

CHAPTER 7

Reducing Access in Asia to Lethal Means of Self-harm

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Abstract

The majority of the Asian countries involved in the Strategies to Prevent Suicide (STOPS) project have explored various ways of restricting access to means of self-harm, in an effort to reduce their suicide rates. They have tended to focus their efforts on suicide methods that are responsible for a significant proportion of the overall suicide rate, taking steps to reduce access to poisoning agents (such as pesticides, charcoal and car exhaust), to secure jumping sites (such as bridges and high rise flats), and to restrict the availability of firearms. They have used a range of approaches, with the most common being legal restrictions and practical changes to the environment. The mechanisms by which these approaches may impact on individual countries' suicide rates are discussed, as are ways of monitoring their effectiveness.

Reducing access to lethal means of self-harm has been shown to be an effective way of preventing suicide in studies conducted in Europe and the United States of America, with evidence that restricting access to particular methods can reduce both the method-specific suicide rate and the overall suicide rate (Daigle, 2005; Mann et al., 2005). The current chapter considers the potential of means restriction initiatives in the Asian countries participating in the Strategies to Prevent Suicide (STOPS) project, describes some innovative examples, and examines ways of strengthening such initiatives.

The potential for restricting access to means in Asian countries

The primary methods of suicide vary widely in participating countries, and some are more amenable to restriction than others (see Chapter 1). In countries where the most common methods of suicide could be influenced by means restriction – e.g. China, India, Pakistan Sri Lanka, and Viet Nam where pesticide-related suicides are prevalent – this approach should be one of the cornerstones of the overall suicide prevention effort. In countries where the most common methods of suicide are less readily open to restriction, approaches that focus on reducing access to lethal means will be limited to particular subgroups. Restricting access to means is not generally seen as a feasible approach to reducing suicide by hanging because of the difficulty of

limiting hanging points and materials that can be fashioned as nooses. Countries like Australia, Japan, New Zealand, and Thailand in which hanging is a frequent method will need to consider how best to target specific settings (e.g., prisons and psychiatric hospitals) where hanging is a common means of suicide and where restriction may be a realistic option, or they might choose to focus on restricting access to means for subgroups that employ other suicide methods, such as poisoning, jumping or firearms.

Current means restriction activities in Asian countries: Some examples

Some innovative means restriction activities are currently underway in all of the participating countries except Malaysia, Pakistan, and Viet Nam, where reducing access to means as an approach to preventing suicide has received relatively less attention.

A number of participating countries have responded to concerns about suicidal acts involving the ingestion of pesticides, particularly because of the high case fatality rate associated with this method. China, Japan, and Sri Lanka, for example, have introduced legislation to regulate the production, importation, transportation, storage and sale of pesticides, and have conducted small-scale projects to discourage the ingestion of pesticides (e.g., including warnings on labels, adding stanching agents or emetics, and creating solid or diluted forms). China, India and Sri Lanka have also explored the introduction of locked boxes for pesticides. These boxes are located on individual farms or at a central point in the local village, and the keys are held by a trusted family member or a respected community figure (Vijayakumar, 2005). Little formal evaluation of these initiatives has been undertaken to date, but rigorous studies are currently underway in China and Sri Lanka and are planned in Malaysia.

Poisoning by pesticides is largely a problem in rural areas, but concerns have also arisen about poisoning by other agents in some urban settings. Most prominent is carbon monoxide poisoning. Hong Kong SAR has responded to the increasing popularity of charcoal burning as a method by restricting access to charcoal in supermarkets. Participating supermarkets in one local community have agreed to remove charcoal from their shelves and keep it in a locked location for sale only upon request (Yip, 2007). In Australia, carbon monoxide poisoning by car exhaust is recognized as a problem. Work is currently under way on a cost-benefit analysis for the continuation of the development of an Air Quality Monitor for use in existing vehicles and/or newly manufactured vehicles (Galatsis et al., 2000).

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Jumping from heights is a suicide method of concern in urban areas in some participating countries, and some innovative approaches have been adopted to counter the problem. New Zealand, for example, had a particular problem with suicide by jumping from a bridge in one of its major cities, following the removal of barriers from the bridge (Beautrais, 2001). Concerned efforts by suicide prevention advocates led to the re-installation of the barriers, and no further deaths by jumping from the bridge have been recorded. Singapore has also grappled with this issue in the context of having a particularly high rate of suicides by jumping, particularly from high rise flats. These flats house 90% of the population, so trying to prevent suicide by this means is difficult, but efforts have included the removal of long, common balconies that serve as jumping access points, placing higher railings or plastic barriers along these balconies, and even net-like structures to break falls. Families of those at risk are encouraged to secure their windows, and to ensure that the individual is not left in the balconies alone.

Jumping in front of moving objects has also been addressed by means restriction in urban areas in some participating countries. Hong Kong SAR and the Republic of Korea, for example, installed screen doors on platforms in major subway stations in 2004 and 2005, respectively. These screen doors are housed in barriers which effectively wall off the train tracks. When a train arrives, it stops in such a manner that its doors align with the screen doors which then open and allow passengers to get on or off the train. Hong Kong SAR has found that railway suicides have dropped significantly as a result (from 1.4% of all suicides in 2001 to 0.3% in 2004). The Republic of Korea has yet to evaluate its efforts in this regard, but is planning to assess the change in the number of suicide attempts at stations with screen doors relative to those at stations with no screen doors.

Legislation to restrict access to firearms has also been instituted in some participating countries, including Australia, New Zealand, and Thailand. Usually this has not been introduced as a means of reducing suicide, but there is some evidence to show that it has reduced suicides by gunshot. In New Zealand, for example, the introduction of stricter firearms legislation led to a 46% reduction in the mean annual rate of firearm-related suicides for the total population (66% for young people and 39% for adults). The introduction of the firearms legislation, however, was not associated with a reduction in overall suicide rates for young people, adults or the total population (Beautrais et al., 2006).

Optimizing means restriction activities

Three mechanisms are hypothesized to explain the way restricting access to means may operate to prevent suicide. Firstly, in those cases of impulsive suicidal behaviour where the intent to die is not strong, increasing the difficulty of obtaining the means for suicide may give individuals greater opportunity to think through their options and may therefore reduce the likelihood that they will follow through with the suicidal act. Secondly, where the intent to die is stronger but the suicidal behaviour is still impulsive, postponing the act by making it harder to obtain the necessary means will afford a greater opportunity for other preventive interventions to take place. Finally, irrespective of impulsivity or intent, reducing the lethality of means available may result in lower rates of case fatality (i.e., although the rate of suicide attempts may remain the same or may even increase, the rate of completed suicides may come down).

Assuming that these hypothesized mechanisms are operating, several mediating factors that could influence the outcome of different approaches to means restriction should be considered. The potential degree of substitution by an alternative method following restriction of one method and the relative lethality of the alternative method are both important (Daigle, 2005). The proportion of impulsive and low-intent behaviours among all non-fatal and fatal suicidal acts will have a bearing on the success of means restriction efforts. So too will access to crisis services and other forms of mental health care, as well as the availability of other preventive interventions in the target community. Coverage by appropriate resuscitation services will also be crucial, in order to minimize the case fatality rate.

In many of the participating Asian countries, there are few if any mental health services, particularly in rural areas (Vijayakumar et al., 2005). For this reason, 'buying time' as a result of restricting access to lethal means is unlikely to result in increased opportunities for psychological interventions. In these areas, the presumed benefits of restricting access to means would be to decrease suicidal behaviours in those who engage in impulsive, low-intent acts, and to reduce the overall case fatality. Specific activities might therefore best be targeted at subgroups that are most likely to engage in hasty, reckless acts of self-harm (e.g., young people), and might involve restricting highly lethal means (e.g., pesticides).

The successful implementation of any effort to restrict access to means of self-harm is heavily dependent on appropriate support. Garnering such support involves

identifying influential agencies or individuals who will initiate or champion the strategy, recruiting these and other important stakeholders to the effort, counteracting the influence of groups and individuals who will be opposed to the activity for any reason, and securing the financial and other resources necessary to implement the strategy. In some participating countries, nongovernmental organizations (e.g., suicide prevention groups, survivor groups, mental health associations, academic associations) can assume the role of ‘initiator’ of a means restriction initiative. In others, only government agencies have the authority to undertake such initiatives, so interested non-governmental organizations (or other groups or individuals) must convince a government department to take action. The government department will vary, depending on the particular means of interest (e.g., a department of agriculture may be responsible for pesticides, a department of infrastructure may be responsible for subways and bridges). As a consequence, the potential supporters and opponents will differ, depending on the specific means restriction strategy of interest. Therefore, selecting the most feasible means restriction activity from the long list of potential activities will require a detailed understanding of the respective roles of government and non-governmental organizations in the given country, and the motivations and concerns of the many stakeholders.

Research and evaluation

It is clear that the methods employed in completed and attempted suicide vary. It is also clear that there are differences in the methods chosen by different subgroups, and that the relative popularity of particular methods will vary over time. Ongoing, up-to-date information on the methods employed in fatal and non-fatal suicidal behaviour by different subgroups at different points in time is necessary to determine the appropriate focus of means restriction activities and to assess their effectiveness.

Many of the participating Asian countries do not have such monitoring systems in place and are unlikely to do so in the foreseeable future (see Chapter 1), and will therefore be reliant on local studies and regional data. It is hoped that countries that do have good systems for monitoring suicidal behaviour (by method, subgroup and time) will conduct rigorous evaluations, and consider how their findings can be generalized to other Asian countries.

Whether the evaluation relies on purpose-designed data collection activities or draws on routinely-collected data, there are some important considerations that should

be borne in mind. At the very least, evaluations should compare data on suicide rates before and after the introduction of any means restriction initiative. Wherever possible, they should also consider changes in rates over the same time period for a control community that has not been exposed to the intervention. Ideally, they should examine rates of attempted suicide as well as rates of completed suicide, as this will help to tease out the role of some of the above potential mediating factors in influencing the outcome of specific means restriction strategies (e.g., availability and lethality of alternatives, accessibility of crisis and mental health services and resuscitation services). They should also consider issues of substitution, and should go beyond an assessment of pure effectiveness to examine the acceptability and cost-effectiveness of the intervention. Evaluations should also explore the ways in which means restriction efforts can best be integrated with other suicide prevention efforts.

Summary and conclusion

Restricting access to means of self-harm shows promise as a suicide prevention strategy in Asian countries, particularly in circumstances where the suicide method in question is responsible for a high proportion of overall suicides and can be controlled. A number of participating countries are currently taking steps to reduce access to poisoning agents such as pesticides, charcoal, and car exhaust, to secure jumping sites like bridges and high rise flats, and to restrict the availability of firearms. Restricting access to means in this way may have the effect of decreasing suicidal behaviours (particularly among those who engage in impulsive, low-intent acts), and may reduce the overall case fatality rate. In better resourced Asian countries, it may also result in increased opportunities for psychological interventions. Improved evaluation efforts are necessary, but there are early indications that reducing access to means can be effective in addressing the problem of suicide in Asian countries.

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