Psychosocial aspects of suicide in largest industry of farmers in Vidarbha Region of Maharashtra

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India consists of 16% of the world’s population, but sustains only 2.4% of land resources. The agriculture sector is the only livelihood to two-third of its population, which gives employment to 57% of the workforce and is a raw material source to a large number of industries. Farmer suicides account for approximately 10% of all suicides in India. The national suicide rate is 10.6/lac, whereas in Maharashtra it is 14.2/lac, in Andhra Pradesh 12.1/lac, in Telangana 27.7/lac, and in Chhattisgarh 27.7/lac. The National Crime Records Bureau data from 1995 to 2006 show that 200,000 farmers had committed suicide, with an average rate of 16,000/year. Every 7th suicide in the country is a farmers’ suicide. The first state where suicides were reported was Maharashtra with particularly in the Vidarbha region. In Maharashtra, farmers’ suicide rate is 60% higher than the general suicide rate. Every 5th farmers’ suicide committed in the country had occurred in Maharashtra, Vidarbha being a particularly sensitive region but also in Punjab, Uttar Pradesh, Kerala, and Karnataka. In a country of 70 million farmers, 10 in every 100,000 farmers commit suicide. Many inquiry commissions were formed and recommendations were implemented, especially in Punjab. The problem of suicide is not only reported in India but also reported in different parts of the world like England and Wales. We adopted the psychological autopsy approach to offer some insight into the reason why these individuals resorted to such a drastic step.

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which unfortunately lead some to decide to end their lives.[8] According to the 2011 Census of India, the farming industry contributed to 17% of the national gross domestic product, which was accrued by cultivators and agricultural laborers who constitute about 22% of the country’s total population.[2] Multiple studies have emphasized the increased prevalence of farmer suicide across the globe.[3-5] The cause varies from region to region. Studies conducted in western countries have found psychosocial factors to be the foremost cause of suicide among their farmers. According to their studies, trying to balance the day to day farming operations with their family life was a stressful task. On the contrary, Indian studies found that socioeconomic issues due to crop losses and accumulating loans led farmers to commit suicide.[8] While speculations into ways to alleviate the causes of these avoidable incidents have been made and various measures have been suggested and implemented to help reduce the psychological and financial burden of farmers, this issue still prevails as a dilemma which needs to be resolved.

**HOW BIG IS THE PROBLEM?**

In the World Health Organization’s latest report in 2016, India’s overall suicide rate was estimated at 16.5 suicides per 100,000 population, which is significantly higher than the annual global age-standardized suicide rate of 10.5 per 100,000 population.[9] According to these data, India became the country with the highest suicide rate in the South-East Asian region, followed by Sri Lanka and Thailand in second and third, respectively.[1] The WHO also included in the report that India recorded the third-highest number of female suicides in the world.

After delaying the release of data for 3 years, the National Crimes Records Bureau in 2019 published the Accidental Deaths and Suicides in India report which reported 10,281 persons associated with the farming sector and 5957 farmers committed suicide in 2019 alone which accounts for 7.4 percent of the 139,516 overall suicides committed in India in 2019 [Figure 1].[8] Of the total farmer suicides recorded that year, maximum was recorded in Maharashtra, followed by Karnataka, Andhra Pradesh, Madhya Pradesh, Chhattisgarh, and Telangana. Three thousand nine hundred and twenty-seven farmers committed suicide in Maharashtra, which is more than double the 1992 farmer suicides reported in Karnataka, the second-highest state.[8] While the total number of farmer suicides in 2019 is marginally lower than the data in 2018, an increasing number of farm laborers, who are persons who work in a land not owned by them for a daily wage, committed suicide in 2019 compared to 2018.

### OUR STUDIES

Risk factors for farmers’ suicides in central rural India: Matched case–control psychological autopsy study.[9] The objective of this study conducted by Behere and his team was to recognize key risk factors, which broadly included the psychological and socioeconomic causes of farmer suicide in the Vidharbha region of Maharashtra. The study involved collecting psychological autopsy reports from the deceased victims’ family members in the Wardha district of the Vidharbha region. 98 samples of suicide victims were collected and 98 samples of age and occupation matched controls from the same villages were included [Figure 2].

The study was conducted from April 01, 2007, to March 31, 2008. During this time, a team consisting of a resident psychiatrist and a psychologist trained in psychiatric assessment visited the preidentified households and used a field-tested and modified version of a semistructured interview schedule developed by the investigators. Other than basic demographic data, the suicide victims were also retrospectively evaluated for alcohol or psychoactive substance abuse along with any comorbid psychiatric illness using appropriate scales and the Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (TR) diagnostic criteria.

According to the sociodemographic results, fifty percent of the farmers who committed suicide were younger than 40 years old, with a male-to-female ratio of about 8:1. More than half of the samples were educated up to middle school, married, and living as nuclear families. The most common method of suicide was by consuming pesticide (68%), probably due to easy access, followed by hanging (15%), drowning (12%), and self-immolation (3%).

Family members of more than half the victims claimed that they noticed changes in the victim’s behavior in the days leading up to their suicide and up to 19% of the sample clearly expressed suicidal ideations within 30 days before their suicide. Evaluating the socioeconomic stress, farmers who committed suicide more likely had to either sublease their land or sell their land or livestock to fulfill minimum expenses sometime during the preceding 5 years. While any amount of debt increased the risk of completed suicide by four times, debts from multiple sources increased the odds by twenty-eight-fold. The added responsibility of the wedding of a female member of the family also increased the likelihood of suicide by three-fold. Sixty percent of the farmers could have been diagnosed with a psychiatric illness, the presence of which increased the chances of committing suicide by eight-folds.

Most diagnosed mental illnesses were depression (37%) and alcohol dependence syndrome (10%). Irrespective of alcohol dependence, the use of the substance doubled the

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**Figure 1**

HOW BIG IS THE PROBLEM?

**Figure 2**

OUR STUDIES

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**Figure 3**

Risk factors for farmers’ suicides in central rural India: Matched case–control psychological autopsy study.
of completed suicide, the presence of multiple stressors increased the odds by nine times. In conclusion, three main risk factors were determined, which included financial liabilities, diagnosable mental illness, and stressful life events [Figure 3].

A case–control study of psychological distress in survivors of farmers’ suicides in Wardha District in central India

The objective of this study conducted by Behere and his team was to evaluate the psychological suffering and parallel distress faced by the surviving family members of farmers who committed suicide. This was a case–control study carried out from July 2008 to December 2009 in the Wardha district of Maharashtra, located in the Vidharbha region known for an increasing number of farmer suicides over the decades. Ultimately, 98 family members of the suicide victims without any diagnosable psychiatric illness were included in the study. The sample population was interviewed using a semistructured questionnaire for sociodemographic data and the Indian version of Self-Reporting Questionnaire-20 to assess psychological distresses which were administered by a resident psychiatrist a psychologist trained in a psychiatric evaluation. The control sample population included age-, sex-, and occupation-matched individuals residing in the same village after ensuring they were free of any psychiatric illnesses.

The results showed that 81% of the participants were married, with a male-to-female ratio of approximately 8:1. Each suicide had an average of four survivors. Among the sample population, 48% were the surviving wives and 27% were their victims’ parents. 62% of the survivors suffered from psychological distress, which constitutes 78% of the total females in the study compared to 35% of all the male survivors included in the study. The spouses of the farmers who committed suicide were more likely to suffer from distress irrespective of their gender. The most common complaints of distress were unhappiness, loss of pleasure and interest, low appetite, weariness, tremors, and sleep disturbances among various others and up to 32% acknowledged their suicidal ideations. Although 45% of the survivors had received some form of government aid following their family member’s suicide, the level of distress did not change.

PREVENTION

Overall, solutions such as subsidies, loan waivers, crop insurance, and other welfare schemes have failed due to improper implementation. Worse still, compensation after a suicide has sometimes provided an incentive for suicide. In addition, loan waivers are often politically motivated...
which erode the rural credit delivery system. Over the years, twelve Indian states have claimed to waive pending loans, but the India Comptroller and Auditor General’s report revealed errors in the inclusion and exclusions criteria for the beneficiaries and other unbridled corruption.[12]

As primary preventive measures,[13] as a response to the psychological distress faced by farmers and their family members, psychiatrists across the country are endeavoring to research preventive measures and solutions to the core risk factors of farmer suicide.[14] The farming communities fear the stigma to psychiatric illness and treatment which need to be studied and addressed. Studies show that if given the opportunity and resources, forty percent of farmers would opt to change their careers.[1,15]

Studies have proved pesticide consumption to be the most common suicide method. This leads to the need to restrict access to the pesticide by providing lockable storage boxes and psychoeducation about dealing with suicidal ideations.[13]

The government needs to acknowledge that farmers face fluctuating weather conditions and various other expenses for the successful cultivation of their crops. By providing fair prices for their products and offering farming loans at realistically affordable interest rates, the financial stress of many farmers can be eliminated. Crop loan policies need to be revised and schemes ensuring loans carrying minimal or no interest at the start of every season should be available.

Indian farmers’ suicide has been determined to be primarily due to recurring debt and hence this pitfall needs to be addressed as one of the core risks factors and realistic solutions need to be implemented. A great way to resolve this issue is by ensuring profits while protecting from failure and debt. Unreliable weather issues interlinked with irrigation problems may be taught to be managed by harvesting rainwater and resolving interstate river water disputes. While older generation farmers should be taught modern farming practices to make their tasks simple, younger generation farmers should be encouraged and educated about the use of modern and mechanical farming techniques. Farmers should also be simultaneously provided training in alternative sources of income like goat farming, poultry, dairy farming, and animal husbandry.[2]

Secondary preventive measures include identifying the high-risk persons suffering from psychiatric illnesses and providing treatment and teaching them simple coping mechanisms. The identification and evaluation process can be done by the grassroot individuals and gatekeepers who can further refer them to higher psychiatric centers for management and counselling as and when required. Tertiary measures involve rehabilitation of rescued attempters and reaching out and providing help to the survivors of completed suicides. While providing monetary relief is a short-term solution, the surviving family members should be provided psychiatric counseling on coping strategies and guided trained to support themselves independently. Children should be provided free and easy access to education.[19]

**GOVERNMENT SCHEMES**

There are multiple government welfare schemes currently available to farmers across the country to support the agriculture industry and improve the socioeconomic conditions of those involved in the farming industry. A few of the numerous yojanas are mentioned below.

1. **PM Kisan Scheme**: Starting from December 2018, 120 million small farmers with <2 hectares of land can get up to Rs. 6000/year in three installments and minimum income support
2. **Pradhan Mantri Kisan Maan Dhan Yojana**: This yojana allows small and marginalized farmers ages 18–40 years to make monthly contributions which ultimately ensures a minimum pension of Rs. 3000/month when they turn 60 years of age
3. **Kisan Credit Card scheme**: Provides timely access to short-time formal credit to buy equipment and other necessary expenses
4. **Pashu Kisan Credit Card Scheme**: Farmers are provided loans to buy livestock like cows, buffalos, and goats to encourage the growth and development of animal husbandry
5. **Paramparagat Krishi Vikas Yojana**: This scheme was implemented to encourage organic farming to improve soil health and boost the farmers’ net income
6. **Pradhan Mantri Krishi Sinchai Yojana**: This scheme is concentrated on providing permanent solutions to irrigation problems and helping harvest rainwater
7. **e-National Agriculture Market**: Provided a nationwide e-marketing platform to bring transparency and revolutionize the agriculture market.

Multiple other schemes are also available, i.e. Pradhan Mantri Fasal Bima Yojana, Dairy Entrepreneurship Development Scheme, Rainfed Area Development Programme, Soil Health Card Scheme, National Mission for Sustainable Agriculture, and Livestock insurance Scheme just to name a few.[16]

**CONCLUSION**

Farmers and the agricultural industry are considered the financial backbone of our nation and it contributes substantially to India’s GDP. It is essential to ensure
farmers are supported psychologically and financially to maintain a symbiotic relationship. Unfortunately, farmers face numerous financial hurdles and psychosocial issues making them feel weak and helpless. They secure loans to ensure bountiful profitable results and become stressed when they are unable to pay back the loans due to losses. Psychosocial stresses like alcohol dependence, problematic interpersonal relations and psychiatric illnesses only add to their predicament and tempt them to end their lives. Farmer suicide has unfortunately become a known phenomenon in India and across the world. India’s statistical data have recorded a total of 5957 farmers who committed suicide in 2019. Although this demonstrates a negligible decrease from 2018 data, it is still an uphill battle to be fought. Our studies have helped illuminate financial liabilities, diagnosable mental illness, and stressful life events as the top priorities to find solutions at the core and help farmers find the hope and will to fight longer. Our studies further elaborate that the sympathy and support need to be extended to the survivors and dependents of the suicide victims as they also fall prey to multiple psychosocial distress. Although farmer suicides have been recorded for decades, studies are still inadequate and need to be further explored. Although the government has implemented various schemes to help minimize the farmers troubles, the primary stressors still seem to prevail.

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