Suicide is a complex human behavior with multiple interacting determinants. Clinicians and practitioners often face difficulties in assimilating the evidence base for suicide prevention interventions, evaluating their effectiveness and decoding the best practice elements of each approach. In this article, we do not aim to provide an exhaustive coverage of every approach. Instead, we provide an overview of the following eight major suicide prevention interventions: awareness programs, screening, gatekeeper training, access to means restriction, follow-up care, hotlines, media strategies, pharmacotherapeutic and psychotherapeutic approaches. The evidence base and components of each approach are described to facilitate replication. The best practice elements are synthesized from each approach and presented to aid program development and practice. Although a number of approaches hold promise, there are difficulties in ascertaining the effective elements under each of them. Innovative research designs are needed to address this knowledge gap as it will facilitate optimal allocation of resources for suicide prevention.

Keywords: Attempted suicide, deliberate self-harm, India, prevention, suicide

INTRODUCTION

Suicide is a major public health problem worldwide with complex multifactorial origins. More than 800,000 lives worldwide are lost to suicide every year, and Asia accounts for more than 60% of such deaths.[1] India has seen a steady increase in the incidence of suicidal deaths in the last five decades.[2] The estimated suicide-related death rate in India is 21/100,000, which is nearly twice the global average (11.4/100,000) and translates into more than 230,000 lives lost annually.[1] Although these are worrying figures themselves, another equally concerning global phenomenon is the changing demographics associated with the malady. There is a clear shift in the predominance of suicides from the elderly to the younger people all over the world and particularly in India.[3,4] Suicide is now the leading cause of mortality in India for those in the age group of 15–39 years.[5] This not only fritters away the advantage of the demographic dividend, provided by the brimming younger population in our country, but also has massive socioeconomic costs and implications.

To tackle such a rapidly growing and multifaceted problem, no single strategy is likely to work best. Instead, a systematic, multipronged, collaborative prevention strategy that addresses population level as well as individual level factors is needed. In the past decade, much new literature had been added in this area. Robust research designs that evaluate these strategies and best practice elements from each strategy need to be synthesized in order to inform policymaking, deliverables, and action plans. The focus of this review is not to exhaustively cover the evidence base for each suicide prevention approach but to provide an overview of representative studies or, more importantly, systematic reviews that have explored each approach and describe the levels of intervention involved.

In this review, wherever possible, we also outline the global best practice elements derived from an understanding of what works and what does not in each approach. This, in turn, will inform the development of local and national suicide prevention programs and spur further research to address critical knowledge gaps in this regard.

Address for correspondence: Dr. Vikas Menon, Department of Psychiatry, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry - 605 006, India. E-mail: drvmenon@gmail.com

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METHODS

Search strategy

For this review, we conducted an electronic literature search of MEDLINE and the Cochrane Library for potentially relevant English language peer-reviewed articles published between January 1968 and September 2018 to identify relevant articles evaluating suicide prevention. The initial search was carried out using the Medical Subject Heading and free text terms for “suicide,” “prevent,” and “review.” Subsequently, random combinations of “suicide” with the following keyword identifiers were used: Depression, gatekeeper, mass media, crisis hotline, pharmacotherapy, psychotherapy, means, methods, poisoning, screening, health promotion, education, and training. In addition, we also scrutinized the reference lists of selected articles to identify potentially relevant studies. The search was done by three reviewers independently and these were qualified psychiatrists.

Study selection and data extraction

The initial search by three independent reviewers yielded 26,139 hits. We included only articles in English language peer-reviewed journals which reported any of the following outcomes: attempted suicide, completed suicide, and suicidal ideation. As this was intended to be a narrative analysis to guide clinicians and researchers, we also included systematic reviews where the outcome was any of the aforementioned suicidal behaviors and the original articles included in these reviews were not examined separately. Case studies and gray literature such as conference proceedings were excluded due to the potential risk of incomplete information to derive the best practice elements. Based on these criteria and after elimination of duplicates, 151 articles were shortlisted for potential inclusion. Their full texts were examined by three independent reviewers and 98 articles were finally chosen for inclusion in the present review.

The reviewers examined the included articles for their content and grouped them into different subcategories of suicide prevention strategies according to their focus. This process led to a list of the following eight suicide prevention approaches to be covered in the review: education and awareness programs, screening programs, gatekeeper training, restricting access to means, media strategies, telephonic hotlines, pharmacotherapy and psychotherapeutic approaches, and follow-up care. The studies selected, results, and conclusions reached were agreed upon by all the authors. The best practice elements in each intervention were synthesized after assessing commonalities between individual reports. We did not assess the risk of bias for the individual studies or derive summary estimates as it was not the focus of the present review and besides, many included studies were reviews themselves. Below, we discuss the narrative results of the search under individual suicide prevention approaches separately, while Table 1 summarizes the key best practice elements for each preventive approach.

| Table 1: Best practice elements of various suicide prevention strategies |
|-----------------------------|----------------------------------------------------------------------------------|
| **Strategy**                | **Key best practice elements**                                                  |
| Awareness programs          | Dissemination of educational information through multiple methods such as media, short talks, leaflets, and placards. |
|                            | Sharing of survivor experiences                                                  |
|                            | Combining awareness with screening programs                                      |
|                            | Educating primary care providers to recognize and respond to psychological distress |
| Screening                   | Consider using screening tools with good sensitivity, specificity, and nature of target population |
|                            | Incorporate screening approaches in emergency department and primary care evaluations |
| Gatekeeper training         | Training period may extend to 3-6 months                                         |
|                            | Should involve early warning signs of suicide risk, how to approach and broach the topic of suicide, psychological first aid, and basic postvention activities |
|                            | Should be provided periodically                                                   |
|                            | Knowledge of at-risk populations and referral strategies                          |
| Access to means restriction | Legislative restrictions on availability and sale of firearms/pesticides         |
|                            | Constructing physical barriers at jumping hotspots                               |
|                            | Use drugs safer in overdose                                                      |
|                            | Be aware of unusual phenomena such as means substitution                         |
| Follow-up care              | Facilitate after-care process, particularly for high-risk individuals             |
|                            | Provide telephonic and other forms of ongoing support                           |
|                            | Community outreach programs                                                      |
|                            | Increased vigilance for the first 3 months after discharge when risk is highest   |
| Hotlines/helplines          | Basic symptoms and signs of common mental disorders                             |
|                            | Eliciting suicidal ideas/thoughts/plans in a nonthreatening manner                |
|                            | Identification of at-risk populations/referral for bonafide treatment needs       |
|                            | Handling acute suicidal crisis                                                    |
|                            | Providing relevant health-related information                                     |
| Media practices             | Avoid sensationalizing/deifying the act or person                                |
|                            | Avoid explicit description of suicide methods                                     |
|                            | Emphasize preventability of suicide and treatability of predisposing mental health conditions |
|                            | Provide contact details for suicide support service                               |
|                            | Collaboration between media and medical professionals and training of journalists on responsible reporting |
| Pharmacotherapy             | Treat the underlying psychiatric morbidity, if any                               |
|                            | Lithium, clozapine, and electroconvulsive therapy have proven antisuicidal properties |
|                            | Combination strategies (pharmacotherapy and psychotherapy), particularly for adolescents |
| Psychotherapy               | CBT                                                                               |
|                            | DBT                                                                               |
|                            | IPT                                                                               |
|                            | Problem-solving therapy                                                          |

CBT=Cognitive behavior therapy, DBT=Dialectical behavioral therapy, IPT=Interpersonal therapy
Results
Suicide awareness programs
The ideal conditions for an effective awareness program include delivery in a relevant setting, having a multifaceted and comprehensive nature inclusive of community-based strategies, and adopting a universal approach while simultaneously ensuring identification of at-risk groups.\(^{[6,7]}\)

For the lay public
Focused suicide awareness programs such as short talks for a 90-min period have been shown to enhance the identification of warning signs of suicide.\(^{[8]}\) Concurrent dissemination of educational material coupled with reaching out through media and training of gatekeepers appear more effective than the distribution of educational material alone. Sharing of patient and suicide survivor experiences is useful in enhancing awareness.\(^{[9]}\) Awareness programs for gatekeepers should involve education about risk factors, information on suicide support initiatives as well as legislations and initiatives to reduce stigma.\(^{[10,11]}\)

Programs which are multipronged in approach such as the SEYLE awareness (empower pupils by increasing the awareness on general mental health and healthy and unhealthy behaviors) and Question, Persuade, and Refer (QPR) appear promising for suicide prevention, especially in adolescents.\(^{[12]}\) An interactive approach using focus group discussions and role plays was adopted in the “Surviving the Teens” method to provide awareness on suicidal burden, risk factors, helplines, and warning signs to students. Positive effects were noted on self-efficacy and help-seeking behaviors at 3 months postintervention.\(^{[13]}\)

While the above evidence generally supports the use of awareness strategies for suicide prevention, evidence for a favorable impact on subsequent health-seeking behaviors, a crucial outcome in suicide awareness activities, is mixed.\(^{[9,11,14]}\)

For medical and nursing professionals
Educating the primary care physicians in recognizing and responding to psychological distress and suicidal thoughts improves detection and enhances the treatment of depression,\(^{[11]}\) though mixed evidence also exists.\(^{[15,16]}\) Nevertheless, this seems an important strategy for suicide prevention as most people who die by suicide have contacted the primary care provider in the preceding month.\(^{[17,18]}\)

Similarly, programs targeting mental health professionals and nursing professionals that highlighted postsuicide attempt counseling and restriction of means increased their knowledge, comfort, and counseling skills on suicide.\(^{[19]}\)

Screening programs for suicide prevention
Modest evidence shows that the screening tools employed can pick up high-risk adults and older adults at risk of suicide among the community.\(^{[20]}\) Notably, the sensitivity and specificity of the instrument play a key role in risk assessment.\(^{[20,21]}\) Contemporary suicide screening programs utilize specialized measures to identify at-risk youth for early referral and intervention.\(^{[22]}\) One of the most commonly used instruments is the Columbia-Suicide Severity Rating Scale - Screening version with a high degree of sensitivity and specificity, followed by Suicide Risk Screen and Diagnostic Interview Schedule for Children-IV.\(^{[23]}\)

The primary care setting and the emergency department (ED) are key areas where suicide screening must be implemented. The ED assessment should cover a wide range of screening measures for common medical conditions and should ideally incorporate suicide behavior assessment.\(^{[23,24]}\) The youth presenting to the ED and their parents/caregivers tend to support such comprehensive screening methods employed in the ED.\(^{[24]}\) Because depression is closely associated with suicidal risk, the same needs to be screened in any setting.\(^{[23]}\) Recent studies show positive effects due to screening measures, which are web-based and anonymous.\(^{[25,26]}\)

Gatekeeper training
Gatekeepers refer to individuals who regularly interact with potentially suicidal persons and are available to recognize the key behavioral clues indicating elevated suicide risk.\(^{[8,11]}\) Potential gatekeepers include teachers, peers, school support staff, and specifically appointed counselors. All of them have the common advantage of significant face-to-face contact time with large number of people in the community.\(^{[27]}\) Gatekeeper training for students includes elements of informing the suicidal burden, risk factors, warning signs, support system available, signs of depression, communication, and counseling skills to address at-risk population.\(^{[28]}\)

Group-based approaches to gatekeeper training with suicide awareness, referral sources, referral skills and QPR as components\(^{[29‑33]}\) along with behavioral rehearsal have been described\(^{[29‑34,37]}\) for diverse populations such as schoolchildren, college students, and veterans. The QPR model is widely used for gatekeeper training and shows consistent effects in improvement of suicide awareness and enhancing skills to deal with adolescents at-risk.\(^{[38]}\) Most studies reveal that training period of gatekeepers can be kept at 3 months,\(^{[37,39‑41]}\) with some studies following up the gatekeepers up to 6–9 months.\(^{[42,43]}\)

Some of the challenges involved in assessing the effectiveness of gatekeeper training include determining the required levels of institutional support, paucity of randomized controlled trials in this area and measuring acquired learning. Moreover, questions remain on the durability of skills acquired from dedicated programs over the long term. For better results, gatekeeper programs must include a wide range of individuals such as the clergy, legal functionaries, and the police personnel.\(^{[44,45]}\)

Restriction of access to means
Means restriction is an effective strategy to curb suicidal behaviors as it addresses the population at large including those in whom suicidal risk remains undetected. There can be various modes of restriction of means to suicide such as elimination of the potentially lethal agent, impediments or...
interferences to access, or sociocultural educational activities promoting suicide awareness.[46]

Restriction of access to pesticides, substituting lethal pesticides with less lethal compounds, double-lock boxes, and nonpesticide agricultural movement preventing ready access to dangerous pesticides[46–48] have been found to be effective. Community locker programs for pesticides where the pesticides are stored in lockers along with community involvement have led to reduced usage of pesticides and decreased suicidal deaths among rural farmers of India,[49] though contrasting evidence is available from other countries.[50]

With regard to firearms, evidence suggests that appealing to individuals against storing dangerous items such as firearms, avoiding giving them to at-risk individuals and enrolling the gun owner groups in programs to reduce the risk of suicide may be more effective than implementing punitive laws and stringent actions.[51,52]

Other methods tried include analgesic withdrawal from dispensaries, restricting sales of barbiturates and caffeine tablets to reduce overdose suicidal attempts, restricting measures on hanging, erection of barriers at jumping hotspots, and restricting access to charcoal.[47,52] An unusual phenomenon arising out of means restriction is “means substitution” wherein the individual may simply substitute one suicide method with another. This could possibly be due to locoregional restrictions in the availability of specific means or overdiagnosis of suicidal risk in those who are in severe psychological distress and yet without contemplations on suicide.[46]

It is also important to note that limitations exist for many of the above strategies to restrict means,[47,52,54] perhaps implying that no single strategy may work best.

Follow-up care
The risk of suicide in the postdischarge period is quite high and has been observed in diverse populations (youth and adults) and periods.[53] The suicide re-attempt rates are the highest in the 1st week, followed by the first 3 months postdischarge and may last up to 1–3 years from the present attempt.[56,57] Evidence suggests that suicide patients who are discharged from the hospital can be provided various support and follow-up measures such as caring letters, postcards, frequent phone calls, text messaging, brief and regular sessions of supportive counseling, follow-up by mental health worker, and outreach programs.[56,58] To target the survivors of suicide (peers/family), school administrators, teaching and nonteaching support staff, students, families, and the community need to participate in postvention or follow-up care services.[59,60]

Suicide hotlines/helplines
Before embarking on a discussion about the state of evidence of suicide hotlines, it is necessary to understand what constitutes a hotline for suicide. A report by the California Department of Mental Health states that suicide prevention hotlines “provide phone-based services for individuals who are at risk of suicide or concerned about someone at risk of suicide.”[60]

Overall, there is a dearth of evidence for the empirical effectiveness of telephonic and Internet-based suicide hotlines. Most available studies have either assessed hotlines among a group of other interventions for suicide prevention, which makes it difficult to isolate the effect of the hotline, or focused on diverse outcome measures such as acceptability, identification, and referral of people at risk as well as service barriers.[47]

Studies comparing synchronous telephonic hotlines against asynchronous online support groups have found that suicide threats were significantly lesser in the hotline group.[61] A randomized controlled trial conducted among callers, both young and elderly, to a suicide hotline that evaluated the efficacy of two types of brief telephonic psychotherapy concluded that telephonic psychotherapy was superior to waitlisted controls and that hotlines, when they employ professionals with focused training, are a viable option to deliver effective brief psychotherapy for distressed and suicidal callers.[63]

Gould et al.[64] carried out a research aimed at delineating the suicidal severity of adult suicide hotline users, end point severity following the call, as well as the nature and predictors of suicidality on follow-up. Contrary to popular perception, the service attracted seriously suicidal clients and mitigation of the suicidal desire as well as reduction in hopelessness was observed on follow-up.

A few studies have examined the prospective impact of suicide hotlines on suicide rates in the community. In one such study,[65] the impact of a 24 × 7 suicide telephone hotline on suicide rates in the community of select towns where the program was started was examined. Each town was compared against a control town that was matched for socioeconomic parameters. The authors found a statistically significant decline in suicide rates in the towns where the intervention was carried out but not in the control towns, thus pointing to a positive impact of the program. Of note, the hotline was manned by lay workers who underwent specific training mainly aimed at determining if the service user required specialist referral.

In a study on the effectiveness of hotline services on linking callers to specialist mental health care units among adolescents and the elderly,[66] it was found that the post call service utilization rate was nearly 50%. Additionally, the authors also concluded that hotline services may facilitate surmounting attitudinal and structural barriers to utilizing mental health-care services.

The helper behaviors and intervention styles that were found to be associated with better short-term outcomes among young and elderly users of crisis hotlines include an attitude of empathy, support, respect, and collaborative problem-solving rather than active listening.[67] These findings have important implications for recruitment and training of helpline volunteers.

Media strategies for suicide prevention
Given the influence of media reporting on public perceptions and attitudes toward suicide, media-based approaches such as
Evidence suggests that glorifying and graphic reporting of suicide, especially related to the suicide method used, can trigger imitative attempts by vulnerable people.\[68,69\] Studies on depressed adults have also pointed to the characteristics of people who may be most vulnerable and impressionable in this regard; the young, currently depressed; and those who have attempted recently.\[70\] Interestingly, studies, while showing a positive association between media reporting and emergent suicidal behavior, also showed a bidirectional relationship with protective effects in the general population (possibly related to an emphasis on healthy coping) and negative effects in vulnerable people.\[47\]

Two systematic reviews\[71,72\] confirmed an association between media reporting and ensuing suicide. Further, one of the reviews found that adherence to guidelines reduces the phenomenon of imitative or “copycat” suicides. Wide variability in the impact of guidelines on suicide reporting quality has been observed.\[71\] The authors concluded that collaborative, media-driven training approaches may have the best chances of success in reducing suicide. Collaboration with both national and regional media may be required for optimal results.\[73\]

Based on the above evidence, the World Health Organization (WHO) and International Association of Suicide Prevention have framed guidelines for media reporting of suicide,\[74\] mainly for use in countries that do not have national guidelines themselves. The Indian Psychiatric Society (IPS) has brought out a position statement\[75\] on media coverage of suicides, which emphasizes collaboration between media professionals and medical professionals for better dissemination and impact. The major recommendations of the IPS position statement are as follows:

- Matter of fact, neutral reporting rather than sensationalism
- Discreet reporting (avoiding front page, small headline and without photographs) devoid of detailed description of the method used
- Sensitive to possible psychological harm on survivors and respecting their privacy
- Exercising restraint when reporting celebrity suicides.

In a rather negative indictment of media reporting practices in India, Jain and Kumar\[76\] concluded that suicide reporting in India is inadequately adherent to the WHO guidelines and tends to veer toward sensationalism. These findings were subsequently endorsed in a larger study which noted several harmful suicide-reporting practices, such as explicit descriptions of methods used.\[77\]

**Pharmacotherapeutic strategies**

Psychotropics play a major role in reducing suicidal risk among psychiatric patients. They may be working primarily by controlling the symptoms of the underlying psychiatric disorder. Depressive disorder is currently the most common cause of suicidal attempt among those with an underlying psychiatric disorder.\[78\] Antidepressants are proven to be effective in reducing the suicidal risk among depressed patients.

Lithium, a mood stabilizer, has shown efficacy in reducing suicidal risk in both bipolar and depressive disorders.\[79\] Though the exact mechanism of action is unknown, possible explanations include a secondary effect of relapse-rate reductions. The other possible mechanism is that it could increase serotonin levels in brain and confer ongoing protection.\[80\]

The atypical antipsychotic clozapine is used primarily in the management of treatment-resistant schizophrenia. Its antisuicidal effects have been shown in adults with chronic schizophrenia and schizoaffective disorders.\[81\] Here too, as for lithium, the putative mechanisms of action involve modulation of central serotonin levels, thereby favorably impacting suicidal risk. Preliminary evidence from adult studies exists for the antisuicidal properties of other antipsychotics such as olanzapine, quetiapine, ziprasidone, aripiprazole, and asenapine; nutraceutical agents such as omega 3 fatty acids; and anesthetic agents such as ketamine.\[82,83\]

Electroconvulsive therapy has proven rapid antisuicidal effects.\[84\] Finally, positive evidence for combination strategies such as medications and psychotherapy for reducing depressive symptoms and suicide risk among adolescents is available from prospective trials such as the Treatment of Adolescent Suicide Attempters study.\[85\] Ketamine, a noncompetitive N-methyl D-Aspartate antagonist, has been shown to have antisuicidal properties with a rapid onset of action.\[86\] Based on this, a possible role for ketamine in suicide prevention, particularly in emergency settings, has been postulated. Key caveats here include short duration of the benefits observed with ketamine and the finding that its antisuicidal properties are linked to its antidepressant effects.\[87\]

**Psychotherapeutic approaches**

Psychotherapy is an important and evidence-based treatment modality in the management of suicidality. It has been particularly effective in the adult age group, those with borderline personality disorder (BPD), and those receiving outpatient treatment. The absolute risk reduction for suicidal events at follow-up with psychotherapeutic strategies was 6.59% when compared to treatment as usual.\[88\]

Among the different types of psychotherapy, cognitive behavior therapy (CBT) has robust evidence in reducing the suicidal risk.\[89\] In this technique, one aims at collaboratively exploring the reasons for a suicide attempt, applying techniques such as cognitive restructuring to alter dysfunctional cognitions, and enabling healthy coping.\[90\] Maladaptive coping has previously been shown to be increased among impulsive adult suicide attempters.\[91\] Common cognitive themes targeted among youths and adults include ideas of hopelessness, considering suicide as a solution for problems, a need to escape, and feelings of loneliness.\[92\] In the recent past, third-wave CBT techniques such as mindfulness-based CBT techniques have
been shown to be effective in reducing suicidal behavior among army veterans.\(^{[93]}\)

In suicidality associated with BPD, dialectical behavioral therapy (DBT), a form of CBT based on the principles of emotional regulation and interpersonal effectiveness, has been shown to be effective. A modified version of DBT to suit adolescents was found to be effective in rapidly resolving suicidal ideations in BPD and also had a long-term effect on reducing self-harm attempts.\(^{[94]}\)

Encouraging evidence also exists for interpersonal therapy, predicated upon links between stressful life events and mood, in the elderly\(^{[95,96]}\) as well as problem-solving therapy\(^{[97]}\) in reducing suicidal ideations in adolescent people at risk for suicide.

Other novel intervention models with promising evidence for impact on suicide attempts include the following:

- **Safe Alternatives for Teen and Youth** – This approach employs principles from both CBT and DBT to promote safety among those attempting suicide in the adolescent age groups\(^{[98]}\).
- **Attempted Suicide Short Intervention Program** – This incorporates elements of therapeutic alliance, narrative style of interviewing, education about mental illness, safety measures, and regular letters for 2 years\(^{[99]}\).
- **Collaborative Assessment and Management of Suicidality** – This is an intervention to address suicidal ideations, for the older adolescents, adults, and elderly, in the inpatient setting, and has short-term effects in reducing further attempts\(^{[100]}\).
- **Systems Training for Emotional Predictability and Problem Solving** – This is a program which results in improvement in emotional regulation and thereby reduction of suicidal attempts in adults.\(^{[101]}\)

Combining the above strategies, we propose a multitier approach to suicide prevention [Figure 1]. This framework combines population-level (Tier 1), subpopulation-level (Tier 2), and individual-level (Tier 3) strategies. As one progresses from left to right of the schema, the strategies become more proximal and individually focused. This framework may help in designing a comprehensive approach to suicide prevention with adequate focus at the population as well as individual levels.

The strengths and limitations of the various suicide prevention approaches discussed here merit attention. While population- and subpopulation-level strategies such as public awareness and information programs as well as gatekeeper training may have broader cascading effects on the knowledge of risk factors, stigma, and help-seeking behaviors, evidence has shown limited effects on major outcomes of suicidal behavior or on intermediate outcomes such as help-seeking behaviors.\(^{[102]}\) As these are highly resource intensive approaches, there is a need to evaluate their long-term cost-effectiveness in a systematic manner. For screening programs, the major limitation is the lack of universally accepted and valid screening tools to assess suicide risk. Due to their significant potential to shape public opinion, media strategies such as responsible media reporting appear promising. However, the obvious limitation is that merely reporting suicide as per media reporting guidelines, without an educational component and collaboration of journalists with training and support groups, may not have the desired effect.

Restriction of access to means is an attractive method that can be implemented with legislation and public policy initiatives, but is limited by its suitability to contexts where the method is lethal, popular, and easily accessible as well as by the possibility of substitution of means. Moreover, in all likelihood, this is only a time-buying strategy and is likely to have an impact only when combined with other interventions. Helplines or hotlines can be used for the general population or vulnerable subgroups but, perhaps, the biggest constraints, especially in low-resource settings, are the availability of trained volunteers and peer support groups to optimize benefits.

Individual strategies such as pharmacotherapy and psychotherapy may not have population-level effects, and one must also keep in mind the potential risks such as aggravation of suicidal behavior in select populations such as children and adolescents.\(^{[103]}\) Interventions focusing on enhancing follow-up care for suicide offer the advantage of reducing burden on the patients and their caregivers as well as the larger health-care system. However, these approaches are limited by their emphasis on the involvement of family in after care and need for social connectedness.

**Conclusion**

Although several approaches have shown evidence for suicide prevention, it is likely that a combination of strategies may work better than isolated approaches. Given the low base rate of suicide in the population, challenges exist in evaluating and defining effective outcomes for interventions in suicide prevention. Many of the interventions described are multifaceted, and isolating the effective components in order to delineate the best practice elements in each strategy remains an arduous task. Clearly, more well-designed randomized controlled trials involving at-risk individuals may answer some of these questions. Cross-cultural translation of findings remain sketchy and more local evidence is needed to inform...
policy planning as ground-level factors and resources may vary between countries and settings. Ecological interventions for suicide prevention using mobile technology, while being globally relevant, may be the next potential game changer for resource-strapped settings in developing countries.

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