“Firearms and Suicide: The case of Finland”

The growing literature connects firearms with increased risks of suicide and homicide. In many countries, like in the USA and also in Finland, the most common cause of firearm-related deaths is suicide. In 1997 in the United States more than 32000 people died from firearm injuries, 54 percent of these deaths were suicides and 41 percent were homicides. The respective figures in Finland were 93 percent and five percent.

Finland was the first country in the whole world to prepare and implement a nationwide suicide prevention program in 1986-96, which was evaluated in 1998-99. Initially all suicides committed during one year were examined in a systematic and detailed way in an attempt to see the lessons which could be learned before the suicide prevention policy was developed. The national suicide prevention program "Suicide Can be Prevented” then made a series of recommendation to deal with those who the data had shown were at most at risk. Easy availability of lethal suicide methods like firearms was one of the main concerns.

The principal aim of the Finnish National Suicide Prevention Project launched in 1986 was to reduce suicide mortality by 20%. The suicide rate decreased through the 1990s from the peak in 1990 (30.3 per 100,000) to a low point of 23.2 per 100,000 in 1999. The suicide rate is now 23% lower than in 1990.

In 1998 93% of all deaths caused by firearms in Finland were suicides, five per cent were homicides, one per cent accidents and another one per cent undetermined deaths. Only in five per cent of all firearm victims were females.

During the last two decades the only suicide method which has been increasingly used is poisoning, both among females and males. The suicide rate with firearms has stayed between 10-12 per 100.000 among males, and below one per 100.000 among females. More than one fourth of male suicides are committed by firearms, among female the proportion is about five per cent.

Completed suicide is a multidetermined process. The factors that contribute to it range from predisposing genetic and developmental environmental factors to psychosocial and other circumstances at the time of final act. The key concepts are the intensity of suicidal intention and the choice of the suicide method, and its lethality. Firearms are among the most lethal suicide methods which may also reflect the strength of suicide intent.

One of the unanswered key questions in suicide research is, whether the final choice of the lethal method (firearms) is a factor independently contributing to the risk of death when attempting suicide. If the choice of the method contributes to the risk of death by suicide, then restricting availability of firearms might prevent suicide.

One of the most important determinants in the choice of a suicide method is, however, its availability. In the United States, where guns are relatively easily available (handgun ownership is 16 to 19 percent of the population), firearms are the most frequently used suicide method.
irrespective of gender or age. In Finland, where almost 40% of all households have firearms, hanging, being universally available, is the most often used suicide method, like in most other countries of the world. An association between availability of firearms and suicide rate by guns, and even total suicide rate has been observed in the United States and in several European countries.

In suicide prevention, one of the main issues is the effect of restrictions on availability of suicide methods not only on suicides by that particular method (firearms), but on total suicide mortality. The effect of restrictive measures on total suicide rate is far from clear. Even though restrictions on handguns are usually followed by a decline in suicides by use of firearms, the change in the total suicide rate has not been as clear.

Wintemute et al. published in 1999 in the NEJM their findings from California indicating that purchasers of handguns are at high risk for suicide, particularly during the period immediately after the purchase. This association was especially strong among women. Increased risk of suicide was connected with all methods and persisted for at least six years. However, handgun purchasers accounted for only ten percent of those who committed firearm suicide within the first follow-up year.

In several cross-sectional studies stricter controls on access to firearms have been found to be associated with lower rates of suicide by firearm. In New York City, where handgun ownership has been strictly regulated, rates of suicide by firearm are very low. More direct evidence comes from time-series studies. Professor Keith Hawton from Oxford reported in 1998 that the number of firearm deaths especially in farmers, but also in all males, dropped markedly in the UK as a result of specific legislation regarding firearm purchase, registration and storage. The change is comparable with the situation Australia, where firearm suicides significantly declined following gun legislation. Findings from Canada have been more equivocal.

The question of substitution of suicide methods, that is switching from one intended suicide method to another if the availability of the first is restricted, is unresolved. If subjects do not tend to substitute other methods, then reducing the availability of lethal methods such as firearms can be expected to reduce suicide mortality. However, if substitution does occur, restriction will not necessarily result in any change in overall suicide mortality, although death rates using a particular method may decline. Obviously, there is no ethically acceptable way to investigate this issue experimentally, nor can suicide completers be surveyed. The only valid method is to utilize “natural experiments”: to investigate retrospectively how suicide completers have behaved in choosing suicide methods.

In our sample of the 1397 consecutive suicide victims in Finland 26.7% of males and only 1.2% of females committed suicide by using firearms. Most male completed suicides died in their first suicide attempts (62%). Completed suicides who had survived an earlier suicide attempt had usually switched to another more lethal method. However, our findings does not necessarily imply that a policy of restricting the availability of a method has no effect at all. It may be that some suicides are prevented because an acceptable method is unavailable. In addition, restricting the availability of the most lethal methods like firearms might result in suicide attempters using less lethal methods, which would increase the proportion of surviving attempters. In every case, a need for the early recognition of suicide risk among males seems evident.

There were several statistically significant differences between those suicide victims who used firearms and the rest of suicide victims. Victims who shot themselves lived predominantly in rural areas (58%) and were exclusively (99%) males who cohabited in the majority (88%) of cases. They had less often than the others received psychiatric treatment although they had communicated their suicidal intent to same extent (64%). They seemed to have coped psychosocially relatively well but their suicides were associated with recent life events and alcohol in blood (46%) at the time of
suicide. They typically had no previous suicide attempts, which may reflect either a relatively high suicide intent or a choice of a highly lethal method for other reasons, supposedly related to acceptability and availability. Some other studies have also shown that the use of firearms as a suicide method is associated with rural context and easy availability (farmhouses).

In Finland, like in many other western European countries, suicide mortality among young men increased markedly between the middle of the 1960s and the mid-1970s. This increase was tightly connected with firearms as a suicide method. However, this trend was not associated with any changes in availability of firearms. Suicide by young men presented another upward trend in the 1980s, once again mainly accomplished by the use of firearms, but without any changes in availability.

Our studies in Finland confirm the view of a connection between a rise in the use of lethal methods and increased suicide mortality. The results do not support the view of immediate substitution of a restricted method by other means of suicide. Availability of lethal methods obviously affects the probability of suicide for persons who are predisposed to it. Easy access to a lethal method may result in a suicide which otherwise would not occur. Restrictions on the availability of lethal methods are therefore useful in suicide prevention.