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Suicide prevention among farmers in Bangladesh

Article in *Asian Journal of Psychiatry* · December 2023

DOI: 10.1016/j.ajp.2023.103853

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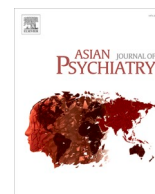


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Letter to the editor

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ARTICLE INFO

Keywords

Suicides

Farmer

Agriculture

Mental health

Well-being

Bangladesh



Globally, suicide is the fourth leading cause of death, resulting in over 700,000 annual deaths. Low and middle-income countries bear 77% of this burden, and pesticide self-poisoning, particularly in rural areas, accounts for 20% of cases. The Southeast Asia, home to over 39% of global suicides, is disproportionately affected, particularly in rural regions (World Health Organization, 2021a). In Bangladesh, suicide ranks second in injury-related deaths (Noor et al., 2022), with a prevalence rate of 3.7 per 10,000 populations (World Health Organization, 2021b), stemming from adverse life events, mental health issues, social isolation, unemployment, and sexual violence (Arafat et al., 2021).

The agricultural sector played a central role in the economy of Bangladesh since after independence, contributing to approximately 60% of the GDP. Although this contribution decreased from 17% in 2010 to 12.6% in 2020, agriculture remains a vital pillar, effectively addressing issues of poverty and food security. Despite a population rise of 11.6% from 2010 (147.6 million) to 2020 (164.7 million), the sector has demonstrated resilience in terms of both profitability and productivity, even in the face of challenges posed by the pandemic and climate change (Bangladesh Bureau of Statistics, 2018).

Despite the success story of agriculture, Bangladesh has witnessed a rise in farmer suicides, emphasizing the immediate need to address the mental health crisis within this crucial sector. While there is a global commitment to reducing suicide as a part of the United Nations' Sustainable Development Goals, Bangladesh lacks an official database on tracking suicides among farmers. This absence of a database suggests a potential challenge in comprehensively addressing and understanding the issue of farmer suicides in the country, hindering the development of targeted strategies and interventions in this sector. However, a comprehensive study revealed that the suicide rate among individuals engaged in agricultural activities is estimated to be 4.80 per 100,000 person-years of observation (Salam et al., 2017). The farmer's suicide in Bangladesh has been driven by economic factors, including crop losses, debt, and low income, alongside limited support and psychological pressure (The Daily Star, 2018). The cost of irrigation work further compounds their difficulties, while inefficiencies in storage and market control, unstable crop prices, and soaring commodity prices result in

annual losses, especially for crop and vegetable growers (The Daily Star, 2018). Despite higher prices in urban markets, these benefits seldom reach the farmers (The Daily Star, 2018). Additionally, in Bangladesh's predominantly agricultural rural economy, the unrestricted availability of pesticides without effective regulation poses a significant risk, making it easier for farmers to access these chemicals for self-harm (Salam et al., 2017).

In this context, the psychological distress faced by farmers has gained widespread recognition as a significant health concern, transcending national boundaries. Farmers face elevated levels of depression in comparison to those not engaged in farming, intensified by challenges like animal disease outbreaks, extreme weather events, financial instability, and shifts in rural social dynamics (Chiswell, 2023). Alarming suicide statistics further accentuate the severity of these challenges. This underscores the urgency of addressing the mental health crisis within agriculture and the vulnerability of farmers, emphasizing the need for concerted efforts to alleviate this critical issue. Challenges like financial hardships, social isolation, and the inherent unpredictability of farming, are interconnected and contribute to elevated levels of depression and anxiety among farmers (Rudolphi et al., 2020). In rural areas, close-knit communities deter farmers from seeking mental health care due to stigma and limited privacy. Mental health issues are often seen as personal struggles. Furthermore, the scarcity of mental health services in Bangladesh exacerbates the difficulties faced by farmers when seeking help for their mental health or suicidal concerns. The limited number of mental health professionals in Bangladesh, as indicated by the estimated figures of 5640 psychologists, 2600 psychiatrists, and 7000 psychiatric nurses per million population, raises significant concerns about the adequacy of mental health care in the country (Noor et al., 2022).

Given the economic, social, and mental health implications of farmer suicides, there's a critical need for concerted efforts to ensure sustainable agriculture and rural well-being, highlighting the urgency of sustained research to comprehend the challenges faced by rural Bangladeshi farmers, as their welfare and the advancement of a more sustainable agricultural sector hinge on this research to address their mental health needs.

<https://doi.org/10.1016/j.ajp.2023.103853>

Received 27 October 2023; Received in revised form 14 November 2023; Accepted 27 November 2023

Available online 30 November 2023

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Recommendations for preventing the suicides among farmers in Bangladesh

Individual Level

1. **Development of a suicide registry**
 - a. There is an urgent need for the development and validation of a suicide registry in Bangladesh.
 - b. Emphasizing individual data collection to identify specific risk factors and tailor interventions accordingly.
2. **National bans on hazardous pesticides**
 - a. Implementing national bans on highly hazardous pesticides that deemed as an affordable and cost-effective intervention to prevent suicides among farmers (Lee et al., 2021).
 - b. Addressing individual access to and use of pesticides, promoting safer alternatives at the personal farming level.

Societal Level

3. **Unity through farmer cooperatives**
 - a. Fostering unity through farmer cooperatives and support networks, facilitating knowledge and resource sharing, while also prioritizing accessible mental health services, is crucial for the well-being of farmers.
4. **Government subsidies and price regulation**
 - a. The Bangladesh Government should offer subsidies to make essential agricultural inputs (e.g., crop seeds, fertilizer, pesticides) affordable for farmers, establish price commissions to regulate agricultural and food product prices, manage food reserves, and reduce tariffs on rural commodities to ensure price stability (Bangladesh Bureau of Statistics, 2018).
5. **Cold storage facilities and export options**
 - a. Developing societal infrastructure by expanding cold storage facilities and creating avenues for exporting surplus produce that are vital to safeguard farmers from financial losses.
6. **Supervision by Department of Agricultural Extension (DAE)**
 - a. The Department of Agricultural Extension (DAE) of Bangladesh should actively supervise and monitor agricultural fields to support successful cultivation and alleviate financial burdens on farmers.

Population Level

7. **Enhancing rural internet connectivity for Smart farming**
 - a. Improving access to information by ensuring high-quality rural internet, benefitting farmers during adverse weather conditions (Rahman et al., 2020).
 - b. Fostering collaborations between governmental bodies and private telecommunication providers to jointly invest in and implement initiatives aimed at improving internet connectivity in rural areas.
 - c. Implementing educational programs to enhance farmers' understanding of smart farming technologies and the benefits of real-time internet connectivity.
8. **Investment in mental health infrastructure**
 - a. The Bangladesh Government should invest in mental health infrastructure to facilitate telepsychiatry, including the creation of a toll-free helpline for psychological first aid and support, ensuring accessibility in rural areas.
 - b. The existing helpline "Kaan Pete Roi," established in 2013 for emotional support and suicide prevention, did not fulfill its 24/7 service claim, should be strengthen its services throughout the country (Iqbal et al., 2019).
9. **Role of religious organizations**
 - a. Religious organizations can play a central role in suicide prevention, including employing religious approaches to destigmatize suicide, joint statements from religious leaders (Onie et al., 2023), facilitating open discussions on mental health, and supporting critical initiatives like Universal Health Coverage for suicide attempts and local evidence-based research.
10. **Culturally tailored research efforts**
 - a. Future research efforts should be directed toward comprehending the country's distinct cultural context and assessing suicide prevention interventions specifically designed for this particular context. This approach is crucial because it is essential to make efficient use of the limited resources available in order to effectively reduce suicides in the agricultural community in Bangladesh.

Financial disclosure

The author did not receive funds for this study.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgment

The author did not receive funds for this study.

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