

PSYCHOLOGICAL AUTOPSY ON FARMERS' SUICIDE VICTIMS: A RETROSPECTIVE STUDY.

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ABSTRACT

Background: Farming is one of the oldest industries in the world and often portrayed as a happy way of life. Despite this, agriculture has one of the highest rates of suicides than any industry. **Aim:** Assess the Psychological factors influences on farmer's suicide victims. **Method:** A retrospective study conducted for 39 victims who were selected based on inclusive criteria. Semi-structured psychological autopsy questionnaires were used to gather information. **Results:** Results reports about Psychological factors related that majority of farmers' suicide victims suffered by before committing suicide are i) stressful factors ii) Victim's addiction to substances, iii) victim's personal changes, iv) Victim's life planning issues, v) Victim's usual reaction to stress, vi) Victim's personality type characteristics vii) Victim's health status findings, viii) Victim's family related stress factors regarding. **Conclusion:** The present study results revealed that there were multiple risk factors in causation of farmers' suicide victims were suffered before committing suicide.

KEYWORDS: Psychological factors; Suicide; Psychological autopsy; farmers.

INTRODUCTION

India is the land of agriculture and agriculture is the main occupation for more than 70 percent of the population of our country. The economic prosperity of our country to a major extent depends on prosperity of agriculture.^[1] Agriculture sector plays an important role in the growth of a developing nation. Most of the people in developing economies are dependent on agriculture and allied activities.^[2]

There is evidence that, worldwide, farming is an occupation with a higher risk for suicide than other occupations, so Indian farmers' higher rates may simply fit this pattern and warrant little explanation. Research suggests that these suicides are not occurring from more organic processes such as mental health problems, but from socioeconomic and psychosocial circumstances. These circumstances are making the life of the Indian farmer much more precarious, leading many of them to such a desperate situation that they take their own

lives.^[3] According to the National Crime Records Bureau (NCRB 2009) report on 'Accidental Deaths and Suicides in India 2009' points out that 48 farmers commit suicide out of 348 suicide deaths in the country every day in India.^[4]

There is evidence from studies in Karnataka, Kerala, Tamil Nadu, and other states in India that the role of socioeconomic stress in farmer suicide may be greater than the role of mental disorders.^[5,6,7,8.]

In Karnataka Veeresh committee (2002) reported that during 1996 and 2000 there were 10,959 victims under the farming and agricultural activity. Press reports indicated that at least 3000 farmers had taken their lives between 2000 and 2003. Regional and local press reported an average of about four farmers' suicides per week. These suicides can no more be considered isolated cases of farmer's deaths but a symbol of deepening crisis of Indian agriculture.^[9]

Thus, the top five States Maharashtra, Karnataka, Andhra Pradesh, Chhattisgarh, and Madhya Pradesh in terms of the number of farm suicides in 2001 and 2011 accounted for nearly two-thirds (63 per cent and 67 per cent, respectively) of the suicides in the country.^[10]

The data of Dharwad District Crime Record Bureau (DDCRB) shows that the rate of farmer suicide is increasing. In the year 2012 to 2014 there were 18 farmer suicide victim and in the year 2015 and 2016 there were 52 and 68 farmers committed suicide respectively.^[11]

Numerous studies have found agricultural workers, including farmers, at elevated risk of Suicide^[12,13-23] Suicide is a major but largely preventable public health issue. To provide the most appropriate and efficient prevention intervention, a better understanding of the situation is required.^[24]

MATERIALS AND METHODS

Descriptive retrospective research study was conducted by collecting data from different sources like visiting the families of victims in different villages of Dharwad District; as per the records from District Crime Records Bureau Dharwad, State Crime Records Bureau of Bangalore, Joint Director of Agriculture Dharwad, Commissioner of Agriculture Bangalore and also from the social media. The farmer suicide victim's aged between 25 to 75 years who were committed suicide between January 2017 to December 2017 in the Dharwad district, Karnataka, are included in the study.

Ethics Committee approval was obtained from Institute Ethics Committee DIMHANS, Dharwad, India.(Ref.No. DIMHANS/I.E.R.B/4/2016-17). Before participating in the study, a written informed consent was obtained in local language (kannada) from the respondents. Data were collected by home visits. 39 farmers' suicide victim's respondents were involved through purposive sampling technique by meeting the inclusive criteria of family members of farmer's suicide victim who having more than three months and less than one year history. (fig-1) In the present study 39 farmer suicide victims who were committed suicide between 1st January 2017 to 31st December 2017 are included in the study during data collection period of 05 months (1st January 2017 to May 31st 2018) (Table-1). Semi-structured psychological autopsy questionnaire and farming profile were used to interview the respondents to gather the data. Content validity of the tool was made through Psychiatrists, Nursing professionals of department of psychiatry, Clinical psychologists and Psychiatric social workers. Data was analyzed through descriptive statistics.

RESULTS

The results of this study are presented in two sections: Section I Describes socio-demographical characteristics of the farmer suicide victims, informants and Farming

profile and Section II. Description of farmer suicide victim's psychological autopsy related reports.

Section I: Describes socio-demographical characteristics of the farmer suicide victims, informants and Farming profile

A. Describes socio-demographical characteristics of the farmer suicide victims

The socio-demographic characteristics of the study population are shows the mean age of the victims were (44.59). Related to religion of the victims, majority of the victim's (94.8%) belonged to Hindu religion. About the education nearly half of the victims not perceived formal education (43.59%). More than half of the sample were belongs to nuclear family (69.23%). About the socioeconomic status of the victim's majority (87.18) of the victim's were under below poverty line. Agriculture is only the source of income in majority of farmer suicide victim (97.44%). More than half of the samples (87.18%) were married.(Table-2).

B. Describes socio-demographical characteristics of the Informants

The socio-demographic characteristics of the informants of the victim's are majority informants were males (61.54%). Parents are the main informants (23.08%). Nearly half of informants not perceived formal education (43.59%). Mean age of the informants' were 41.64.

C: Describes the farmer suicide victims' Farming profile

Farming profile of the farmer suicide victims' most of the victim's had small scale farming (48.72%). About land holding of the victim's, majority of victim's were doing agriculture activities in their own land (94.87%). (87.18%) of the victim's had more than 10 years of farming experience. Majority of victim's were growing both commercial and non commercial crops (89.74%). In relation to source of water for cultivation (92.31%) of the victim's were depended on rain water for cultivation. Most of the (92.31%) victims were having the debts. About amount of debts of victims' (74.36%) had more than 100000 debts. With regard to source of the debts (51.28%) of the victim's had taken loan from nationalized bank. With regard to victim's knowledge about farmer helpline, most of (87.18%) the farmer's had not aware it. (66.67%) of the victim's family members got compensation from the government. Related agricultural officer visit to victims (61.64%) family members said yes. (Table-3)

Section II: Description of farmer suicide victim's Psychological autopsy related reports

A. Distribution of farmer suicide victim's based on their way of suicide

Majority of farmer victim's (51.28%) selected their farmland to commit suicide. Nearly (48.72%) half of the victim's used hanging method to end their life. Most of the victim's belonged to 6 to 12 months period after the

suicide (58.97%). More than half of the victim's (61.54%) committed suicide at the day. Lethality of the method used was (53.85%) high.

B. Description of victim's health status findings

Victims were suffering with medical illnesses (20.51%). Only 2 victim's (5.13%) were diagnosed as psychiatric illness. (20.51%) victim's attempted one time prior to commit suicide.

C. Description of victim's family related stress factors

Victim's family related stress factors only one (2.56%) family member of the victim committed suicide, (17.95%) family members died unnaturally, (23.07%) member suffering with severe medical illness, (2.56%) suffering with psychiatric illness. (12.82%) of the family member addicted to substance use.

D. Distribution of victim's personality type characteristics

Victim's personality type that nearly half (48.72%) of the victim's had extrovert type of personality characteristics. And (46.15%) of victim's belonged to introvert personality characteristics and only (5.13%) of the victim's had ambivert type personality characteristics.

E. Distribution of victim's by usual reaction to stress

Victim's by usual reaction to stress, most of the victim's (38.46%) were discussing with others whenever they met with stress factors and coming with reasonable conclusions. (28.21%) victim's were going away from the place and (20.51%) were showing anger towards others. (12.82%) were had the reaction like hitting and throwing the things.

F. Distribution of victim's based on various stress factors

Victim's based on various stress factors majority of the victim's were having stress factors as crop failure (89.74%), Debts (92.31%), draught (97.44%). And More than half of the victim's had low minimum support price (66.67%) and financial crisis 64.10%. (51.28%) of the victim's had conflicts with others, (17.95%) victim's were loss their loved one, (20.51%) of victim's faced the problem of unemployment, (7.69%) victim's had stress related to children's marriage, marital issues and land dispute. (Table-4)

G. Distribution of farmer suicide victim's based on substance use

Farmer suicide victim's based on substance use that (69.23%) victim's were addicted to substance use. Victim's were depended on alcohol (11.11%), tobacco (37.04%), both alcohol and tobacco (48.15%) and cannabis (3.70%). Majority of victim's (92.59%) were had the duration of more than 5 year. Majority of the victim's were using substance daily (85.19%). Nearly

half of the victim's (40.74%) suffered with health issues with the use of substance and half of the victim's (51.85%) were experienced familial disharmony and more than half of the victim's (55.56%) had financial crisis with the substance use. (Table-5)

H. Distribution of farmer suicide victim's based on their interpersonal relationship

Farmer suicide victim's based on their interpersonal relationship were reported (87.18%) cordial and (12.82%) discordial relationship with spouse, 100% cordial relationship with parents, (92.31%) cordial and (7.69%) discordial relationship with children's. (97.44%) cordial and (2.56%) discordial relationship with siblings and relatives (94.87%) cordial and (5.13%) discordial relationship with relatives.

I. Distribution of victim's based on personal changes before committing suicide

Victim's based on personal changes before committing suicide majority (74.36%) victim's had decreased interaction with others, (89.74%) were taking very less amount of food few days before committing suicide, more than half of the victim's (74.36%) had gradually decrease in their need for sleep, most of the victim's (82.05%) were shown less interest in activities before committing suicide.

J. Distribution of victim's based on their life planning issues before committing suicide

Victim's based on their life planning issues before committing suicides reports that most of the victims had one or other farm related planning's, Growing commercial crops (41.03%), & construction of their house (41.03%) were the two major plans of the victim's. Some of them had plan of putting bore well in land (35.90%) and purchasing new land for agriculture (35.90%). (30.77%) victim' planned to buy agriculture goods, (30.77%) planned to buy bullock's, (12.82%) had the plan to arrangement of children's marriage. 5.13% of the victim's planned to put grocery shop, (2.56%) of the victim's planned to have krishi Honda (pond) and dairy farm.

K. Distribution of the victim's based on family members' reaction to victim's death

The victim's based on people reaction to victim's death, majority of the family member's of the victim's were felt unexpected (89.74%) for the victim's loss in their family. (10.26%) of the family member shocked with the victim's loss.

Table 1: Population (1st January 2017 to 31st December 2017) and number of selected samples of suicide victim farmers in selected villages of Dharwad district, Karnataka.

S. No.	Taluka's	Population (Suicide)	No of villages	Selected Samples	%of sample to farmers' Suicide
1	Kalaghatagi	13	6	6	46.15
2	Kundagol	15	9	9	60
3	Navalagund	25	13	17	68
4	Hubli	03	1	1	33
5	Dharwad	10	6	6	60
6	Whole District	66	35	39	59

Source: Superintendent of police Dharwad.

Table 2: Distribution of victim's in terms of socio-demographical Characteristics N= 39.

Socio demographic Characteristics	No of farmers	% of farmers
Age at death		
<=30yrs	5	12.82
31-40yrs	12	30.77
41-50yrs	10	25.64
>=51yrs	12	30.77
Mean age	44.59	
SD age	12.45	
Religions		
Hindu	37	94.87
Muslim	1	2.56
Others	1	2.56
Educations		
No formal education	17	43.59
Primary	14	35.90
Secondary	6	15.38
PUC and above	2	5.13
Type of family		
Joint	12	30.77
Nuclear	27	69.23
Poverty line		
BPL	34	87.18
APL	5	12.82
Sources of income		
Agriculture only	38	97.44
Agriculture and other job	1	2.56
Agriculture and other business	0	0.00
Marital status		
Married	34	87.18
Unmarried	5	12.82
Total	39	100.00

Table 3: Distribution of victim's based on farming profile N =39.

Farming profile	Numbers	% farmers
Possession of land		
Marginal (< 2 acres)	10	25.64
Small (2 to 4 acres)	19	48.72
Large (> 4 Acres)	10	25.64
Details of land holding		
Own land	37	94.87
Leased land	2	5.13
Farming experience		
< 10 Years	5	12.82
> 10 Years	34	87.18

Type of crop grown		
Commercial	0	0.00
Non-commercial	4	10.26
Both	35	89.74
Source of water for irrigation		
Rain fed	36	92.31
Irrigation	3	7.69
Both	0	0.00
Victim's Debts		
Yes	36	92.31
No	3	7.69
Amount of Debts		
Rs < 50000	4	10.26
Rs 50000- 100000	6	15.38
Rs > 100000	29	74.36
Sources of debts		
Nationalized bank	20	51.28
Co-operative bank	9	23.08
Non-banking financial institutions	10	25.64
Knowledge of farmer helpline		
Yes	5	12.82
No	34	87.18
Compensation from government		
Yes	26	66.67
No	13	33.33
Agriculture officer visit		
Yes	24	61.54
No	15	38.46
Total	39	100.00

Table 4: Distribution of victim's based on various stress factors N=39.

Stressors or pressures	No of farmers	% of farmers
Stressors or pressures in the victims life		
Yes	39	100.00
No	0	0.00
Reasons for the stress. (Last one year before death)		
Crop failure	35	89.74
Debt	36	92.31
Financial crisis	25	64.10
Children marriage	3	7.69
Land dispute	3	7.69
Legal issues	3	7.69
Marital issues	6	15.38
Loss of loved one	7	17.95
Draught	38	97.44
Low MSP	26	66.67
Unemployment	8	20.51
Conflicts with the victim's	20	51.28
Total	39	100

Table 5: Distribution of farmer suicide victim's based on substance use N=39.

Status of habits	No of farmers	% of farmers
Using alcohol, tobacco, cannabis	27	69.23
Type of substance		
Alcohol	3	11.11
Tobacco	10	37.04
Both alcohol & tobacco	13	48.15

Ganja/cannabis/other drugs	1	3.70
Duration		
< one year	0	0.00
1 to 5 years	2	7.41
> 5 years	25	92.59
Frequency of substance use		
Daily	23	85.19
Weekly	2	7.41
Monthly	0	0.00
Occasionally	2	7.41
Health issues with substance use	11	40.74
Familial disharmony with substance use	14	51.85
Financial crisis with substance use	15	55.56
Total	39	100.00

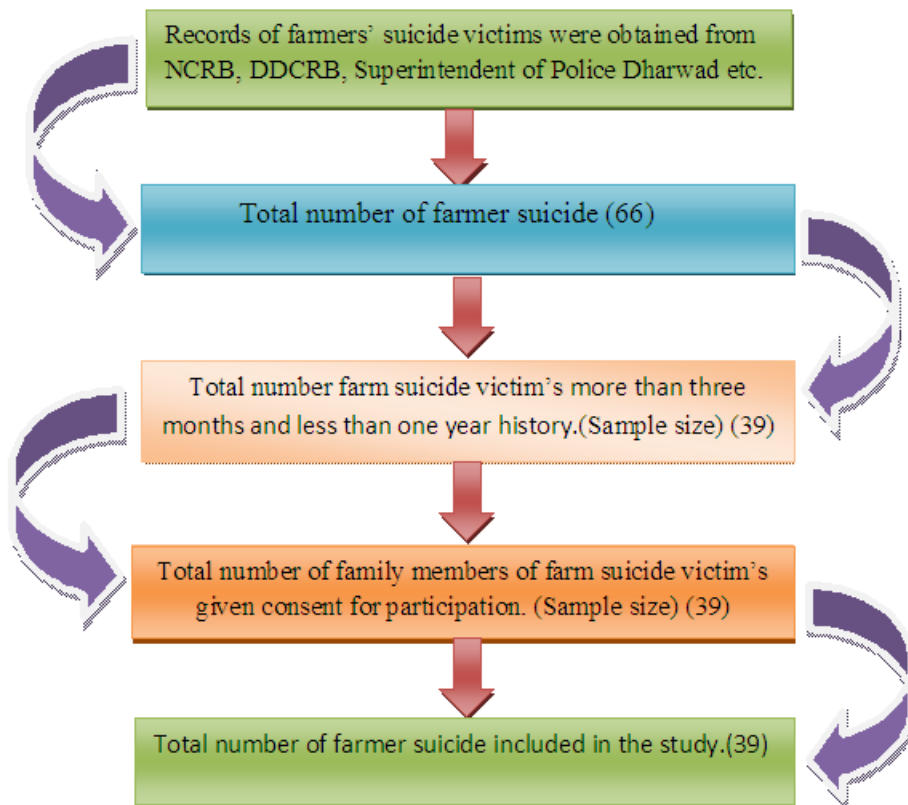


Figure 1: Sample size.

DISCUSSION

The present study was aimed at assessing the socio-demographical, psychological and farming profile of the farmer suicide victims of the all the talukas of the Dharwad district, Karnataka. Suicide is the final outcome of complex interactions of biological, genetic, psychological, sociological and environmental factors.^[8] It is essential to study issue of farmers' suicide of different regions to know the particular responsible factors for farmers' suicides in each and every region. It will benefit to farmers, government and society for preventing suicidal tendency of farmers through policy

measures and bringing most valuable human capital in process of economic development.

Psychological autopsy study is the most accepted method to understand the factors for farmers' suicides. In the present study all the farmer victims were male. Similar findings are reported in the study conducted by MK Bhise and PB Behere at Maharashtra, India.^[25] There were multiple factors were assessed in the present study. These finding are supported by the previous studies.^[26, 27] In the present study the majority of the victim's suffered stress factors before committing suicide are, crop failure, debt, crop loss due to draught, lack of minimum support price and lack of alternative sources for income. Similar

findings were supports the present study that conducted by Indira Gandhi Institute of Development Research, Mumbai.^[28]

In the present study reports that most of the (92.31%) victims were having the debts. About amount of debts of victims' (74.36%) had more than 100000 debts. With regard to source of the debts (51.28%) of the victim's had taken loan from nationalized bank. The study supports with pervious study reports that majority of farmers in India had lower annual income.^[29] Hanging was the most commonly used method by the farmers to commit suicide followed by poisoning. Similar findings were reported by many authors from Indian studies.^[30,31] Pesticides in lethal concentrations are easily available in rural as well as urban communities in India which are the reason for pesticide consumption being more common method of suicide in country.^[32]

Studies indicate that more than 70% of farmer suicide cases occur among those engaged in cash crops, bringing debt, hyper commercialization, exploding input costs, water use patterns, and price volatility to the fore.^[33] Psychological illnesses are important risk factors for suicide. In the present study, there was some diagnosable medical & psychiatric illness in 60% of the farmers who completed suicide. Significant correlation between mental illness and suicide by farmers had been reported from the UK.^[34] Present study reported that most of the farmers' had debts (92%) from various sources and they were not able to repay the debts. Indebtedness has been proposed as one of the major causes of suicide by farmers in India supports the present study results.^[12] Majority of farmers in the present study had lower annual income, This finding supported by the report submitted by Mishra S to Government of Maharashtra State.^[29] The need for stress relief camps and counseling services for farmers was expressed. Walker et al reported that even in the absence of psychiatric morbidity, farmers were more likely to report that life is not worth living compared with the general population.^[35] Indebtedness has been proposed as one of the major causes of suicide by farmers in India.^[12]

Present study shows that 29 out of 39 (69.23%) victims were addicted to substance use. With regard to substance use studies says that, alcoholism is another risk factor with both high rates of suicide among alcoholics and high proportion of alcoholics among suicide attempters supports the present study results.^[36]

In India, there is a need to strengthen the National Mental Health Program at primary health care level so as to offer support and counseling to vulnerable farmers in rural areas.

Implications of the study

The present study results revealed that there were multiple risk factors in causation of farmers' suicides. Not only the failure of crops, debts and draught causes

suicide there are some psychological, social, economical and stress related factors which also can influences farmers' to commit suicide. Thus suicide prevention program for farmers' should be multiprogrammed aiming at socioeconomic and psychological well-being of farmers along with provision of support in situations of stressful life events. Strategies for prevention of farmers' suicides need should have both short-term and long-term interventions. Present study reveals some important risk factors which can help early identification of farmers at risk. Early identification and appropriate support to these farmers are urgently needed to prevent further suicides.

CONCLUSION

The farmers' suicide is burning issue in India and it has become serious during the period of new economic reforms. The farm sector in India is in crises and it is reflected through the growing number of suicides by farmers in some states. Karnataka State is one of the states hit by the epidemic of suicide among farming community. Indian agriculture to a major extent depends on natural rainfall, which is often a failure. Early identification and appropriate support to these farmers are urgently needed to prevent further suicides.

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