



The national suicide prevention strategy in India: context and considerations for urgent action

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See Online for appendix

India reports the highest number of suicide deaths in the world. At this time when the Indian Government is formulating a national suicide prevention strategy, we have reviewed the current status of suicides in India, focusing on epidemiology, risk factors, and existing suicide prevention strategies to identify key challenges and priorities for suicide prevention. The suicide rate among Indian girls and women continues to be twice the global rate. Suicide accounts for most deaths in the 15–39 years age group compared with other causes of death. Hanging is the most common method of suicide, followed by pesticides poisoning, medicine overdose, and self-immolation. In addition to depression and alcohol use disorders as risk factors, several social and cultural factors appear to increase risk of suicide. The absence of a national suicide prevention strategy, inappropriate media reporting, legal conflicts in the interpretation of suicide being punishable, and inadequate multisectoral engagement are major barriers to effective suicide prevention. A scaffolding approach is useful to reduce suicide rates, as interventions provided at the right time, intensity, and duration can help navigate situations in which a person might be susceptible to and at risk of suicide. In addition to outlining research and data priorities, we provide recommendations that emphasise multilevel action priorities for suicide prevention across various sectors. We call for urgent action in India by integrating suicide prevention measures at every level of public health, with special focus on the finalisation and implementation of the national suicide prevention strategy.

Introduction

India has the highest number of suicide deaths in the world, with suicide being the leading cause of death in the 15–39 years age group.^{1,2} India's contribution to global suicide deaths has increased from 27.3% in 1990 to 36.5% in 2019 among women and girls, and from 16.7% in 1990 to 20.9% in 2019 among men and boys. On the basis of current trends, India is projected to fall short of the Sustainable Development Goal (SDG) 2030 target of reducing the age-standardised suicide death rate (ASDR; 12.1 per 100 000 population in 2019) by a third.² WHO has highlighted suicide as a serious public health concern in India and has called for a comprehensive suicide prevention strategy tailored to India's sociocultural, economic, and health context.³ At a time when the Government of India is developing a national suicide prevention strategy, the purpose of this Health Policy paper is to identify key challenges, opportunities, and priorities for the national strategy contextualised in the epidemiology, and risk and protective factors, to systematically close the gap towards the SDG target for suicide deaths in India.²

Mortality and burden

The Global Burden of Disease (GBD) Study for India reported substantial sex differentials and state-level heterogeneity in suicide death rates in 2017.² We report updated mortality by suicides for 2019, which is based on the GBD Study 2019.^{2,4} An estimated 85 900 (95% uncertainty interval [UI] 68 600–106 300) women and girls and 109 470 (77 900–135 300) men and boys died by suicide in India in 2019, accounting for 2.1% of the estimated 9.4 million deaths that occurred in the country in 2019. India's ASDR for 2019 is estimated to be

13.8 per 100 000 population (12.1 per 100 000 population for women and girls and 15.6 per 100 000 population for men and boys). The suicide mortality rate among Indian women and girls continues to be 2.1 times the global rate (5.7; 5.1–6.4), despite a 40.7% reduction in the rate from 1990 to 2019 (51.3% reduction globally).¹⁴ ASDR in men and boys in India decreased by 22% between 1990 and 2019, compared with the global reduction of 31.4%. However, these national-level estimates mask a 15-times variation for women and girls and a 7-times variation for men and boys in ASDR at the state level in India (appendix pp 1–2).¹ The ratio of ASDR for men and boys to ASDR for women and girls in India was 1.3 in 2019 and ranged from 0.8 to 4.6 among the states (appendix pp 1–2). Only two states had a men and boys to women and girls ratio less than 1.0, and 11 (35.5%) states had a ratio of nearly 2.0 or more (figure 1).

Suicide accounts for most deaths in the 15–39 years age group in India compared with other causes of death,^{1,2} with 52.6% of all deaths from suicide among women and girls and 47.4% among men and boys being in this age group in 2019 (appendix pp 1–2).² The highest suicide death rate (SDR) for women and girls is in the 15–29 years age group (range 26.7–33.1 per 100 000), which is a similar SDR to men aged 20–74 years (24.5–33.1 per 100 000).² Although the SDR among women and girls aged 10–34 years has dropped substantially between 1990 and 2019, no change has been seen for men and boys.⁴ The increasing SDR among older people (older than 60 years) observed in recent years poses additional challenges to suicide prevention in India.² The southern region of India continued to see the highest proportion of total deaths due to suicide for both women and girls (3.0%) and men and boys (3.3%) among all deaths in

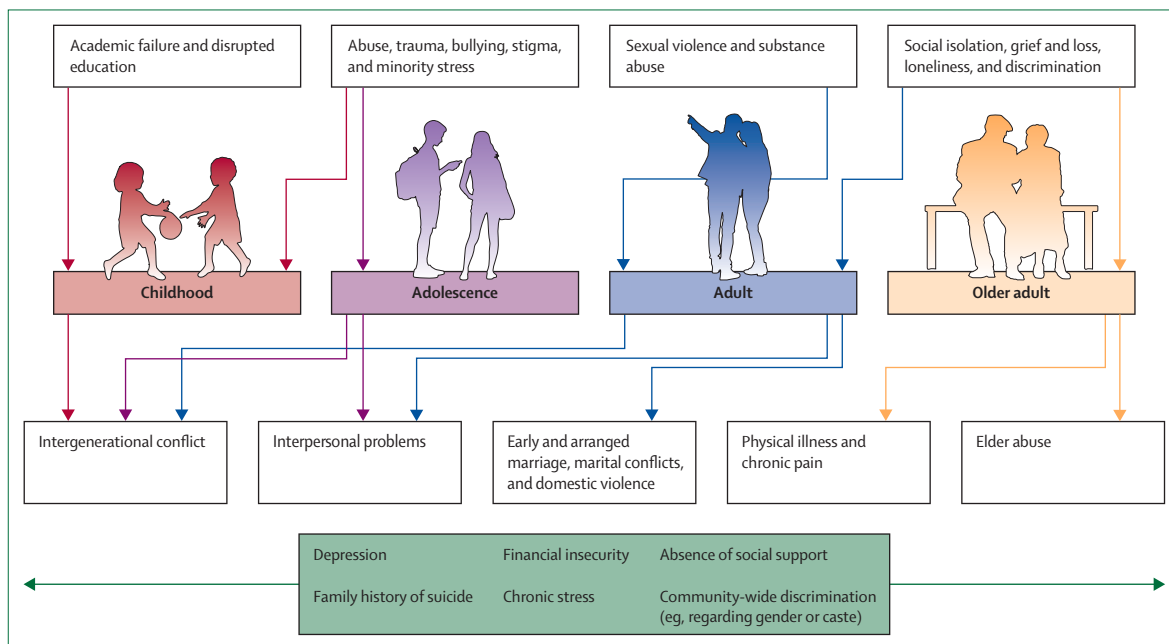


Figure 2: Evidence-based risk factors for suicide in India across the lifespan
 Various age-group specific risks are mentioned, the risks in the green box are prevalent throughout the lifespan.

in India for both men and boys and women and girls.^{9,25–29} However, the NCRB also records unknown and other factors as a reason for a substantial number of suicides, largely in the less-developed states, which limits understanding of the real situation countrywide.⁹

Other data sources (eg, psychological autopsy and case-control studies) have highlighted interpersonal and individual risk factors, such as a previous suicide attempt, social isolation and loneliness, housing insecurity, chronic pain, living alone, absenteeism in school or college, physical and sexual abuse, intergenerational conflicts, academic competition, fear of academic failure, and parental pressures. Societal risk factors for suicide in India include caste discrimination and stigma.^{8,10,23,30–38} The relative contribution of severe mental disorders to suicide deaths in India is lower than that reported in studies from high-income countries.^{25,26,28,33,39}

Alcohol use disorders among men and depression among men and women have been documented as risk factors in psychological autopsy studies.^{26,33} A modest correlation has also been reported between the prevalence of depressive disorders and suicide death rates at the state level in India for both sexes.⁴⁰

There are specific cultural and social risk factors for suicide among women in India. The reduced protection offered by marriage due to arranged and early marriage, young motherhood, low social status, domestic violence, and economic dependence is well documented.^{9,10,23,41–43} Rigid gender-based roles and gender discrimination, including early marriage, and a higher risk of depression have been suggested as possible reasons for the high suicide death rate among adolescent girls in India.^{44,45}

Risk factors for suicide in farmers in India include a deficiency in demand for crops, crop failure, poor irrigation, increased cost of cultivation, and debt.³⁷

Although few data on protective factors for suicide are available from India, higher education and religiosity are documented as protective factors.^{26,31,38} Social support and having children have also been mentioned as factors that protect from suicide.^{31,43} Research in identifying specific protective factors, such as internet support among young people (ie, younger than 25 years), is absent in India and is needed to inform preventive efforts for this susceptible group.⁴⁶ Risk and protective factors act in consonance to determine suicide rates and many psychological and social factors, such as depression, alcohol use, and domestic violence, can increase with poverty, especially in low-income and middle-income countries.⁴⁷

To summarise, social and cultural factors across the life course appear to be important determinants for suicide deaths in India, in addition to globally known risk factors, such as depression and alcohol use.

COVID-19 and suicide

As with elsewhere around the world, there have been concerns in India that the COVID-19 pandemic might lead to an increase in suicide.⁴⁸ Little is known about the effect of the COVID-19 pandemic on suicide in India; however, the NCRB has noted a 10% increase in suicide deaths in 2020 compared with 2019.⁴⁹ Despite the concerns of an increase in suicide deaths, the available data from high-income and upper-middle-income countries do not suggest this to be the case in many countries, with a few exceptions.⁵⁰ A more nuanced

understanding is needed globally to assess the impact of COVID-19 on suicide deaths.

Fear and stigma of acquiring and testing positive for SARS-CoV2 infection, financial crisis, and a migrant population being stranded far away from home are widely considered to have contributed to deaths by suicide in India during the COVID-19 pandemic.⁵¹ A systematic comparison of online news media reports of suicide deaths during the COVID-19 lockdown in 2020 with reports in the same period in 2019 found that COVID-19-related suicide deaths were significantly more probable among men older than 30 years, married people, employed people, and people with poor mental or physical health.¹⁴ However, more data are needed to fully understand the implications of COVID-19 on suicide deaths in India, as newspaper reports are known to show reporting bias.¹⁴

Media reporting of suicide

Inappropriate media reporting of deaths by suicide is rampant in India. The Press Council of India, an autonomous and quasi-judicial body tasked with creating a new code of conduct for the print media industry, advises media houses to follow responsible reporting norms on suicide, but it has not enforced this. Research shows that suicide reporting in the Indian press is short, explicit, repetitive, simplistic, and potentially harmful.⁴⁷ Disclosure of the name of the deceased and method of suicide with little mention of suicide prevention services is routine in many English language newspapers.⁵²⁻⁵⁴ The Indian media is more likely to report deaths by suicide of people of higher social status and of those population groups with whom their core audience has a higher affiliation, such as students and farmers.⁵⁵ The selection bias in the media results in a preponderance of reports on particular suicide methods, stigmatisations of myths about mental illness,⁵⁶ and audiovisual material that puts susceptible audience members at risk⁵⁷ and perpetuates misunderstandings about the risks and means of suicide. In the aftermath of the alleged death by suicide of an Indian actor in June, 2020, most online reports breached at least one of the WHO guidelines for suicide reporting.⁵⁸ Alarming, a substantial increase in online search for suicide-seeking keywords (eg, keywords related to method of suicide) was also documented after this death.^{58,59} An analysis of information on suicide deaths related to the COVID-19 pandemic from online Indian newspapers in four languages published between January, 2020, and August, 2020, showed that half of these deaths occurred within a week of confirmed diagnosis. The median age of suicide victims reported in Indian newspapers was 45 years, with a male predominance. Hanging and jumping from heights were the most common methods.⁶⁰

Policy and system response for suicide prevention

There have been numerous calls for a national suicide prevention strategy for India,^{2,9,61-64} which is now being

considered by the Government of India. Despite the absence of a national suicide prevention strategy, the Government has taken some actions across the health and social domains that facilitate suicide prevention. These actions include the introduction of several new laws and policies.

Suicide attempts were a criminal offence in India until they were, for all practical purposes, decriminalised in the Mental Healthcare Act of 2017, which states that “Notwithstanding anything contained in section 309 of the Indian Penal Code any person who attempts to commit suicide shall be presumed, unless proved otherwise, to have severe stress and shall not be tried and punished under the said Code”.^{8,9,63,65,66} As per the Act, the Government has the duty to provide care, treatment, and rehabilitation to the person who attempts suicide to reduce the risk of recurrence. However, the contradiction with Section 309 of the Indian Penal Code, under which suicide attempt is punishable, is still to be addressed.⁶⁷ Two laws focusing specifically on the protection of women could have facilitated suicide prevention: the Sati (prevention) Act in 1987 that banned the controversial practice of sati or voluntary self-immolation of a widow that had religious underpinnings in India,⁶ and the Protection of Women from Domestic Violence Act.⁶⁸

The National Mental Health Policy of India, launched in 2014, aimed to reduce suicide deaths and suicide attempts through various means—eg, suicide prevention programmes, restricting access to the means of suicide (pesticides in particular), framing guidelines for responsible media reporting, training community leaders in recognising suicide risk, improving data on suicide deaths and attempted suicides, and addressing alcohol misuse and depression as key risk factors.⁶⁹ An important component of this policy is the District Mental Health Programme run by the Ministry of Health and Family Welfare, in which 500 of the 725 districts in the country currently have a functional mental health programme with a psychiatrist as part of a multidisciplinary team.⁶⁹ However, substantial challenges have been highlighted in the implementation of the national mental health programme, which will have to be addressed for effective suicide prevention.⁷⁰

Other national laws and programmes, under which reduction of risk factors for suicide can be facilitated, include the National Programme for Adolescent Health,⁷¹ the National Programme for Prevention and Control Of Cancer, Diabetes, Cardiovascular Diseases and Stroke,⁷² the National Programme for Healthcare for the Elderly,⁷³ and the National Programme of Palliative Care.⁷³ Alcohol misuse and dependence disorders get focused attention under the *Nasha Mukta Bharat* (Addiction Free India) Programme.⁷⁴ However, suicide prevention is not explicitly included in these national programmes. Although mental health care is one of six tasks assigned in the proposed reorganisation of primary health care through health and wellness

Panel: Lived experience of suicidality in India

I am a cisgender, heterosexual, able-bodied, upper-caste, middle-class Indian man. Even within this bubble of privilege, suicidality is a humiliating and isolating experience, marked by intense shame, guilt, and self-loathing. I was a teenager when I first felt something was wrong with me. At the time, psychic distress was predominantly misunderstood through the caricaturish portrayal of so-called crazy characters in Indian cinema. Suicide was a crime according to the law of the land. I believed I was a dangerous, mad criminal who deserved to die, and started self-harming. I made elaborate suicide plans and despised myself even more when these plans failed. This was also the time when India had just opened as a free market. As the lone male child and first-generation university goer from my family, it was my responsibility to elevate my family's lot. In a country newly obsessed with success and self-actualisation, my impulse to self-harm made me feel like a selfish and irresponsible weakling. What I could not communicate was that suicide was not just meant to relieve myself from the burdens of the world, it was also meant to relieve the world of me.

Two decades later, depression is part of the mainstream conversation and suicide is decriminalised. However, ostracism remains. I am still reminded to be careful so I do not pass on my so-called disease to my child. A psychiatrist once pinpointed exactly where in my brain my negative thoughts originated. I am grateful for modern medicine, but we must find a new language that acknowledges suicide's complex socioeconomic antecedents. As Edwin Shneidman, the suicidologist, said, "The best route to understanding suicide is directly through the study of human emotions described in plain English, in the words of the suicidal person." Understanding lived experiences can help develop culturally appropriate health services and foster meaningful social and policy change.

I endorse the concept of social scaffolding for the vulnerable because a supportive community has played a crucial protective role in my own life. Finally, the best antidote to suicidality is often healing a person's broken self-worth. It is not enough to tell people they should not die. We have to help them believe that their life is worthy.

centres by the Government, suicide prevention is not mentioned, and the proposed plan will need to address resource limitations for integration of mental health into primary care.⁷⁵

India records an increase in adolescent (ie, aged 14–19 years) suicide deaths in June and July each year, when school results are announced that are of importance for undergraduate admission. Some state governments offer suicide prevention helplines during these months to address this problem; however, the effectiveness of this approach has not been systematically evaluated. The state of Tamil Nadu introduced a system

of supplementary examinations in 2004, allowing students who fail the exam to re-sit the examination in the same month that the results are declared to address suicide deaths among students. A reduction in related suicide deaths of nearly 50% has been documented in more than a decade since the introduction of this system in the state.⁷⁶ A few other states have introduced a similar system. The Indian Government has also launched the School Health Ambassador Initiative in the Government-run schools, in which teachers are trained in the concept of preventive, promotive, and positive health and wellness.⁷⁷

To address one of the most common methods of suicide in India, the Government banned the registration, production, distribution, and sale of 18 pesticides in 2018, and there is a proposal to expand this ban to an additional 27 toxic pesticides.⁷⁸ There is evidence from the state of Kerala showing a reduction in the suicide death rate as a result of the pesticide ban.⁷⁹

During the COVID-19 pandemic, the Government of India introduced two toll-free helplines for psychosocial support and one for domestic violence, which also indirectly address suicide prevention.^{80,81} Additionally, written and audio-visual guidelines were released to address mental health issues for various groups, including people living with mental disorders. Guidance was also provided to health-care providers to facilitate the management of mental health problems.⁸¹ It is not yet known how the Government will be able to sustain the momentum created for addressing mental health during the COVID-19 pandemic on a long-term basis.⁸⁰

Other suicide prevention interventions in India

There is a dearth of trials that are aimed at reducing suicide deaths or self-harm attempts in India. The randomised control trial, Suicide Prevention Multisite Intervention Study on Suicidal Behaviours, in the city of Chennai examined the potential benefits of brief intervention and contact, adapted from the brief intervention for alcohol problems.⁸² The trial documented significantly fewer suicide deaths and suicide attempts in the brief intervention and contact group than in the control group. This low-cost intervention can be readily implemented and could be an important suicide prevention strategy in health-care settings in India.⁸² Another randomised control study, the Healthy Activity Program, delivered to people with moderate to severe depression in primary care through lay counsellors, was found to be acceptable and cost-effective as it reduced suicidal thoughts or attempts along with enhanced usual care after lay counselling.⁸³ A non-randomised study that examined the effect of consistent mental health support and referrals from trained volunteers among adults bereaved by the Asian tsunami of 2004, documented significantly fewer suicidal attempts in the intervention group during the 1 year follow-up than in the control group.⁸⁴ Another study (Contact and Safety Planning)

that assessed the feasibility of regular contact and use of safety planning cards by community volunteers in reducing suicidal behaviour among Sri Lankan refugees residing in camps in Tamil Nadu showed that the intervention group had a significant reduction in both suicide deaths and attempts compared with the control group.⁸⁵ In a study to reduce suicide deaths by pesticide, reducing access to pesticides through safe central storage of pesticides was shown to be simple, culturally acceptable, and potentially sustainable, but the investigators emphasised the limitations with the study sites mean the results should be interpreted with caution.⁸⁶

Suicide prevention and non-governmental organisations

SNEHA, a non-governmental organisation that is driven by volunteers and based in the city of Chennai, pioneered the suicide prevention helpline in India as early as 1986.⁸⁷ Since then, several suicide prevention and mental health helplines provide support to individuals who need it. Furthermore, these helplines educate gatekeepers (ie, people who are likely to be in contact with people with suicidal behaviour), raise awareness in the public and media, and serve as an entry point for people in need of professional help. However, there is a wide variability in the services provided by these helplines, and impact evaluation for many has not been done.⁸⁷

Priorities for suicide research in India

A strategic approach to suicide prevention research is needed to understand the mechanisms that protect against suicide and emergence of suicidal ideation in the context of India, gender, and the life course. Intervention studies are among the highest research priority. As many of the successful suicide prevention interventions developed in high-income country settings might not be directly transferable in India,^{86,87} research is urgently needed to adapt the known interventions and to explore context-specific interventions for India.

High-quality timely research is needed to understand the suicide-related consequences of COVID-19 and to understand risk mitigation. These recommendations are relevant to India as well as other countries.⁸⁸

Unfortunately, injury research has not received much attention in India.⁸⁹ Considering the urgency of addressing suicide in India, we recommend setting up a taskforce for suicide prevention research to create a roadmap for collaborative, relevant, multisectoral research in the next decade in India. In addition, both the government and private stakeholders who fund research in India should consider prioritising funding for suicide prevention research.

Need for robust, relevant, and real-time data

India has a medically certified cause of death system that is incomplete, covering only 20% of all deaths.⁹⁰ Overall

	Short-term strategy	Medium-term strategy
Alcohol policy and services	Restrict availability of alcohol through uniform age limit, increased taxes, fewer outlets, and stopping surrogate advertisements (universal)	Scale-up accessible and user-friendly alcohol treatment services across India (indicated)
Judiciary	Advocate for repeal of Indian Penal Code 309 (universal), which criminalises attempted suicide	Repeal Indian Penal Code 309, which criminalises attempted suicide (universal)
Media	Enforce media adherence to the Press Council of India guidelines on responsible reporting of suicide deaths (universal)	Train journalists in appropriate coverage of suicide deaths (selective)
Agriculture	Ban highly hazardous pesticides (universal)	Ensure community-wide safer storage and disposal of pesticides across rural India (selective)
Education	Introduce supplemental examinations for students who do not fare well in the board final exams (universal)	Integrate school-based mental health promotion through school health programmes (selective)
Women's health and welfare	Establish assessment methods and care pathways for maternal mental health problems (selective); ensure psychosocial and legal support for women and girls facing violence through well-functioning and adequate one-stop centres (selective)	Bolster laws and systems for upholding and protecting women's rights (universal); scale-up accessible and mental health services that are gender friendly (selective)
Mental health	Establish methods of support for people who have attempted suicide, such as WHO's brief intervention and contact programme (indicated); develop, implement, and evaluate gatekeeper training, helplines, and digital interventions (selective)	Expand and strengthen the District Mental Health Programme in all states of India to assist with suicide prevention (selective); establish adequate and affordable urban mental health centres (selective)

Universal strategy addresses the entire population, selective strategy addresses subsets of population, and indicated strategy addresses specific individuals.

Table: Recommendations for short-term and medium-term strategies for suicide prevention in India

improvement in the system for documenting the cause of death would enable more robust data on suicide deaths.² Efforts are needed to address the under-reporting and inadequate reporting in the NCRB data on suicide deaths, which has been highlighted previously.⁹

To destigmatise suicide and suicide attempts, data should be captured under the national disease surveillance programme within India's health system in addition to the data captured in NCRB, which would facilitate better understanding of burden and risk factors over time.⁹¹ The national disease surveillance programme should collect data on the basis of the recommended injury surveillance guidelines, which allow for systematic capturing of required data on suicides.⁹² A comprehensive community surveillance system using third party informants can add value to the existing data from hospitals and the police, and possibly address the under-reporting of the NCRB. A large-scale implementation of the surveillance system is feasible in low-income and middle-income country settings.⁹³ We also recommend the inclusion of suicide deaths and attempted suicides in the routine health information management system at the public sector health facilities.⁹⁴

Future directions in suicide prevention in India

Disproportionately high rates of suicide in India compared with other countries pose a substantial public health challenge. Suicide prevention research indicates that intervention provided at the right time, in the right intensity, and for the right duration can help people at risk of suicide. A scaffolding approach across all domains that is available and accessible during vulnerable points over the life course could help individuals who might not be able to cope without help.⁹⁵ In keeping with the principle that a good scaffold is built from the ground up, these strategies need to build resilience from early childhood and adolescence. They also need to provide support through effective societal changes (including in war, disaster, and pandemic), develop community support systems, enhance mental health services and support vulnerable groups to help reduce suicide risk. One such example of good scaffolding is evidence from the Brazilian 100 million cohort study, which indicated that a simple intervention, such as cash transfers to alleviate poverty, has the potential to decrease suicide rates.⁹⁶

As India moves forward with development and then implementation of the National Suicide Prevention Strategy, it is imperative that the community is involved as a major stakeholder with meaningful participation in suicide prevention efforts (panel)—the people with lived experiences and those affected by suicide should be involved in research and in formulating suicide prevention strategies.

On the basis of this Health Policy paper, we outline recommendations rooted in universal, selective, and indicated interventions that emphasise multilevel, multisectoral action priorities for suicide prevention during the short and medium term (table). The brief intervention and contact intervention, developed by WHO, is associated with significantly lower odds of suicide, as evidenced by a meta-analysis of randomised controlled trials.⁹⁷ In comparison, for gatekeeper training for suicidal behaviours, the evidence from systematic reviews is unclear⁹⁸ or indicates a weak training effect.⁹⁹ A 10 year systematic review of suicide prevention strategies found evidence for the effectiveness of restricting access to lethal means.¹⁰⁰ School-based awareness programmes have been shown to reduce suicide attempts and suicidal ideation.¹⁰⁰ There was insufficient evidence for suicide prevention for screening for suicidality in primary care, for general public education, and for media guidelines.¹⁰⁰ Gatekeeper training, education of physicians, and internet and helpline support need additional research.¹⁰⁰ Effective implementation of recommendation is possible only by securing adequate resources from the Government and private funders.

In conclusion, the enormity of suicide deaths in India calls for immediate action. Immediate action necessitates political will, intersectoral collaboration and commitment, and community participation. In addition, a

groundswell of public interest is needed to address stigma and improve social support systems and help-seeking behaviour. The SDG 2030 target of one-third reduction in premature mortality due to non-communicable diseases is unlikely to be met globally unless suicide deaths decrease in India. A public health approach at all levels to reduce suicide deaths rapidly and substantially is urgently needed.

Contributors

LV, RD, PSC, and MSK drafted the manuscript with contributions from SP, DB, and TG. All authors contributed to the interpretation and approved the final version of the Health Policy paper. LV had the final responsibility for the decision to submit for publication.

Declaration of interests

We declare no conflicts of interest.

References

- Institute for Health Metrics and Evaluation. Global Health Data Exchange. 2021. <http://ghdx.healthdata.org/gbd-results-tool> (accessed Jan 3, 2021).
- Dandona R, Kumar GA, Dhaliwal RS, et al. Gender differentials and state variations in suicide deaths in India: the Global Burden of Disease Study 1990–2016. *Lancet Public Health* 2018; 3: e478–89.
- WHO. Suicide. <https://www.who.int/india/health-topics/suicide> (accessed Jan 9, 2021).
- Indian Council for Medical Research, Public Health Foundation of India, Institute for Health Metrics and Evaluation. GBD India Compare Viz Hub. 2021. <https://vizhub.healthdata.org/gbd-compare/india> (accessed Dec 26, 2020).
- Arya V, Page A, Dandona R, Vijayakumar L, Mayer P, Armstrong G. The geographic heterogeneity of suicide rates in India by religion, caste, tribe, and other backward classes. *Crisis* 2019; 40: 370–74.
- National Crimes Record Bureau. Accidental deaths and suicides in India—2019. New Delhi: Government of India, 2020.
- Arya V, Page A, Armstrong G, Kumar GA, Dandona R. Estimating patterns in the under-reporting of suicide deaths in India: comparison of administrative data and Global Burden of Disease Study estimates, 2005–2015. *J Epidemiol Community Health* 2020; published online Nov 30. <https://doi.org/10.1136/jech-2020-215260>.
- Patel V, Ramasundarahettige C, Vijayakumar L, et al. Suicide mortality in India: a nationally representative survey. *Lancet* 2012; 379: 2343–51.
- Dandona R, Bertozzi-Villa A, Kumar GA, Dandona L. Lessons from a decade of suicide surveillance in India: who, why and how? *Int J Epidemiol* 2017; 46: 983–93.
- Amudhan S, Gururaj G, Varghese M, et al. A population-based analysis of suicidality and its correlates: findings from the National Mental Health Survey of India, 2015–16. *Lancet Psychiatry* 2020; 7: 41–51.
- Arya V, Page A, Gunnell D, et al. Suicide by hanging is a priority for suicide prevention: method specific suicide in India (2001–2014). *J Affect Disord* 2019; 257: 1–9.
- Arya V, Page A, Gunnell D, Armstrong G. Changes in method specific suicide following a national pesticide ban in India (2011–2014). *J Affect Disord* 2021; 278: 592–600.
- Mew EJ, Padmanathan P, Konradsen F, et al. The global burden of fatal self-poisoning with pesticides 2006–15: systematic review. *J Affect Disord* 2017; 219: 93–104.
- Pathare S, Vijayakumar L, Fernandes TN, et al. Analysis of news media reports of suicides and attempted suicides during the COVID-19 lockdown in India. *Int J Ment Health Syst* 2020; 14: 88.
- Gajalakshmi V, Peto R. Suicide rates in rural Tamil Nadu, South India: verbal autopsy of 39 000 deaths in 1997–98. *Int J Epidemiol* 2007; 36: 203–07.
- Kanchan T, Menon A, Menezes RG. Methods of choice in completed suicides: gender differences and review of literature. *J Forensic Sci* 2009; 54: 938–42.
- Kumar V. Burnt wives—a study of suicides. *Burns* 2003; 29: 31–35.
- Sanghavi P, Bhalla K, Das V. Fire-related deaths in India in 2001: a retrospective analysis of data. *Lancet* 2009; 373: 1282–88.

- 19 Singh SP, Santosh PJ, Avasthi A, Kulhara P. A psychosocial study of 'self-immolation' in India. *Acta Psychiatr Scand* 1998; **97**: 71–75.
- 20 Sudhir Kumar CT, Mohan R, Ranjith G, Chandrasekaran R. Gender differences in medically serious suicide attempts: a study from south India. *Psychiatry Res* 2006; **144**: 79–86.
- 21 Garg V, Sharma S, Clarke K, Bridle R. Kerosene subsidies in India: the status quo, challenges and the emerging path to reform. International Institute of Sustainable Development. May, 2017. <https://www.iisd.org/system/files/publications/kerosene-in-india-status-quo-path-to-reform.pdf> (accessed Jan 9, 2021).
- 22 Kumar KK, Viswanathan B. Use of kerosene for cooking in India: recent trends and environmental implications. *Dev Change* 2016; **21**: 65–87.
- 23 WHO. Preventing suicide: a global imperative. Luxembourg: World Health Organization, 2014.
- 24 Cramer RJ, Kapusta ND. A social-ecological framework of theory, assessment, and prevention of suicide. *Front Psychol* 2017; **8**: 1756.
- 25 Manoranjitham SD, Rajkumar AP, Thangadurai P, Prasad J, Jayakaran R, Jacob KS. Risk factors for suicide in rural south India. *Br J Psychiatry* 2010; **196**: 26–30.
- 26 Gururaj G, Isaac MK, Subbakrishna DK, Ranjani R. Risk factors for completed suicides: a case-control study from Bangalore, India. *Inj Control Saf Promot* 2004; **11**: 183–91.
- 27 Indian Directorate General of Health Services. National Programme for Health Care of the Elderly. March 3, 2017. https://mohfw.gov.in/sites/default/files/8324324521Operational_Guidelines_NPHCE_final.pdf (accessed Jan 9, 2021).
- 28 Manoranjitham S, Charles H, Saravanan B, Jayakaran R, Abraham S, Jacob KS. Perceptions about suicide: a qualitative study from southern India. *Natl Med J India* 2007; **20**: 176–79.
- 29 Prasad J, Abraham VJ, Minz S, et al. Rates and factors associated with suicide in Kaniyambadi Block, Tamil Nadu, South India, 2000–2002. *Int J Soc Psychiatry* 2006; **52**: 65–71.
- 30 Khan FA, Anand B, Devi MG, Murthy KK. Psychological autopsy of suicide—a cross-sectional study. *Indian J Psychiatry* 2005; **47**: 73–78.
- 31 Kumar PN, George B. Life events, social support, coping strategies, and quality of life in attempted suicide: a case-control study. *Indian J Psychiatry* 2013; **55**: 46–51.
- 32 Behere PB, Bhise MC. Farmers' suicide: across culture. *Indian J Psychiatry* 2009; **51**: 242–43.
- 33 Vijayakumar L, Rajkumar S. Are risk factors for suicide universal? A case-control study in India. *Acta Psychiatr Scand* 1999; **99**: 407–11.
- 34 Das A. Farmers' suicide and agrarian crisis: social policy and public mental health. *Indian J Psychiatry* 2017; **59**: 398–99.
- 35 Merriott D. Factors associated with the farmer suicide crisis in India. *J Epidemiol Glob Health* 2016; **6**: 217–27.
- 36 Pillai A, Andrews T, Patel V. Violence, psychological distress and the risk of suicidal behaviour in young people in India. *Int J Epidemiol* 2009; **38**: 459–69.
- 37 Bhise MC, Behere PB. Risk factors for farmers' suicides in central rural India: matched case-control psychological autopsy study. *Indian J Psychol Med* 2016; **38**: 560–66.
- 38 Arya V, Page A, River J, Armstrong G, Mayer P. Trends and socio-economic determinants of suicide in India: 2001–2013. *Soc Psychiatry Psychiatr Epidemiol* 2018; **53**: 269–78.
- 39 Bertolote JM, Fleischmann A, Eddleston M, Gunnell D. Deaths from pesticide poisoning: a global response. *Br J Psychiatry* 2006; **189**: 201–03.
- 40 Sagar R, Dandona R, Gururaj G, et al. The burden of mental disorders across the states of India: the Global Burden of Disease Study 1990–2017. *Lancet Psychiatry* 2020; **7**: 148–61.
- 41 Devries K, Watts C, Yoshihama M, et al. Violence against women is strongly associated with suicide attempts: evidence from the WHO multi-country study on women's health and domestic violence against women. *Soc Sci Med* 2011; **73**: 79–86.
- 42 Vijayakumar L. Indian research on suicide. *Indian J Psychiatry* 2010; **52** (suppl 1): S291–96.
- 43 Vijayakumar L. Suicide in women. *Indian J Psychiatry* 2015; **57** (suppl 2): S233–38.
- 44 Patel V. Reducing the burden of depression in youth: what are the implications of neuroscience and genetics on policies and programs? *J Adolesc Health* 2013; **52** (suppl 2): S36–38.
- 45 WHO. Health for the world's adolescents, a second chance in the second decade. Geneva: World Health Organization, 2014.
- 46 McClatchey K, Murray J, Chouliara Z, Rowat A. Protective factors of suicide and suicidal behavior relevant to emergency healthcare settings: a systematic review and narrative synthesis of post-2007 reviews. *Arch Suicide Res* 2019; **23**: 411–27.
- 47 Armstrong G, Vijayakumar L, Pirkis J, et al. Mass media representation of suicide in a high suicide state in India: an epidemiological comparison with suicide deaths in the population. *BMJ Open* 2019; **9**: e030836.
- 48 Gunnell D, Appleby L, Arensman E, et al. Suicide risk and prevention during the COVID-19 pandemic. *Lancet Psychiatry* 2020; **7**: 468–71.
- 49 National Crime Records Bureau. Accidental deaths and suicides in India—2020. New Delhi: Government of India, 2021.
- 50 Pirkis J, John A, Shin S, et al. Suicide trends in the early months of the COVID-19 pandemic: an interrupted time-series analysis of preliminary data from 21 countries. *Lancet Psychiatry* 2021; **8**: 579–88.
- 51 Dsouza DD, Quadros S, Hyderabadwala ZJ, Mamun MA. Aggregated COVID-19 suicide incidences in India: fear of COVID-19 infection is the prominent causative factor. *Psychiatry Res* 2020; **290**: 113145.
- 52 Armstrong G, Vijayakumar L, Niederkrotenthaler T, et al. Assessing the quality of media reporting of suicide news in India against World Health Organization guidelines: a content analysis study of nine major newspapers in Tamil Nadu. *Aust N Z J Psychiatry* 2018; **52**: 856–63.
- 53 Jain N, Kumar S. Is suicide reporting in Indian newspapers responsible? A study from Rajasthan. *Asian J Psychiatr* 2016; **24**: 135–38.
- 54 Chandra PS, Doraiswamy P, Padmanabh A, Philip M. Do newspaper reports of suicides comply with standard suicide reporting guidelines? A study from Bangalore, India. *Int J Soc Psychiatry* 2014; **60**: 687–94.
- 55 Armstrong G, Vijayakumar L, Cherian AV, Krishnaswamy K. "It's a battle for eyeballs and suicide is clickbait": the media experience of suicide reporting in India. *PLoS One* 2020; **15**: e0239280.
- 56 Desai K. Why you can laugh and still be depressed. *Times of India*. Aug 8, 2020. <https://timesofindia.indiatimes.com/india/why-you-can-laugh-still-be-depressed/articleshow/77429664.cms> (accessed Jan 9, 2021).
- 57 Som A. How not to depict mental illness and suicide in news reports. *NewsLaundry*. June 25 2020. <https://www.newslaundry.com/2020/06/25/how-not-to-depict-mental-illness-and-suicide-in-news-reports> (accessed Jan 9, 2021).
- 58 Ganesh R, Singh S, Mishra R, Sagar R. The quality of online media reporting of celebrity suicide in India and its association with subsequent online suicide-related search behaviour among general population: an infodemiology study. *Asian J Psychiatr* 2020; **53**: 102380.
- 59 Armstrong G, Haregu T, Arya V, et al. Suicide-related Internet search queries in India following media reports of a celebrity suicide: an interrupted time series analysis. *World Psychiatry* 2021; **20**: 143–44.
- 60 Sripad MN, Pantoji M, Gowda GS, Ganjekar S, Reddi VSK, Math SB. Suicide in the context of COVID-19 diagnosis in India: insights and implications from online print media reports. *Psychiatry Res* 2021; **298**: 113799.
- 61 Armstrong G, Vijayakumar L. Suicide in India: a complex public health tragedy in need of a plan. *Lancet Public Health* 2018; **3**: e459–60.
- 62 Dandona R. Enabling suicide prevention in India: a call to action. *Lancet Psychiatry* 2020; **7**: 3–4.
- 63 Vijaykumar L. Suicide and its prevention: the urgent need in India. *Indian J Psychiatry* 2007; **49**: 81–84.
- 64 Manoranjitham S, Abraham S, Jacob KS. Towards a national strategy to reduce suicide in India. *Natl Med J India* 2005; **18**: 118–22.
- 65 The Gazette of India Extraordinary. The Mental Healthcare Act, 2017. April 7, 2017. https://prsindia.org/files/bills_acts/acts_parliament/2017/the-mental-healthcare-act-2017.pdf (accessed Jan 9, 2021).
- 66 Behere PB, Sathyanarayana Rao TS, Mulmule AN. Decriminalization of attempted suicide law: journey of fifteen decades. *Indian J Psychiatry* 2015; **57**: 122–24.

- 67 Mahapatra D. Attempt to suicide punishable or survivor requires rehabilitation, asks SC. *Times of India*. Sept 12, 2020. <https://timesofindia.indiatimes.com/india/should-suicide-bid-be-punished-or-survivor-treated-with-care-sc/articleshow/78069068.cms> (accessed Jan 9, 2021).
- 68 Government of India. The protection of women from Domestic Violence Act 2005. <https://legislative.gov.in/actsofparliamentfromtheyear/protection-women-domestic-violence-act-2005> (accessed Jan 9, 2021).
- 69 Singh OP. National Mental Health Policy of India—new pathways new hope—a journey on enchanted path. *East J Psychiatry* 2015; **18**: 1–2.
- 70 Chisholm D, Docrat S, Abdulmalik J, et al. Mental health financing challenges, opportunities and strategies in low- and middle-income countries: findings from the Emerald project. *BJPsych Open* 2019; **5**: e68.
- 71 Indian Ministry of Health & Family Welfare. Operational framework for Rashtriya Kishor Swasthya Karyakram: translating strategy into programmes. January, 2014. http://nhm.gov.in/images/pdf/programmes/RKSK/RKSK_Operational_Framework.pdf (accessed Jan 9, 2021).
- 72 Indian Directorate General of Health Services. National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke. Aug 26, 2020. https://dghs.gov.in/content/1363_3_NationalProgrammePreventionControl.aspx (accessed Jan 9, 2021).
- 73 Indian Directorate General of Health Services. National Program of Palliative Care. June 19, 2019. https://dghs.gov.in/content/1351_3_NationalProgramforPalliativeCare.aspx (accessed Jan 9, 2021).
- 74 Indian Ministry of Social Justice and Empowerment. Nasha Mukta Bharat: annual action plan (2020–21) for 272 most affected districts e-launched on international day against drug abuse & illicit trafficking today. <https://pib.gov.in/PressReleasePage.aspx?PRID=1634574> (accessed Jan 9, 2021).
- 75 Mugisha J, Abdulmalik J, Hanlon C, et al. Health systems context(s) for integrating mental health into primary health care in six Emerald countries: a situation analysis. *Int J Ment Health Syst* 2017; **11**: 7.
- 76 Vijayakumar L, Phillips MR, Silverman MM, Gunnell D, Carli V. Suicide. In: Patel V, Chisholm D, Dua T, Laxminarayanan R, Medina-Mora ME, eds. Disease control priorities: volume 4, mental, neurological, and substance use disorders. Washington, DC: World Bank, 2015: 163–82.
- 77 Indian Press Information Bureau. Ministry of HRD and Ministry of Health and Family Welfare have jointly developed comprehensive School Health Programme (SHP) to promote health and well being of students-HRD Minister. March 19, 2020. <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1607186> (accessed Jan 9, 2021).
- 78 Pandey S. Move to ban 27 pesticides will hand over Rs 12,000-cr market to China: Indian manufacturers. *The Print*. June 10, 2020. <https://theprint.in/india/move-to-ban-27-pesticides-will-hand-over-rs-12000-cr-market-to-china-indian-manufacturers/438973/> (accessed Jan 9, 2021).
- 79 Bonvoisin T, Utyasheva L, Knipe D, Gunnell D, Eddleston M. Suicide by pesticide poisoning in India: a review of pesticide regulations and their impact on suicide trends. *BMC Public Health* 2020; **20**: 251.
- 80 Dandona R, Sagar R. COVID-19 offers an opportunity to reform mental health in India. *Lancet Psychiatry* 2021; **8**: 9–11.
- 81 Indian Ministry of Health and Family Welfare. Caring for health care warriors—mental health support during COVID-19. July, 2020. <https://www.mohfw.gov.in/pdf/HCWmentalHealthSupportGuidanceJuly20201.pdf> (accessed Jan 9, 2021).
- 82 Vijayakumar L, Umamaheswari C, Shujaath Ali ZS, Devaraj P, Kesavan K. Intervention for suicide attempters: a randomized controlled study. *Indian J Psychiatry* 2011; **53**: 244–48.
- 83 Patel V, Weobong B, Weiss HA, et al. The Healthy Activity Program (HAP), a lay counsellor-delivered brief psychological treatment for severe depression, in primary care in India: a randomised controlled trial. *Lancet* 2017; **389**: 176–85.
- 84 Vijayakumar L, Kumar MS. Trained volunteer-delivered mental health support to those bereaved by Asian tsunami—an evaluation. *Int J Soc Psychiatry* 2008; **54**: 293–302.
- 85 Vijayakumar L, Mohanraj R, Kumar S, Jeyaseelan V, Sriram S, Shanmugam M. CASP—an intervention by community volunteers to reduce suicidal behaviour among refugees. *Int J Soc Psychiatry* 2017; **63**: 589–97.
- 86 Vijayakumar L, Jeyaseelan L, Kumar S, Mohanraj R, Devika S, Manikandan S. A central storage facility to reduce pesticide suicides—a feasibility study from India. *BMC Public Health* 2013; **13**: 850.
- 87 Vijayakumar L, Armson S. Volunteer perspective on suicides. In: Hawton K, ed. Prevention and treatment of suicidal behaviour. Oxford: Oxford University Press, 2005: 89.
- 88 Niederkrotenthaler T, Gunnell D, Arensman E, et al. Suicide research, prevention, and COVID-19. *Crisis* 2020; **41**: 321–30.
- 89 Kalita A, Shinde S, Patel V. Public health research in India in the new millennium: a bibliometric analysis. *Glob Health Action* 2015; **8**: 27576.
- 90 Office of the Registrar General of India. Report on medical certification of cause of death 2015. https://www.censusindia.gov.in/2011-Documents/mccd_Report1/MCCD_Report-2015.pdf (accessed Jan 9, 2021).
- 91 Indian Ministry of Health & Family Welfare. Integrated disease surveillance programme. <https://ids.pn.in/index1.php?lang=1&lev=1&sublinkid=5985&lid=3925> (accessed Feb 17, 2021).
- 92 Holder Y, Peden M, Krug E, Lund J, Gururaj G, Kobusingye O. Injury surveillance guidelines. World Health Organization. 2001. <https://apps.who.int/iris/bitstream/handle/10665/42451/9241591331.pdf?sequence=1> (accessed Jan 9, 2021).
- 93 Vijayakumar L, Pathare S, Jain N, et al. Implementation of a comprehensive surveillance system for recording suicides and attempted suicides in rural India. *BMJ Open* 2020; **10**: e038636.
- 94 Indian Ministry of Health and Family Welfare. Health management information system. <https://hmis.nhp.gov.in/#/> (accessed Jan 9, 2021).
- 95 Haslam C, Haslam S, Cruwys T. Social scaffolding: supporting the development of positive social identities and agency in communities. In: Maughan D, Williams R, Kemp V, et al, eds. Social scaffolding: applying the lessons of contemporary social science to health and healthcare. Cambridge: Cambridge University Press, 2019: 244–56.
- 96 Machado BD, Williamson E, Pescarini J, et al. The impact of a national cash transfer programme on reducing suicide: a study using the 100 million Brazilian cohort. *SSRN* 2021; published online Jan 14. <https://ssrn.com/abstract=3766234> (preprint).
- 97 Riblet NBV, Shiner B, Young-Xu Y, Watts BV. Strategies to prevent death by suicide: meta-analysis of randomised controlled trials. *Br J Psychiatry* 2017; **210**: 396–402.
- 98 Yonemoto N, Kawashima Y, Endo K, Yamada M. Gatekeeper training for suicidal behaviors: a systematic review. *J Affect Disord* 2019; **246**: 506–14.
- 99 Holmes G, Clacy A, Hermens DF, Lagopoulos J. The long-term efficacy of suicide prevention gatekeeper training: a systematic review. *Arch Suicide Res* 2019; published online Dec 6. <https://doi.org/10.1080/13811118.2019.1690608>.
- 100 Zalsman G, Hawton K, Wasserman D, et al. Suicide prevention strategies revisited: 10-year systematic review. *Lancet Psychiatry* 2016; **3**: 646–59.

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