included on suicidal behavior and thoughts in youth rank poorly on LoE. The most common risk factor for suicide, according to cohort designs, was mental illness, which included the intensity of mental sickness, drug abuse, and sadness. LoE ranks cohort studies very highly, giving them a 2b rating. Surveys showed that psychopathology, People were more likely to attempt suicide if they were abusing drugs or were in the company of someone who was suicidal. The majority of cases included substance misuse and mental disease things that put people at risk for suicide thoughts., and the only design used to study this was a survey. According to LoE, surveys have a low ranking of 4. There were a lot of general and vague risk factors, and people seldom used standard terminology for outcomes and exposures. A high LoE is necessary for the results of a large ongoing statistical study (case-control or cohort) that looks at certain risk factors for suicide behaviour. Compared to more general and vague risk factors, which can affect a lot of people, these variables would be very good at keeping people from getting the disease. We suggest conforming to accepted definitions of suicide result and risk factors, providing current estimates, and utilizing clinical and/or registry data instead of self-reported data. Our recommendation is to use either a case-control or cohort design to identify potential risk factors in high-risk populations.[9]

There has been an alarming rise in student suicides globally, including in Bangladesh, and the causes of this crisis are little understood. Objective The researchers set out to reveal which factors put Bangladeshi public university students at highest risk for suicide. Approach: This study used a qualitative research method to look into how common suicide is among kids at five Bangladeshi public schools. Thirty undergraduates from public universities and five faculty members from private universities participated During in-depth conversations and interviews with key informants, respectively, using guidelines that included open-ended inquiries. The researchers used two sampling methods—purposive and snowball—to choose the participants. To look at the data from this study, thematic analysis was used. Final Product According to this study's findings, the majority of public university students who take their own lives had a long list of problems that led up to their decision, including feelings of despair, hopelessness, perfectionism, family strife, relationship breakdown, isolation, financial difficulties, and academic pressure. In summary There is an immediate need to address the issue of suicide behavior among Bangladeshi public university students by organizing seminars, workshops, and awareness-raising efforts. To guarantee kids' psychological well-being, a Mental health professionals, lawmakers, researchers, and trainers should all be consulted in order to build a strong support system.[8]

Some have defined Suicide is the act of deciding to end your own life. A lot of people are killing themselves, which is a big problem for public health. Through this qualitative study, researchers looked into what might cause people to think about and act on suicide thoughts. Thirty people who had been brought to Jinnah Hospital and had once thought about suicide were part of the group. Qualitative data came from in-depth, semi-structured interviews with each patient. Standard methods of qualitative content analysis were used to examine the data. Family, societal, environmental, and individual variables all have a that play a part in the growth of suicide ideas and actions, this study found. In terms of suicide prevention, these findings are very significant. These considerations have to be part of the evaluation process for mental health centers and preventative initiatives.[7]

The goals of this research were to (1) identify the frequency of suicidal thoughts among persons in their twenties and thirties and (2) identify the variables that put these thoughts into motion. Approach There was a detailed study method used to look at the additional material. The 7th Korea Health Panel (KHP) study was done in two runs, in 2012 and 2013. A total of 5,214 people were chosen from the pool to take part. A skilled interviewer used both self-report and in-person methods during home visits to get the KHP data. Using SPSS 22.0, we conducted logistic regression analysis, chi-square test, and frequency and percentage descriptive statistics. Final Product Suicidal thoughts were 4.4% common among young individuals and 5.6% among middle-aged adults. Young individuals were more likely to consider suicide if they had a poor income or drank often.

The most important risk variables in middle-aged people were unfavorable social viewpoint, low income, bad health status recorded, and a bad opinion of your health status compared to your peers. It's more likely for people to have suicidal ideas. In order to prevent suicide among Korean young and middle-aged individuals, treatments should focus on increasing income, reducing excessive drinking, and building a good perception of one's own health and social standing.[3]

RESEARCH METHODOLOGY

This research used a plan for case control in the community. In terms of gender, age, and street address, the controls were matched. When estimating the chances ratio for risk factors in the population, matched case-control studies consistently provide consistent results.

The percentage of mental illness among the controls was 27%, according to an accessible study of psychological autopsy in suicide. A two-sided test with a predicted It took about 82% power, 5% alpha error, and a chance ratio of 2.5 were achieved using 82 matched case-control pairings. Among the controls in a large population-based investigation, 50.5% had several life events. Here, we used an expected to find the sampling size, use an 80% power, a 5% alpha error, and an odds ratio of 2.5. For the two-sided test, we used 81 sets of matched cases and controls. So, 100 people (suicides) and 100 people (matching controls) were picked as the sample size for the study.

The research period included the recruitment of all successive suicides. By gender, neighborhood, and age (± two years), the controls were paired with the suicides. Those who lived on the same street were the ones who were chosen to serve as neighborhood controllers.

Data Analysis

Table 1: Characteristics of the cases and controls with regard to socio-demographics [1]

	Cases		**Controls**	
Variables Gender	No	%	No	%
Male	59	59	59	59
Female	41	41	41	41
Religion				
Hindu	98	98	98	98
Christian	1	1	1	I
Muslim	1	1	1	1
Marital Status				
Single	27	27	25	25
Married	55	55	68	68
Widow/Separated	18	18	7	7
Most recent occupation				
Unemployed	4	4	5	5
Labourer	52	52	58	58
Skilled	6	6	4	4
Professional	1	1	0	0
Housewife	27	27	25	25
Student	10	10	8	8
Accommodation				
Own	90	90	94	94
Rented	10	10	6	6
Living alone	13	13	0	0
Living with family	87	87	100	100

According to Table 1, there were as many men as females in both groups, with 59% and 41% respectively. The ratio of males to females was 1.69 to 1. Nearly all of the participants in both categories identified as Hindu. There was a preponderance of married individuals (55% of the cases and 68% of the controls). One of the cases is 27% were single, whereas among the controls, 25% were. The widowed or separated group included 18% of the cases and 7% of the controls. Housewives made up a quarter of the control group and 27% of the cases, while manual laborers accounted for 58%. Among the control group, 5% were jobless, whereas 4% were cases. As a whole, students made up 10% of the cases and 8% of the controls. It happened 90% of the time and ninety-four percent of the controls were housed. In the case group, 87% lived with family members, whereas in the control group, 100% did as well.

Table 2: Case and control population sociodemographic profile (2) (n = 100)

Variables	Cases		Controls	
	Mean	SD	Mean	SD
Age in Years	42.24	20.69	42.65	20.76
Years of Education	5.37	4.14	4.57	3.99
Monthly income of family (in INR)	3966	3795	3325	2305

Their average age was 42.24 years, while the average age of the control group was 42.65 years. as shown in Table 2. No statistically significant difference in mean age was found between the categories (t=-0.14; p=0.89). Cases had an average of 5.37 years of schooling compared to 4.57 for controls. When compared to the reference group, the cases had more schooling. Still, t=1.39; p=0.17 indicates that the disparity was not statistically significant. A case's average monthly income was 3,966 Indian rupees (INR), whereas a control was 3,325 (t=1.44; p=0.15).

Table 3: Psychiatric profile of the cases (n = 100) and controls (n = 100)

Variables	Cases		Controls	
Psychiatric Morbidity*	No	%	No	%
Present	37	37	16	16
Absent	63	63	84	84
DSM III R diagnostic categories				
Adjustment disorder	15	15	5	5
Alcohol dependence syndrome	16	16	7	7
Dysthymia	2	2	4	4
Major depressive disorder	2	2	0	0
Paranoid schizophrenia	2	2	0	0

According to Table 3, a significant percentage of suicides (37%; 95% CI: 27.54–46.46) and controls (16%; 95% CI: 8.81–23.19) had a minimum of one Axis I mental diagnosis. Subsequent to adjustment problems, alcohol dependency syndrome was the most prevalent diagnosis among suicide victims (16%; 95% CI 8.0-22.0), followed by other mental health issues. Of those who took their own lives, 2% had a severe depressive episode and 4% had schizophrenia (95% CI 0-4.74).

Among the control group, 5% were diagnosed with adjustment disorder and 7% with alcohol dependency syndrome (95% CI 0.73-0.927).

Table 4: The demographic mental health disorders linked to suicide among both the cases and the controls will be estimated using a univariate approach.

Variables	Suicides		Controls		Univariate Statistics	
	No	%	No	%	Odds ratio (95% CI)	p -value
Gender Male Female	59	59	59	59	1.00 (0.57-1.76)	1.00
	41	41	41	41		
Marital status						
Married	55	55	68	68	1.11(0.59-2.09)	0.75
Never Married	27	27	25	25	2.92(116-7.73)	0.02
Widowhood or separated	18	18	87	7		
Educational status					0.73 (0.39-1.38)	0.33
Formal education	77	77	71	71		
No formal education	23	23	29	29		
Monthly family income					1.04(0.60-1.81)	0.89
More than INR 2400	48	48	49	49		
Less than INR 2400	52	52	51	51		

The socio-demographic Mental Health Disorders for suicide are shown in Table 4. The risk of suicide rose thrice in those who were widowed or separated (p= 0.02).

There was no correlation between the risk of suicide and being married or having a lot of schooling., monthly income, or being single. In both the case and control groups, married people made up

the majority (55% and 68%, respectively). Both the cases and the controls had significantly higher rates of individuals with a bachelor's degree or above. No formal education was held by 23% of the cases and 29% of the controls.

In both the cases and controls groups, the majority of participants had monthly incomes below INR 2400 (51% in the controls and 52%).

Table 5: An examination of the cases and controls using univariate statistics to determine the prevalence of psychosocial mental health disorders linked to suicide.

Variables		Suicides		Controls		Univariate Statistics	
		No	%	No	%	Odds ratio 95% CI)	P -value
Close friends during past six months	Present	66	66	72	72	35.6 (1.88-6.82)	0.001
	Absent	44	44	28	28		
Religious faith	Present	73	73	86	86	2.27 (1.11-4.65)	0.03
	Absent	27	27	14	14		
Ongoing stressors	Present	63	63	24	24	5.39 (2.92-9.95)	0.001
	Absent	37	37	76	76		
Bereavement	Present	24	24	28	28	0.81 (0.43-1.53)	0.52
	Absent	76	76	72	72		
Break in steady relationship	Present	34	34	0	0	2.45E9 (0.0-∞)	0.99
	Absent	66	66	100	100		
Employment	Present	2	2	0	0	1.65E9 (0.0-∞)	0.99
	Absent	98	98	100	100		
Recent major financial crisis	Unemployed	11	11	5	5	2.35 (0.79-7.03)	0.13
	Employed	89	89	95	95		
Chronic pain	Present	15	15	1	1	17.47 (2.26-135.02)	0.006
	Absent	85	85	99	99		
Living alone Living with family	Present	13	13	0	0	186E9. (0.0-∞)	0.99
	Absent	87	87	100	100		

Significant psychosocial Mental Health Disorders for suicide, as shown in Table 5, include not having close friends in the last the absence of religious belief (p=0.03), chronic pain (p=0.006), stress (p=0.001), and the passage of six months (p=0.001). Suicide was also significantly associated with other risk variables, such as living alone (Fisher's exact test $p < 0.001$) and leaving a stable relationship (Fisher's exact test $p < 0.001$). The group that served as a control did not have these characteristics. There was no correlation between suicidal ideation and having lost a loved one, having a job, or the recent big financial crisis. 44% of cases and 28% of controls said they had not had any close friends in the last six months. Only 14% of the control group and 27% of the patients reported any religious affiliation.

Fifteen percent of patients and one percent of controls had chronic pain. Only in situations where their signs of a disrupted relationship (34% of the time) or unemployment (2% of the time). More than 90% of the people in the case study and 95% of the people in the control group reported no serious financial issues in the last three months.

Table 6: A univariate analysis was conducted to determine the prevalence of mental health disorders linked to suicide in both the case and control groups

Variables	Suicides		Controls		Univariate Statistics	
	No	%	No	%	Odds ratio 95% CI)	p -value
Family history of suicide Present Absent	9	9	10	10	0.89(0.35-2.29)	0.81
	91	91	90	90		
Previous suicidal attempts Present Absent	13	13	8	8	1.72(0.68-4.35)	0.25
	87	87	92	92		
Family history of psychiatric illnesses Present	8	8	6	6	1.36(0.46-4.08)	0.58
	92	92	94	94		
Any psychiatric diagnosis Present Absent	37	37	16	16	3.08 (1.58-6.03'	0.01
	63	63	84	84		

Adjustment disorder	15	15	5	5	3.35 (1.58-6.03)	0.02
Major depressive disorder	2	2	0	0	1.65E9 (0.0-∞)	0.99
Men with alcohol dependence (N=59)	27	27	12	12	2.76 (1.04-7.33)	0.04
Dysthymia	2	2	4	4	0.49 (0.09-2.74)	0.42
Paranoid schizophrenia	2	2	0	0	1.65 (0.0-∞)	0.99

There is at least one Axis I mental disorder was present in 37% of the patients and 16% of the control group, as shown in Table 6. Adjustment problem affected the most people with mental illness First was alcoholism in men substance addiction in women affected 15% of cases compared to 5% of controls (p=0.04), followed by males in a similar percentage (16% of cases vs. 7% of controls; p=0.02). A small percentage of patients (2% to 4%) had dysthymia of the control group. Only among the patients were major depressive illness (2% of the total) and paranoid schizophrenia (2% of the total) present. There was not a strong link between having major depression disorder, dysthymia, paranoid schizophrenia, a Suicide attempts in the family, a history of mental illness, or both increase the chance of suicide. No one in the case group or the control group had ever tried to kill themselves, and 91% of the case group and 90% of the latter reporting no such history. While 92% of controls had no history of suicidal ideation or behavior, 87% of patients did.

CONCLUSION

The study on the intervention showed that students' knowledge and attitude about suicide were improved after participating in a structured educational program regarding the topic. Many nations are still very concerned about the need to reduce suicide rates, which is a clear worldwide public health issue. Suicide prevention and support services may benefit from an understanding of risk and protective variables.

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