ORIGINAL ARTICLE

FACTORS INFLUENCING SUICIDE: LIFE EVENTS, PERSONALITY AND COPING: A CASE CONTROL STUDY

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ABSTRACT: CONTEXT: Suicide is one of the important causes of early loss of life. Many risk factors have been identified. However there are few studies on personality traits and coping styles as risk factors. **AIMS:** To study the factors influencing suicide, focusing on life events, personality and coping skills, in suicide attempters as compared to controls. **SETTINGS AND DESIGN:** Study was done in a district general hospital. It was a case control study. **MATERIALS AND METHODS:** Forty consecutive patients with suicide attempt referred for psychiatric evaluation and forty controls were assessed for psychiatric morbidity, life events, personality traits and coping skills. **STATISTICAL ANALYSIS USED:** SPSS 10.0. **RESULTS:** There was significant past and family history of suicide, increase in life events in last one year among cases. Neuroticism was high among cases and extraversion was high among controls. There was some increase in emotion focused coping and decrease in problem solving and use of social support among cases. **CONCLUSION:** Identifying people with increased life events, especially in those with high neuroticism and improving the coping methods might reduce the risk of suicide.
KEYWORDS: Suicide, life events, personality, coping.

INTRODUCTION: Suicide is the fifth leading cause of years of potential life lost before 75 years of age worldwide.[1] Current suicide rate in India is approximately 10.3 per 1, 00, 000 population.[2] Suicide rate in general is undercounted because of underreporting and misclassification. Overall, for every suicide there are about 10 suicide attempts.[3] There has been a 9.2 fold increase in attempted suicide in last decade in India.[4]

Suicidal behavior usually lies on a continuum from suicidal ideation to suicide attempts and completed suicide. In many cases with completed suicide there is a previous suicide attempt, which is the greatest risk for completed suicide, and increases the risk by 40 times.[5] Attempted suicide thus offers an opportunity for suicide intervention.

Suicidal behavior is related to various risk and protective factors, and the suicide risk changes with the changing balance of these factors over the course of time. The risk factors include both predisposing and precipitating factors, which interact in a complex way.[6]

Predisposing factors include genetic, early life experiences, focal head injury, personality characteristics, poor social support, poor problem solving and coping abilities, chronic substance use and neurobiological factors.[7] Precipitating factors include acute psychiatric illness, acute alcohol or drug use, medical illness, life events[8] and family or social stress.[9]

The presence of a personality disorder in addition to a psychiatric disorder in a patient who attempts suicide increases the risk of suicide by 6 folds compared with the risk in individuals with a psychiatric disorder alone.[10]

Personality disorders among attempters has been found to be between 45-55%.[11] The importance of personality traits importance of externalizing syndromes like aggression, substance abuse and internalizing syndromes like depression in suicide is well established.[12,13] These externalizing and internalizing symptoms are similar to Eysenck's constructs of extroversion and introversion.[14] However, there are few studies looking at the relationship between attempted suicide and the constructs of extroversion & introversion.

Interpersonal problem solving and coping difficulties are significantly more in suicide attempters than in patients with psychiatric disorders without a suicide attempt.[15] They often adopt a passive approach to problem solving. Coping abilities are also poorly studied in this population.

Life events, both recent and past, increase the risk for a suicide attempt, especially in people who already experience over whelming feelings of helplessness and hopelessness due to poor self-esteem and poor relationships. In them any trigger may be sufficient to provoke suicidal ideation and behavior.[8]

AIMS: To study the personality characteristics, life events and coping skills in suicide attempters as compared to non-attempters.

METHODS: Study was done during a period of 5 months, from November 2013 to March 2014, in a district general hospital, Davangere. Ethical clearance was obtained from the institute. A total of 80 participants took part in the study, out of which 40 were cases and 40 controls.

Consenting consecutive patients with history of attempted suicide, who were referred from medicine department after emergency treatment**,** were selected as cases.

Patients who were less than 18 years of age, who had history of dementia, mental retardation or any other organic brain syndromes were excluded.

Age and gender matched relatives of psychiatric patients with no prior history of suicide attempt were selected as controls.

Cases and controls were assessed for socio-demographic data, current and past psychiatric diagnosis, chronic medical illness and family history of psychiatric illness. The following scales were used for assessment. All the above scales were in local language, Kannada.

1. Eysenk's personality inventory (EPI)[16]: Personality style was evaluated using EPI, which is a self report inventory, consisting of 57 Yes / No questions. Patients are classified based on scores as extroverts, introverts, neurotics, or emotionally well adjusted and if they meet criteria for both groups they are classified as mixed. If they have in between values they are classified as undifferentiated.
2. Presumptive stressful life events scale (PSLES)[17]: Current and lifetime life events were assessed using PSLES. It is self report scale in which 51 probable life events are listed that may have been experienced during the past one year, and at any time during the lifetime.
3. Coping checklist (CCL)[18]: It has 7 subscales developed on an apriori basis and validated in a normal, adult, community sample. There is one problem focused scale (problem solving), 5 Emotion focused scales (distraction positive methods, distraction negative methods,

acceptance/redefinition, religion/faith, and denial/blame) and the last one is social support which is a combination of both problem solving and emotion focused coping.

The checklist consists of 70 items with yes/no responses. The score for each subscale is the sum total of yes responses (scored as 1) on that subscale. The test-retest reliability is 0.74 and the internal consistency (alpha) ranges from 0.75-0.85.

4. Beck's suicide intention scale [19]: Cases were assessed for severity of suicidal intention using Beck's suicide intention scale.

Statistical analysis was done using SPSS version 10.0

RESULTS: Table 1 shows socio-demographic profile. No significant difference was found between cases and controls in any of the socio-demographic characteristics.

Socio-demographic profile	Case n=40(%)	Controls n=40(%)	t/X2 (p)
Age	28.05 ± 9.92	28.7 ± 5.10	t= 0.397(.693)
Sex Male Female	19 (47.5) 21 (52. 5)	24 (65) 16 (35)	$X^{2=}$1.257 (.262)
Marital Status Married Unmarried Separated	23 (57.5) 14 (35) 03 (7.5)	29 (75) 11 (25) 0	$X^{2=}$4.052 (.132)
Residence Rural Urban Semi-urban	27 (67.5) 10 (25) 03 (7.5)	22 (55) 16 (40) 2 (5)	$X^{2=}$2.095 (.351)
Religion: Hindu Muslim	38 (95) 02 (2)	38 (97.5) 1 (2.5)	$X^{2=}$0. 346 (.556)
Education illiterate < 10yrs > 10yrs	18 (45) 2 (5) 20 (50)	17 (42.5) 3 (7.5) 20 (50)	$X^{2=}$0.229 (.892)
Occupation: Unemployed House wife Skilled laborer Unskilled laborer	11 (27.5) 4 (10) 5 (12.5) 20 (50)	7 p(17.5) 9 (22.5) 5 (12.5) 19 (47.5)	$X^{2=}$2.830 (.417)

Table - 1

Table 2 shows clinical characteristics. A significant number of people had a mood disorder in the form of depression or adjustment disorder. A small percent of people had an impulsive

attempt. A significant number of cases used alcohol. There was a significant past history of suicide attempt among the cases.

Clinical variables	Case	Control	X^2(p)
Current diagnosis			
Impulsive attempt	6 (15)		
Adjustment disorder	12 (27.5)		
Depression	23 (57.5)		
Substance Abuse			
Nil	23 (57.5)	27 (67.5)	
Alcohol dependence/use	13 (32.5)	5 (12.5)	7.647(.054)***
nicotine dependence/use	4 (10)	8 (20)	
Past history			
Nil	28 (70)	31 (72.5)	
Medical illness	6 (15)	8 (20)	7.438(.059)***
Psychiatric illness	0	1 (7. 5)	
Previous suicide attempt	6 (15)	0	
Family history			
Nil	6 (15)	8 (20)	
Psychiatric illness	29 (72.5)	21 (52.5)	7.153****
Suicide attempt	4 (10)	3 (7.5)	(0.067)
Medical illness	1 (2.5)	8 (20)	

Table - 2

		Case	Control	X^2(p)
Eysenk	Extroversion	1 (2.5)	17 (42.5)	
	Introversion	21 (52.5)	11 (27.5)	
	Neuroticism	11 (27.5)	6 (15)	23.59
	Well Adjusted	2 (5)	2 (5)	(0.000)
	Mixed	6 (15)	3 (7.5)	
PSLES				
	Last Year	160.8	85.8	3.29 (0.001)
	Life time	70.2	100	1.93 (0.057)
CCL – Problem Solving		6.77	6.95	0.474(0.637)
Emotion focused		5.75	5.54	0.748(0.457)
Social Support		3.87	4.35	1.38(0.17)

Table - 3

DISCUSSION: This study compared suicide attempters who had any psychiatric diagnosis with healthy relatives of psychiatric outpatients who had never made an attempt, with respect to clinical variables, coping skills, personality traits and life events in the past year and lifetime. Significant differences were found in past history of suicide attempt, family history of psychiatric

illness, use of alcohol and presence of a life event in the past one year. However no differences were found on personality traits on Eysenk's personality inventory and coping skills on coping checklist.

In the general population rates of death by suicide is reported to be more common in men approximately four times than that for women, [1] (National center for injury prevention and control). However these gender differences are less prominent in the psychiatric population. A reversal of gender ratio is reported among the psychiatric population with women reported to attempt three times as often as men.[20] This study did not find any gender differences in suicide attempters.

Past suicide attempts are reported to be one of the strong predictors for future suicide attempts and suicide, with a SMR (standard mortality ratio) of 38.4, the risk is highest during the first months and years after the attempt.[3, 4] Multiple attempters also display more severe psychopathology.[21] Fifteen percent of patients in this study had a past attempt, which was significant. Family history of suicide attempts was present in 10% of patients compared to 7.5% in control group. Family history of suicide also increases the risk for suicide in a person which persists even after adjusting for the differences in the familial rates of psychiatric disorders.[22] Presence of a psychiatric disorder is one of the significant risk factors for suicide attempts and completed suicide. Psychological autopsy studies have shown that more than 90 % of persons with suicide satisfy criteria for one or more psychiatric disorders.[23]

Major mood disorders especially depression in known to be associated with a 12 to 20 fold increase in the risk of suicide [5]. Our study also confirmed this finding with 85% of patients having a depressive disorder. Alcohol was found to be an important factor for attempting suicide in patients, probably by increasing the impulsivity[24] a significant number of cases used alcohol before the suicide attempt in this study also.

Suicide risk is also predicted by an individual's strengths and vulnerabilities which include, personality attributes, religious beliefs, coping skills, psychosocial support, life events etc. Healthy and well developed coping skills, may buffer stressful life events and decrease the likelihood of suicidal behavior. Attempters had more stressful LE within a year of the attempt in comparison to the control group, especially in the past six months.[25] Khan et al 2005[26] reported that 94% had stressful life events & more than 50% had multiple stressful life events.

Once a person experienced suicidality however mild, he or she may become more vulnerable to future suicidal behavior, as a result of vulnerability accumulation or scarring.[27] Indeed, obvious precipitating life events appear to be reported more by first time than repeat self harmers and later attempts seen to be more autonomous and therefore less amenable for prevention than earlier ones. [28] However feeling more responsible towards family, fear of social disapproval, moral objections to suicide, greater survival and coping skills may prevent suicide in these people.[29]

Presence of a severe life event in association with a negative psychological factor, such as negative personality traits (negative self- evaluation, chronic anxiety or sub clinical depression), poor coping skills and, or a negative environmental factor (lack of close confidant, negative interaction with others at home) further increase suicide risk.[30, 31]

Neuroticism is tendency to experience unpleasant emotions easily, such as anger, anxiety and depression and predicts the degree of emotional stability and impulse control. Extraversion refers to energy, positive emotions, assertiveness and sociability. Personality traits of high neuroticism, and low extraversion are found to be potential markers of suicide risk.[32, 33]

However we did not find any differences in personality traits of neuroticism or extraversion in the present study.

Coping is constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are thought as taxing. A repertoire of coping skills including problem focused and emotion focused and good social support is preferred. Problem-focused strategies try to deal with the cause of their problem by finding out information on the problem and learning new skills to manage the problem. Emotion-focused coping is oriented toward managing the emotions that accompany the perception of stress and involve strategies like denial, releasing pent-up emotions, distracting oneself, managing hostile feelings and meditating. People use a mixture of all three types of coping strategies, and these usually change over time.

Active problem solving is shown to decrease suicide risk and emotion focused coping especially avoidant coping is associated with increased suicide risk[34, 35] In this study some increase in emotion focused coping and decreased use of problem solving and social support was seen among cases, but it was not statistically significant.

CONCLUSION: Suicide is a complex behavior. Various biological, social and psychological factors are associated with risk of suicidal behavior. Past suicide attempts and family history of suicide, increase in life events especially in the last one year are established as important factors.

Selected personality traits and coping methods may be useful markers of suicide risk, which need further study in larger samples.

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