

The Contribution to Suicide Prevention of Restricting Access to Methods and Sites

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There is now a large body of research literature suggesting that restricting access to a particular method of suicide may successfully reduce suicides by that method. However, the extent to which reductions in rates of suicide by one method that is restricted are paralleled by reductions in *overall* suicide rates is less clear, and this has led to debates about the extent to which restriction of one method may lead to substitution through an equally lethal method.

While the risk of substitution has often been used as an argument against restricting access to specific methods of suicide, even in cases in which substitution may occur, method restriction may still be justified. In particular, if it becomes apparent that some particular feature of the environment facilitates or encourages suicidal behavior it may be ethical to remove access to that feature even though there is a risk of substitution.

The accumulated evidence suggests that restricting access to a wide range of means and sites of suicide can be an effective, relatively simple approach to suicide prevention – an approach that is, perhaps, sometimes undervalued. At the very least, restriction of method should be considered as *one* component of any integrated plan for local, regional, and national suicide prevention.

This supplement presents a series of papers focusing on specific means of suicide and discusses, for each method, current developments in restricting access to that method and the impact thereof on suicide.

Hawton (2007) provides an overview of major issues in restricting access to means of suicidal behavior, including the rationale for this approach, the feasibility of suicide prevention by restricting access to methods of suicide, and the fact that suicidal behavior is often ambivalent and impulsive and may not be pursued if access to a favored method of suicide is thwarted. He summarizes evidence from a range of studies reviewing the impact of restricting access to particular methods of suicide on suicidal behavior. In addition, studies that have explored subsequent suicidal behavior among persons who have survived near-fatal suicide attempts have found that most of those who survive such attempts do not go on to make further attempts by the same – or some alternative – method. Hawton, notes, in particu-

lar, that clinical assessment of suicide risk should routinely inquire about access to means of suicide, and that clinicians should strongly advocate the removal of potentially dangerous means of suicide from the households of vulnerable individuals.

In the 21st century there has been increasing recognition of the contribution to world rates of suicide from countries in Asia, and a corresponding focus on restricting access to pesticides, which account for many of these deaths. In fact, poisoning by pesticides is the most common method of suicide worldwide. *Mishara (2007a)* explores the extent of pesticide suicide around the world. In rural Asia the ready availability of highly lethal pesticides, often coupled with limited access to prompt and adequate medical treatment, results in a profile of suicide as less planned, more impulsive, and less likely to be associated with mental illness than in the West. The pesticides available in Asia are often highly toxic (compared with those in the West) and, moreover, highly toxic even in small doses. This feature contributes to high case fatality coupled with inadequate training in medical interventions for pesticide poisoning, limited access to appropriate medical care, and lack of antidotes. *Mishara* also discusses the context within which pesticide suicides occur, often as impulsive responses to short-term family conflicts and stresses. A range of strategies might be employed to reduce pesticide suicides, including controlling or restricting access to the most dangerous pesticides, reducing the use of highly lethal agents, safer storage practices, education concerning the lethality of pesticides, improved medical training, treatment, and facilities, and developing supportive approaches to address the sources of family conflicts.

In 1998 a single case of suicide by charcoal burning was widely publicized by the Hong Kong media as a novel way to end one's life. The media accounts were explicit and graphic, and they provided, in effect, an advertorial guide to the use of this method. This event occurred during the Asian financial crisis of the late 1990s; the media linked charcoal burning with personal financial despair and portrayed suicide by this method as a painless, peaceful solution to such stress. Within the year charcoal burning had

become the third most common method of suicide in Hong Kong, and by 2004 it was the second most common method, after jumping from high places. *Yip and Lee (2007)* recount the history of the rapid popularity of charcoal burning, first in Hong Kong and then as it spread throughout Asia, largely appealing to a population that had not previously been vulnerable to suicide, thereby increasing the overall suicide rate. The authors frame charcoal burning as a public health issue and discuss how it might be discouraged, both by restricting sales of charcoal and by dissuading individuals from the view that it is a "pleasant" way to die. Efforts to restrict sales of charcoal in supermarkets have met with vendor and public resistance, and the authors describe a range of solutions they are currently seeking to apply to the problem. A further remedy clearly lies in attempting to mute media reporting, and the particular difficulties of addressing this in Hong Kong are discussed.

Carbon monoxide poisoning by vehicle exhaust gas is a common method of suicide in many industrialized countries. However, in those countries in which mandatory emissions standards were imposed late in the 20th century for environmental reasons, suicide rates by vehicle exhaust gas have fallen. *Routley (2007)* explores the range of measures available to restrict this method of suicide. These include catalytic converters, in-cabin sensors, modifications to exhaust pipes, automatic idling devices, and signage at suicide "hotspots." For each measure *Routley* describes the mechanism, the evidence for its effectiveness in reducing suicide, and the previous progress in implementing the approach. The most widely used devices are catalytic converters, which are now fitted to some 90% of all new vehicles worldwide. A number of countries have mandated – and some have offered incentives for – retrofitting catalytic converters; other countries have introduced scrapping of older cars, resulting in higher rates of penetration of catalytic converters into national vehicle fleets and consequent reductions in suicide by vehicle exhaust gas.

Suicides occur on both long-distance railway tracks and in urban metro-rail systems. In a comprehensive review, *Mishara (2007b)* discusses suicides in many countries at both railway and metro sites. The percentage of all suicides accounted for by railway suicides seems to be related to population density – and it is particularly high in Germany (7% of all suicides) and The Netherlands (10% to 14%). Often suicides in both railway and metro systems occur near psychiatric hospitals. These sites acquire reputations as suicide "hotspots," and people with diagnosed psychiatric illness feature commonly in suicides at these sites. Media reports of suicides at railway and metro sites can in turn influence further suicidal behavior at these sites. The frequency of railway suicides in some countries means that encountering suicides is an occupational hazard for train drivers who may be significantly psychologically traumatized by these events. Considerable investments have been made in trying to reduce railway and metro suicides, and in reducing the impact on train drivers of suicides that do occur. These measures include installation of barriers and

use of television surveillance systems at favored sites. Suicides have been reduced in metro-rail systems where doors open directly onto the platform only when the train has stopped, and by restricting public access to tracks.

While self-poisoning makes a relatively small contribution to suicide mortality in many countries, it makes a far greater contribution to morbidity, accounting for up to 90% of all hospital admissions for suicide attempts and self-harm each year. Restricting access to drugs commonly used for self-poisoning, and especially to those with high case fatality, could potentially reduce morbidity, rates of hospital admission, and associated costs, as well as mortality. *Nordentoft (2007)* reviews the evidence about self-poisoning for several classes of drugs including barbiturates, dextropropoxyphene, tricyclic antidepressants, and weak analgesics (including paracetamol). For each drug she evaluates evidence regarding the impact on suicide rates of restrictions on the drug and suggests that regulating access to substances with high case fatality could potentially reduce morbidity and mortality from self-poisoning. She also discusses the related issue of suicide among doctors, since elevated rates of suicide in the medical profession are accounted for largely by higher rates of self-poisoning.

There is good evidence from a number of countries suggesting that well-designed firearms regulations can dramatically reduce rates of firearm suicides. *Leenaars (2007)* focuses on one aspect of the broader issue of regulating access to firearms, namely, on gun laws. Based on the Canadian experience, with supporting examples from Australia and New Zealand, he argues that legislative gun control regulation has been effective in reducing suicides, with a more pronounced impact on youths.

Jumping from high places constitutes only a small fraction of suicides in many countries, although in some cities with many high-rise buildings it may account for a substantial fraction of suicides. While most suicides by jumping occur from high-rise residential buildings, most efforts to reduce suicides by jumping appear to have focused on a relatively small number of nonresidential sites, often bridges, which have acquired notoriety, symbolic significance, or iconic status as places for jumping. *Beautrais (2007)* reviews approaches to preventing suicide by jumping including installing barriers or safety nets at iconic sites, surveillance measures, signs, and telephone hotlines for suicidal people, building codes, and muted media reporting. A relatively small number of studies that have evaluated the impact of restricting access to a specific site, usually by installation of some form of barrier, provide evidence of the effectiveness of this approach. There are surprisingly few reports of measures to reduce suicides from high-rise buildings from which the vast majority of suicides by jumping occur.

A discussion of restricting access to methods would be incomplete without consideration of the issue of media influences on choice of method and site for suicide. A substantial body of evidence suggests that media reports or portrayals of methods of suicide may influence vulnerable

individuals to adopt particular methods. This results in both increases in the overall number of suicides and increases in the use of particular methods of suicide. *Blood and colleagues* (2007) examine media reporting about methods of suicide in Australia. Despite Australian and international media-reporting guidelines for suicide, unconditionally advising against reporting explicit detail of methods of suicide, the authors found these cautions were disregarded by news media if a method was deemed unusual, novel, dramatic, or involving conflict of some type. Illustrative examples of graphic and explicit reports of suicide methods are discussed. Compliance with the recommendations of media-reporting guidelines was poor. The result of "news-worthiness" winning out over the advocacy of guidelines for muted reporting of suicide methods is that the public is presented with a distorted picture of suicide.

References

- Beautrais, A.L. (2007). Suicide by jumping: A review of research and prevention strategies. *Crisis, 28* (Suppl. 1), 58–63.
- Blood, R.W., Pirkis, J., & Holland, K. (2007). Media reporting of suicide methods: An Australian perspective. *Crisis, 28* (Suppl. 1), 64–69.
- Hawton, K. (2007). Restricting access to methods of suicide: Rationale and evaluation of this approach to suicide prevention. *Crisis, 28* (Suppl. 1), 4–9.
- Leenaars, A.A. (2007). Gun-control legislation and the impact on suicide. *Crisis, 28* (Suppl. 1), 50–57.
- Mishara, B.L. (2007a). Prevention of deaths from intentional pesticide poisoning. *Crisis, 28* (Suppl. 1), 10–20.
- Mishara, B.L. (2007b). Railway and metro suicides: Understanding the problem and prevention potential. *Crisis, 28* (Suppl. 1), 36–43.
- Nordentoft, M. (2007). Restrictions in availability of drugs used for suicide. *Crisis, 28* (Suppl. 1), 44–49.
- Routley, V. (2007). Motor vehicle exhaust gas suicide: Review of countermeasures. *Crisis, 28* (Suppl. 1), 28–35.
- Yip, P.S.F., & Lee, D.T.S. (2007). Charcoal-burning suicides and strategies for prevention. *Crisis, 28* (Suppl. 1), 21–27.

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