

Original Article

An Exploratory Analysis of Personality Factors Contributed to Suicide Attempts

P. N. Suresh Kumar, V. Rajmohan, K. Sushil

ABSTRACT

Background: People who attempt suicide have certain individual predispositions, part of which is contributed by personality traits. **Aims:** The present study was conducted to identify the psycho-sociodemographic and personality related factors contributing to suicide attempts. **Materials and Methods:** 104 suicide attempters admitted in various departments and referred to the department of psychiatry of IQRAA Hospital formed the study sample. They were evaluated with a self designed socio-demographic proforma, Eysenck's Personality Questionnaire Revised, Albert Einstein College of Medicine-Impulsivity Coping Scale, and Past Feelings and Acts of Violence Scale. **Statistics Analysis:** The data was initially analyzed by percentage of frequencies. Association between socio-demographic and selected psychological factors was analyzed using *t*-test and Chi-square test. Intercorrelation among psychological factors was calculated by Pearson's correlation coefficient "r". **Results and Conclusion:** Factors such as young age, being married, nuclear family, feeling lonely and burden to family, inability to solve the problems of day to day life, and presence of psychiatric diagnosis and personality traits such as neuroticism, impulsivity, and violence were contributed to suicide attempt. A significant positive relationship between these factors was also identified. Findings of the present study call the attention of mental health professionals to identify these high risk factors in susceptible individuals and to modify these factors to prevent them from attempting suicide.

Key words: *Deliberate self-harm, personality traits, suicide attempts*


INTRODUCTION

Suicide is the third leading cause of death among people aged 15-34 years and one among the top 10 causes of death in every country. Attempted suicide appears to be a major risk factor for suicide completion. World Health Organization defines suicide as "an act with fatal outcome and suicide attempt as an injury with varying degrees of lethal intent".^[1] The term attempted

suicide encompasses a wide variety of self-destructive behavior, ranging from serious life threatening acts to relatively minor gestures primarily aimed at attracting attention.^[2]

Attempted suicide results due to a complex interaction of biological, genetic, psychological, social, cultural, and environmental factors.^[3] Psychological factors such as distressing life events, personality, impulsivity, and violence of an individual determines his/her behavior and leads to momentary decisions to attempt suicide. When a person faces frustration; he/she develops anxiety, depression, hopelessness, worthlessness, and shows suicidal behavior. If he/she cannot cope with these frustrations, ultimately it may result in a suicide attempt.

It has been increasingly recognized in recent years that

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people who attempt or commit suicide have a certain individual predisposition, part of which is given by personality traits, in particular, impulsive-aggressive behaviors.^[4] Inadequate control of aggressive impulses might be a greater indicator for impulsive suicide attempt.^[5] Previous studies have reported a high correlation between suicide, impulsivity, and violence.^[6] In a series of studies men were found to be more violent than women.^[7,8] Anxiety and impulsivity were found to strongly correlate with suicide risk. Anger and resent mood correlated with violence risk and trait anxiety correlated negatively with violence risk. In another study among suicide attempters; few (12%) are psychotic, majority were situationally depressed, and impulsivity was the major theme.^[9]

Neuroticism and extraversion are the two personality traits commonly associated with attempted suicide.^[10] In the realm of personality, Ponnudurai *et al.* found extraversion on Eysenck's personality inventory to strongly correlate with suicide attempts.^[11] Another study from India on suicide attempters, 58% subjects had shown clinical features of abnormal personalities.^[12] Han *et al.* identified personality disorder in 45.9% of his patients who attempted suicide.^[13] Impulsivity and harm avoidance have emerged as temperament dimensions independently associated with self-aggressive tendencies in personality.^[14] Such interactions could explain the correlation between temperament and suicidality. Anger and self-directedness also appeared to have some effects on suicide attempt.

However, there are a lot more other variables including the sociodemographic, psychological, and other undetected personality related aspects contribute to the development of suicidal behavior. The present study was to identify personality related factors contributing to suicide attempts. By modifying these contributing factors of a suicide attempter, a mental health professional can prevent him/her from repeating the attempt. It can be done by modifying the psychological factors and by implementing interventions to cope up with existing sociodemographic factors.

Objectives

1. Identify the psycho-sociodemographic factors contributing suicide attempts.
2. Identify the personality factors contributing to suicide attempts.
3. Find out the association between psycho-sociodemographic factors and personality factors among suicide attempters.
4. Find out the relations among selected significant factors of suicide attempters.

MATERIALS AND METHODS

Venue

The present study was conducted at KMCT Medical College Hospital, Calicut, Kerala. This hospital has a bed strength of 500 patients. This multi-specialty hospital is equipped with huge outpatient departments in all specialties. This hospital has got a well-established psychiatry department with inpatient capacity of 30 beds. In this hospital monthly around 25-50 suicide attempters are seeking treatment from various departments. This hospital has a written rule that any patient admitted with suicide attempt has to be evaluated in the psychiatry department prior to discharge.

Study sample

Suicide attempters admitted in various departments and referred to department of psychiatry for further evaluation formed the sample for this study. Convenient sampling technique was used as there is limited number of subjects available. So almost all suicide attempters who fulfill the following selection criteria was included in this study.

Inclusion criteria

Those who are willing to participate in this study after signing the written informed consent, able to verbalize so that they can respond to tools appropriately, and will be inpatients at the time of this study.

Exclusion criteria

Acutely ill and those who are unable to respond to the tools.

Tools:

1. Self-designed sociodemographic sheet to document the psycho-sociodemographic details and life events
2. Eysenck's Personality Questionnaire Revised (EPQR)
3. Albert Einstein College of Medicine-Impulsivity Coping Scale (AECOM-ICS)
4. The Past Feelings and Acts of Violence Scale (PFAVS).

Self-designed sociodemographic proforma

This proforma consists of 34 items which include personal, demographic, socioeconomic, and support system factors; and questions to assess the life events related to marital life, family, job, and others. Reliability of the prepared tool was established by Cronbach's alpha (90.77).

Eysenck's personality questionnaire revised (EPQR)

It is designed to measure three important personality dimension, psychoticism, extraversion, and neuroticism.^[15] Each of three traits was measured by

means of 90 items, carefully selected after lengthy item analysis. Psychoticism is an independent dimension which describes personality as solitary, troublesome, cruel, lacking feeling and empathy, hostile to others, sensation seeking, and liking odd and unusual things. Neuroticism refers to the general emotional over responsiveness and liability to neurotic breakdown under stress. Extraversion refers to outgoing, uninhibited sociable, proclivities of a person. There is no doubt that personality questionnaire are subject of faking. It can be measured by a lie score assessment which is included in EPQR.

Albert Einstein college of medicine-impulsivity coping scale (AECOM-ICS)

AECOM-ICS consists of 15 items answered on a three point frequency scale; never, sometime, and often. These items assess the client’s tendency to engage in impulsive, spur-off the moment behaviors all of which reflect possible losses of control. The maximum score on this scale is 45 and has an internal reliability of 0.79 indicating a high correlation among items.^[13]

The past feelings and acts of violence scale (PFAVS)

This scale consists of 21 items answered on a three point frequency scale.^[16] It is a self-report scale designed to assess the extent of anger propensity to employ violent means which has a maximum score of 35. Internal reliability of this scale is 0.77 indicating a high inter-correlation among items.

After obtaining permission from the ethics committee, this study was conducted. Detailed explanations were given to participants about the purpose of this study. Confidentiality of the information was assured and informed consent was taken prior to enrolling patients. Rapport was established and explanation was given about the study tools. A semistructured interview schedule was used to collect the psycho-sociodemographic data and life events. Three self-reporting standardized tools EPQR, AECOM-ICS, and PFAVS were administered. Total time taken for data collection was 2 h for each patient. The tools were translated into Malayalam with the help of language experts and were translated back to English to revalidate the language.

Analysis of data

Data collected was analyzed by Statistical Package for Social Scientists (SPSS) PC software system. The data was initially analyzed by percentage of frequencies. Association between sociodemographic and selected psychological factors was analyzed using *t*-test and Chi-square test. Intercorrelation among psychological factors was calculated by Pearson’s correlation coefficient “r”.

RESULTS

Total 104 patients were included in this study. Sociodemographic characteristics of the study sample shows that majority were between the age group 20-40 years, females, Hindus, village dwellers, having only secondary level of education, employed, monthly income less than 500 rupees, and from nuclear families [Table 1].

Table 2 shows that only 20% were living alone, 31.7% had no friends with common interest and majority felt that they are burden to family. Majority had a current psychiatric diagnosis. Adjustment disorder was the commonest diagnosis followed by alcohol/drug abuse and depression. Significant number had previous suicidal ideations. The nature of the attempt was impulsive. Poisoning with organophosphorous, native poisons, and medicine over dose were the common methods of attempt. Physical illnesses, family history

Table 1: Sociodemographic characteristics

Variable	Number (104)	Percentage
Age		
11-19	24	3.1
20-39	58	5.8
40-65	21	20.2
<65	1	0.9
Gender		
Male	45	43.3
Female	59	56.7
Religion		
Hindu	72	69.2
Muslim	27	26
Christian	5	4.8
Marital status		
Married	60	57.7
Unmarried	44	42.3
Domicile		
Rural	87	84
Urban	17	16
Education		
Illiterate	4	4
Primary and secondary	71	68
High school and higher secondary	18	17
Graduation and above	11	11
Occupation		
Unemployed	24	23
Employed	80	77
Income (rupees/month)		
<500	76	73.1
5001-1000	10	9.6
1001-1500	8	7.7
1501-2000	3	2.9
>2001	7	6.7
Type of family		
Nuclear	73	70.2
Joint	31	29.8

of psychiatric illness, and past suicidal attempts were not much considerable.

Table 3 shows that major reason for attempt was financial problems (26.9%) followed by marital discord (13.5%), family friction (11.5%), unemployment (10.5%), and mental illness (9.6%). Table 4 shows that the mean score on impulsivity and violence was average for total subjects.

Table 5 shows that mean score on extraversion, impulsivity, and violence were significantly high in males compared to females. Table 6 shows the association between personality traits and selected psychological factors. Only significant associations are shown in the table. Neuroticism showed significant association with nuclear family type, feeling of burden to family members, and suicidal ideations. There was significant association between extraversion, secondary level school education, and Hindu religion. Impulsivity showed significant association with current psychiatric illness. Violence showed significant association with married status, nuclear family, and suicidal ideations.

Table 7 shows negative correlation between psychoticism and extraversion, positive correlation between neuroticism and impulsivity, neuroticism and violence, and impulsivity and violence.

DISCUSSION

The present study was focused mainly on the identification of personality related factors and their interaction with other psycho-sociodemographic variables contributing to suicide attempt. Majority of attempters were young, belonged to the age group of 20-40 years. Young adulthood is a period of worries and complexes related to difficulty in securing job and settlement in life. They are in search of job and failure to find a suitable job may result in depression, which may further lead to suicide attempts. Preponderance of young age in suicide attempt has been reported in earlier studies.^[17]

The female predominance in suicide attempt is consistent with similar studies from India and west.^[18] In this study male subjects scored high on extraversion, impulsivity, and violence. Moreover, they had planned their suicidal attempts in advance and opted for more violent methods. Similar findings have been reported Earlier.^[6,10]

Hindu dominance in this study may be a reflection of the general population in the district where the majority religion is Hindu. It may also be due to the liberalized view of Hindus on suicide. Dominance of low socioeconomic status and rural background

Table 2: Psycho-social characteristics

	Frequency (n)	Percentage
Living alone	3	2.9
No friends with common interest	33	31.7
Difficulty in facing day to day problems	84	80.7
Feeling of burden to family	64	61.5
F/H/Opsychiatricillness	19	18.2
Physical illnesses	28	26.9
Psychiatric diagnosispresent	76	73
Depression	17	16.3
Mania	5	4.8
Schizophrenia	7	6.7
Alcohol/drug abuse	19	18.3
Adjustment disorders	42	40.2
Others	6	3
Previous suicidal ideations	66	63.5
Previous attempt	20	19.2
Nature of attempt		
Impulsive	84	80.8
Planned	20	19.2
Mode of attempt		
Poisoning	87	76.5
Hanging	6	5.7
Drowning	5	4.8
Burns	3	2.8
Jumping from height/in front of moving vehicles	3	2.8

Table 3: Distribution of suicide attempters based on reason for attempt

	Frequency (n)	Percentage
Financial problems	28	26.9
Marital discord	14	13.5
Family frictions	12	11.5
Unemployment	11	10.5
Mental illness	10	9.6
Physical illness	8	7.7
Love failure	5	4.8
Abortion	4	3.8
Burden to family	4	3.8
Teasing by others	4	3.8
Failure in exams	3	2.9
Quarrel with neighbors	1	0.9

Table 4: Distribution of suicide attempters based on impulsivity and violence scores

Factor	Low, n (%)	Average, n (%)	High, n (%)
Impulsivity	15 (14.4)	74 (71.2)	15 (14.5)
Violence	8 (7.7)	83 (79.8)	13 (12.5)

reflects the financial problems of our patients. There was a significant association between educationand extraversion. Broadly speaking extroversion reduces the risk for suicide. Education gives the person opportunities to mingle with others. Interpersonal intimacy also increases with education. This finding is in conformity with that of Useda *et al.*^[10]

Table 5: Distribution of attempters based on their personality traits

	Male (n=45)	Female (n=59)	t	P value
Psychoticism	9.2±4.3	8.9±4.8	0.03	0.76
Neuroticism	14.7±15.4	15.4±4.4	0.73	0.68
Extraversion	13.8±12.2	12.2±3.8	2.56	0.02*
Impulsive	18.7±5.8	15.8±4.6	2.77	0.01**
Violence	6.2±5.3	4.3±3.1	2.36	0.02*

*P<0.05, **P<0.01

Table 6: Association between personality traits and selected psychological variables

	Low	Average	High	Chi-square	P value
Neuroticism					
Nuclear	12	46	16	5.9	0.05*
Joint	11	16	13		
Feeling of burden	9	41	14	6.6	0.04*
Suicidal ideation	66	16.5	4.2	4.3	0.00**
Extraversion					
Illiterate	0	4	0		
Primary	7	12	1	16.4	0.04*
Secondary	4	39	8		
Higher secondary	3	11	4		
Graduates and above	3	4	4		
Religion					
Hindu	11	45	16		
Muslim	3	23	1	13.4	0.01**
Christian	3	2	0		
Impulsivity					
Psychiatric illness present	8	53	15	8.6	0.01**
Violence					
Marital status					
Married	4	41	12	24.1	0.00**
Unmarried	3	40	1		
Family type					
Nuclear	3	59	12	7.5	0.03*
Joint	5	24	1		
Suicidal ideations	4.4	5.7	66	1.9	0.05*

*P<0.05, **P<0.01

Table 7: Correlation coefficient computed between selected psychological factors

	P	N	E	I	V
P	1.000	0.020	-0.200*	0.114	0.075
N		1.000	0.013	0.204*	0.328**
E			1.000	0.075	0.066
I				1.000	0.291**
V					1.000

P>0.05*; P>0.01**; P – Psychoticism; N – Neuroticism; E – Extroversion; I – Introversion

There was predominance of nuclear family among the attempters. Significant association was also noted between nuclear family, neuroticism, and violence. The current trend of the society is to formulate small nuclear families, which further results in strained relationship and mechanical life of each member. Feeling of loneliness and straining of relations are other features of nuclear

family which were also born true in the present study. Hence, it is not unusual that members of a nuclear family become violent easily. People who are less open to feelings, actions, and ideas are characterized by restricted affects. Their violent behaviors are manifestation of the same aggressive impulse turned towards one's self.^[19,20]

Though majority of the study subjects were married and living with family, had friends of common interest, they were feeling loneliness, had suicidal ideation, and were not able to solve the problems of daily life. This implies that suicide risk may be hidden in the interpersonal relationship of the members of family. Feeling of being alone in life is a crucial situation and it leads to an emotional outburst. Similar findings have been reported earlier.^[3] Predominance of married individuals in suicide attempt is reported in previous studies.^[21]

There was a significant association between married status and violence. Marital discord was a major precipitating factor for most of the attempters. In our culture, marriage is a social obligation and is performed by the elders irrespective of the individual's preparedness for it. Further in our culture, marriage is believed to be a part of the treatment for mental illness, and hence mentally ill is more likely to get married earlier than the mentally healthy. Moreover, marital partners in India are virtually strangers to each other due to arranged marriage and so are the families. Hence, several adjustment problems could arise among them. Divorce being socially frowned upon and difficult task, they feel suicide as the only escape. Indian females are more submissive and always likely to express their anger towards themselves. The findings of predominance of married females in suicide attempt, marital discord as the commonest precipitating factor, adjustment disorder as the commonest psychiatric diagnosis; all support this proposition.

Most of the clients felt themselves as a burden to their families. Significant association was also observed between feeling of burden and neuroticism. The present socioeconomic system calls for well-defined responsibilities for each individual. When they fail to live up to this level, people tend to feel burden to their family and they feel like walking away from their life. Another reason could be the illness they are suffering. The considerable rate of psychiatric illnesses and physical illnesses in the study population substantiates this point. When a person is mentally or physically ill, he or she will be experiencing difficulty to face day-to-day problems to which others are able to. Significant number of our clients had difficulty in this regard also. When the stress is intolerable, they will find it difficult to cope with it and often find themselves

lost in them. Probably this emotional turmoil has contributed to the diagnosis of adjustment disorder and impulsive attempts in the majority. Similar findings have been reported earlier.^[13]

There was a significant association between psychiatric illness and impulsivity. Majority of the study subjects were psychiatrically ill and out of that significant proportion were suffering from adjustment disorders. Adding to that most of the attempts were impulsive occurred as a result of sudden momentary decision. Everything put together, these findings confirm the relationship between transient psychiatric disturbance following trivial stressors and impulsive suicide attempts.

Organophosphorus poisoning and native poisoning were the common modes of attempt in the present study. These poisons are easily available in the houses of agricultural laborers. In the present study, most of the subjects were manual laborers and were more aware about the hazardous effect of these poisonous substances. The easy availability of these substances also encouraged them to adopt this method. Drug overdose was also another common mode of attempt. Significant proportion of study subjects were mentally ill and were currently on treatment for the same. It is a usual practice that mentally ill clients receive medicines from the hospital for 1 month or more at a time. If these medications are not kept under safe custody or not supervised properly it may be used to end their life. Similar instances were reported by Sharma.^[22]

In the present study, majority of attempts were impulsive and the predominant personality trait was neuroticism. Moreover, there was a positive correlation between neuroticism and impulsivity. This is in conformity with the findings of Useda *et al.*^[10] Neuroticism also had positive correlation with violence. Violence had positive correlation with impulsivity. In brief, these findings indicate a positive mutual interaction between neuroticism, impulsivity, and violence directing the vulnerable person to attempt suicide at the time of crisis. This point is further supported by other finding of this study that majority of the attempters had average violence and impulsivity score. This is also in agreement with previous studies.^[6]

Limitations

Main limitation of this study was the small sample size. Another one was the selection of a biased group drawn from the hospital. Hence, our findings cannot be generalized into the total population. Other variables pertaining to suicidal behavior including biological risk factors should also be considered to explore the risk of suicidality.

Scope for further research

In the context of present study, following few suggestions seems to be relevant in planning for future research. Probably studies with larger sample size, inclusion of biological variables, and long-term follow-up would throw more light on suicidal tendency in individuals. An interventional study design may provide more information on the role of improving the personality aberrations in reducing suicidal tendency. Moreover, only qualitative individual case studies can provide in depth exploration of multitude of factors operating in this complex behavioral problem.

CONCLUSION

Present study identified psycho-sociodemographic factors such as young age, married females, nuclear family, feeling lonely and feeling burden to family, those who cannot solve the problems of their day-to-day life, and presence of psychiatric diagnosis contributed to suicide attempt. Likewise personality traits such as neuroticism, impulsivity, and violence also contributed to suicide attempt. A significant positive relationship between these factors was also identified. Findings of the present study call the attention of mental health professionals to identify these high risk factors in susceptible individuals and to modify these factors to prevent them from attempting suicide.

REFERENCES

1. WHO. Prevention of suicide. Public health paper No. 35, Geneva; 1968.
2. Adams DA. Stressful life events associated with adolescent suicide attempts. *Can J Psychiatry* 1985;37:88-96.
3. Vijayakumar L. Psychosocial risk factors for suicide in India. In (Ed Vijayakumar L), *Suicide Prevention- Meeting the Challenge Together 2003*;149-62.
4. McGirr A, Turecki G. The relationship of impulsive aggressiveness to suicidality and other depression - linked behaviors. *Curr Psychiatry Rep* 2007;9:460-6.
5. Plutchik R, Van Praag H. The measurement of suicidality, aggressivity and impulsivity. *Prog Neuropsychopharmacol Biol Psychiatry* 1989;13:S23-34.
6. Botsis AJ, Soldatos CR, Liossi A, Kokkevi A, Stefanis CN. Suicide and violent risk. I. Relationship to coping styles. *Acta Psychiatr Scand* 1994;89:92-6.
7. Apter A, Kotler M, Sevy S, Plutchik R, Brown SL, Foster H, *et al.* Correlates of suicide in violent and non-violent psychiatric patients. *Am J Psychiatry* 1991;148:883-7.
8. Apter A, Plutchik R, van Praag HM. Anxiety, impulsivity and depressed mood in relation to suicidal and violent behavior. *Acta Psychiatr Scand* 1993;87:1-5.
9. Morgan HG. *Deliberate Self Harm. Recent Advances in Clinical Psychiatry*. London: Churchill Livingstone; 1982;680-6.
10. Useda JD, Duberstein PR, Conner KR, Conwell Y. Personality and attempted suicide in depressed adults 50 years of age and older: A facet level analysis. *Compr Psychiatry* 2004;45:353-61.

11. Ponnudurai R, Jayakar J, Saraswathy M. Attempted suicide in Madras. *Indian J Psychiatry*; 1986;28:59-62.
12. Gupta CS, Sings H. Psychiatric illness and suicide attempters. *Indian J Psychiatry* 1981;23:69-74.
13. Han C, Hawton K, Houston K, Townsend E. 'Psychiatric and personality disorders in patients with deliberate self harm'. *Br J Psychiat* 1997;178:48-53.
14. Giegling I, Olgiati P, Hartmann AM, Calati R, Möller HJ, Rujescu D, *et al.* Personality and attempted suicide. Analysis of anger, aggression and impulsivity. *J Psychiatr Res* 2009;43:1262-71.
15. Eysenck HJ, Eysenck SB. Personality structure and measurement. London: Routledge and Kegan Paul; 1975.
16. Plutchik R. Emotion: A Psycho Evolutionary Theory. New York: Harper and Row;1989;190-7.
17. Kumar PNS. An analysis of suicide attempters versus completers in Kerala. *Indian J Psychiatry* 2004;46:144-9.
18. Kumar PNS Life events, social support, coping strategies and quality of life in attempted suicide: A case control study. *Ind J Psychiatry* 2013;55:46-51.
19. Litman R. Sigmund Freud on suicide. *Essays in self destruction*. New York: Science House 1967:324-344.
20. Lester D. Suicide as an aggressive act. *J General Psychol* 1968;79:83-86.
21. Ponnudurai R, Jayakar J, Saraswathy M. Attempted suicide in Madras. *Indian J Psychiatry*;1986;28:59-62.
22. Sharma RC. Attempted suicide in Himachal Pradesh. *Indian J Psychiatry* 1998;40:50-4.

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