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REVIEW ARTICLE

Factors associated with the farmer suicide crisis in India



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Received 3 August 2015; received in revised form 8 March 2016; accepted 14 March 2016
Available online 11 April 2016

KEYWORDS

Farmer;
Globalisation;
Indebtedness;
India;
Suicide

Abstract *Background:* In India, it is estimated that ~16,000 farmers die by suicide each year, and at rates far above those of the general population. This paper reviews much of the literature concerning the factors associated with this crisis.

Methods: A literature search was undertaken from multiple databases on Ovid, as well as more elementary searches of Google, Google Scholar, and PubMed. This paper presents a review of the key results.

Results: Socioeconomic factors, rather than mental health problems, are associated with farmer suicides, with increased indebtedness playing the predominant role. Available research suggests this has arisen to a greater extent recently, due to an agrarian crisis affecting the most vulnerable farmers. This has multiple manifestations, including a lack of agricultural investment and irrigation improvement, use of cash crops, the increased use of noninstitutional credit sources, and the reduction of trade barriers. Bt cotton is unlikely to be an important factor and no studies reported a significant burden of mental health problems.

Conclusion: Indebtedness and numerous factors relating to this are clearly identified as the most important risk factors. Further large-scale assessments are required to further understand the situation.

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Peer review under responsibility of Ministry of Health, Saudi Arabia.

<http://dx.doi.org/10.1016/j.jegh.2016.03.003>

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1. Introduction

Between 1995 and 2006, official records indicate that 166,304 farmers died by suicide in India (~16,000 per year) and that at its peak, ~18,000 farmers were taking their own lives every year [1]. The issue received significant news coverage, mainly over claims surrounding the introduction of the Monsanto developed Bt cotton (a genetically modified cotton crop that provides resistance to bollworm and other pests) to the region.

Some have said that there is little evidence suggesting a particular suicide crisis amongst farmers in recent years [2,3]. However, numerous reports state that farmers have died by suicide at rates exceeding those of the general population [1,4,5]. The 2013 National Crime Records Bureau (NCRB) statistics (considered the official domestic figures) estimate the suicide rate for the general population at 11.2/100,000 people, increasing from 10.5/100,000 people in 2002 [6]. Breaking down the NCRB figures, Nagaraj [1] estimates that as of 2001, the overall suicide rate for farmers across India was 15.8/100,000 people, ~50% higher than the general population rate, and that this has been increasing at a rate above that of the general population.

Analysis of the regional disparities indicates that the large majority of farmer suicides occur in a geographically contiguous region that Nagaraj [1] terms the Group I states (Maharashtra, Karnataka, Andhra Pradesh, Chhattisgarh, and Madhya Pradesh). Combined, these have significantly higher suicide rates of 28.7/100,000 farmers, accounting for ~30% of India's farming population but over 60% of its farmer suicides [1]. Here, the problem is so acute that the official rate for farmers is between 59% and 83% higher than the general population's, depending on whether "all cultivators", or just "main cultivators" are included, respectively. Not only are the absolute figures high, they have been increasing at a rate of 5.4% per annum, suggesting a doubling every 14 years if they

continue unchanged. Another estimate of farmer suicide rates in Maharashtra suggested a worse picture, with rates increasing from 15/100,000 people to 57/100,000 people between 1995 and 2004, with the general population rate having only increased slightly from 17.4 to 20.3 [7]. Farmers in this region have gone from having lower suicide rates than the population to rates significantly higher, with a quadrupling of suicides from 1083 per annum to 4147 per annum in this period [7].

There is evidence that, worldwide, farming is an occupation with a higher risk for suicide than other occupations [8,9], so Indian farmers' higher rates may simply fit this pattern and warrant little explanation. However, evidence suggests that a substantial investigation into the causes of this crisis is an imperative, as along with the increasing rates of farmer suicides, 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. This paper examines these risk factors that have been associated with suicides in farmers.

2. Material and methods

A literature search was undertaken on Ovid of the Embase (1980–2015 Week 18), Global Health (1973–2015 Week 17) and Ovid MEDLINE(R) in-process and other non-indexed citations and Ovid MEDLINE(R) (1946 to present) databases. The search term was "[India and farm* and (suicide or death)]". This returned 362 results (301 unique), and all titles and abstracts were read and assessed. A total of 67 were isolated as having potentially some relevance to farmer suicides and read in full. More elementary searches of Google, Google Scholar, and PubMed were done, which identified a few additional reports.

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