British Journal of Psychiatry (1988), **153**, 16–20

Lecture

Assessing the Epidemiology of Suicide and Parasuicide

R. D. T. FARMER

Suicide is a rare phenomenon – in most countries, it explains between 0.5 and 1% of all deaths – no more than 15 per 100 000 population. Although rates increase with age, its impact on the total mortality of the young is greater than its impact on the elderly. Despite its rarity, the subject has attracted, and continues to attract, wide interest among academics and popular writers.

A recent search of the English-language medical literature yielded over 1000 papers published since 1982; there are numerous books on the subject and countless conferences have had suicide as their theme. In addition, there is a vast literature in the religious, philosophical, ethical, and legal press. Moreover, few of the mass-circulation papers and magazines pass up the opportunity to discuss or report suicide, especially if it involves the famous or presents as the bizarre. Jean Baechler described it as the most unremittingly studied type of human behaviour; but this place must surely go to sex.

There are many possible explanations for the fascination that we have with suicide, and for the romanticism that surrounds its portrayal in fine art, literature, and theatre. Perhaps the most likely is that self-destruction is perceived as being so unnatural as to excite emotions such as fear, revulsion, and recrimination. The suicide of a hero is usually portrayed as a failure, either his own or of others who support him. To the psychiatrist, suicide often represents a failure to treat the patient successfully. We research the subject in order to understand cause, and thence to devise some sort of preventive measure, and continue so that we may assess the efficacy of our preventive strategies, or the extent of our continued failure.

Epidemiology involves investigation of the relationship between disease, and social, personal, and other variables. The disease itself is the dependent variable, and must be defined with some precision; the independent variables may be one or more factors of differing types. The first problem encountered in the study of suicide is its definition. There are a surprisingly large number, and the conclusions of most investigations are determined to an extent by the definition used. That adopted for suicide will itself be determined by the environment in which it is used. Thus a coroner in England will use one definition, whereas a medical examiner in France will use another; yet another may be used by a psychiatrist.

In sociomedical research, the most frequently quoted definition is Durkheim's (1897):

> "The termination of an individual's life resulting directly or indirectly from a positive or negative act of the victim himself which he knows will produce this fatal result".

This definition places important restrictions on the investigator who uses it, and in many circumstances it is unworkable. Durkheim requires that we establish both a motive for the action, and that the deceased was certain of the consequences of the action or actions that he took. He has been criticised by Baechler (1980) on several counts.

Firstly, the inclusion of the phrase "by the victim himself" excludes all cases in which the individual achieves his or her own death at the hands of others; for example, the suicidal soldier may deliberately place himself in a position in which he will be killed by others during battle. Many would describe the behaviour as suicidal. According to Durkheim's definition, it is not. In the view of the commanding officer, such behaviour may well be indistinguishable from exceptional heroism. The phrase "which he knows will produce this result", in the view of Baechler reveals "an entirely rationalist conception where the behaviour of every man is transparent to himself". It also suggests a depth of knowledge of the extent of injuries that may be sustained following a course of action. This assumption may be true in most of the violent methods used for suicide, but such an assumption cannot be made in the case of the more modern methods. Alvarez (1971) expressed this notion with great clarity in his book *The Savage God*: ". . . the more sophisticated and painless the method the greater the chance of failure". Suicides, according to Durkheim, are all dead. Thus there should be no category of attempted suicide; perhaps we should use the term 'failed suicide' to describe events that comply fully, except in outcome, with Durkheim's definition.

Based on a lecture given at the Royal College of Psychiatrist's Autumn Quarterly Meeting on 14 November 1985

Suicide is not a disease, nor is it a cause of death. Death is caused by a gun, a rope, a poison, a razor, or the like. Suicide is a specifically motivated type of behaviour. Thus, it is quite unlike most of the entities usually investigated by epidemiologists. It is also unlike all cases treated by the psychiatrist; he is trained to listen to his patients and appraise them in relation to what they say and how they say it. In the case of suicide, the doctor cannot do this, because the subject of the enquiry is dead. Baechler's definition is that "Suicide denotes all behaviour that seeks and finds the solution to an external problem by making an attempt on the life of the subject". This provides him with a good starting point for his discourse, but it offers little help to the research worker attempting to investigate the behaviour using numerical methods. I can offer no satisfactory definition of suicide – each of us has an idea of what it means. Ultimately, we are all restricted in our investigations by the way others see it. The reality is that the investigation of suicide is dependent upon the collation, analysis, and interpretation of mortality figures compiled by others. It is therefore essential to consider how a death becomes labelled as suicide and why some deaths we might think are suicides are not so classified. The process of ascertainment involves three principal stages:

1. The death must be recognised as unnatural.
2. The initiator of the course of action that led to the death has to be recognised as the deceased himself.
3. The motive of self-destruction has to be established.

1. Unnatural death

In many cases, there is no difficulty whatsoever in recognising a particular death as due to other than natural causes. The external appearance of the body in the case of strangulation, shooting, jumping or falling from a height, and drowning, are all such that they cannot be confused with death due to disease. The investigators will immediately be alerted to the possibility of murder, suicide, or accident. It is not so simple in the case of poisoning. In 1973, Patel reviewed the findings of 15 000 medico-legal autopsies that were carried out for technical reasons; i.e. unnatural death was not immediately suspected, but no doctor who complied with the English regulations for the issue of a death certificate had been available. Of these, 764 had significant quantities of medicinal poison either in the stomach or in the blood. Patel pointed out:

> "The use of drugs requires no witness, they do not leave visible marks and present a picture similar to that of a natural death, the body being found anywhere in the house . . . therefore the general practitioner when requested to call to attend the dying or dead patient has nothing to suspect and if the patient is dead, provided they are not surprised that the patient is dead, issue a death certificate without hesitation".

Clearly, if death is not expected, investigation will be instigated; thus a poisoning death in a young and otherwise fit person is likely to be discovered, whereas the poisoning of an elderly person with concurrent illness may well be missed. It is possible that the fall in suicide mortality among the elderly since the 1950s is due to a change from the methods that show external signs to those that do not. There may, of course, have been a real reduction in suicide mortality among the elderly, but sophisticated methods should be applied to investigate the plausibility of these two hypotheses.

2. Initiation

The identification of the instigator of the injury presents other problems. Here again, the possible suicide deaths divide into two broad categories – those where it is quite clear that the perpetrator is the deceased, and those that are equivocal. The first category includes, for example, hanging, where the involvement of a third party would be clear by evidence of signs of struggle. It includes many of the poisonings, especially those by gas, death by firearms, and cutting or piercing. Drowning and some poisonings fall into the second category. A review of death certificates issued by inner-London coroners revealed a large number of open verdicts in the case of drowning – there was no evidence how the deceased came to be in the water, nor indeed, in some cases, how long he had been in the water. Some of these deaths may have been suicides, others homicides; it is unlikely that many were genuine accidents.

3. Motive

The final stage in the ascertainment of suicide is to establish motive. The way in which this is approached varies from country to country, and, within this country, from coroner to coroner. In English law, it is necessary to prove that the deceased initiated actions that led to his own death, and that he did it with the intention of causing the death. England and Wales have great continuity in their legal system. Until the early 19th century, the law stated that individuals who committed suicide should "Forfeit all chattels real and personal which he has in his own

right; and also all chattels real whereof he is possessed, either jointly with his wife or in her right; and also all bonds and other personal things . . . the will therefore becomes void as to his personal property". Moreover, those who committed suicide, the crime of "*felo de se*", could be buried at crossroads ". . . whereon every beggar's foot should tread", with a wooden stake driven through their hearts. Not only was suicide socially undesirable, it was also a financial disaster for the descendants. Coroners tended to avoid returning such a verdict from the mid-17th century onwards, and from that period, the verdict "took his/her own life while the balance of mind was disturbed" was used in preference to "*felo de se*".

The important features of the English system are that the coroners, as members of the judiciary, are bound by 'rules of evidence'; they hear cases in public, and should not record a verdict of suicide unless they have allowable evidence of intent. Some coroners are obviously more flexible than others in this respect, as the ratio of suicide to 'open verdicts' varies from court to court. It has long been possible for relatives of the deceased to appeal to the divisional court against a verdict of suicide – originally for financial reasons, and latterly for reasons of sensitivity. An appeal in 1975 involved a man who fell or jumped from a high building. The coroner recorded a verdict of suicide, because the circumstantial evidence led him to the conclusion that the deceased did in fact intend to kill himself. The divisional court allowed the appeal on the basis that there was no direct evidence of intent.

Brugha & Walsh (1978) suggested that the explanation for the low suicide rate in Eire was that coroners were reluctant to record such a verdict. This was thought to be related to the strong religious taboos against suicide. Their conclusion was probably correct, but even taking account of this practice, it still seems that rates of suicide are low. However, a recent decision by the Irish High Court, State (McKeown) *vs* Scully, 29 April 1985 (record no. 1984/646 55), has changed all that. A man was killed by being struck by a train near his home in May 1984. The inquest verdict was suicide, which is still a crime in Eire. The wife of the deceased appealed on several grounds against the verdict, to the High Court. The judge upheld the appeal on the following basis:

> "It was obviously intended by Sec 30 of the Act of 1962 (legislation regarding the jurisdiction of coroners) that it should not be open to a coroner's jury to bring in a verdict that a named person had unlawfully killed the deceased and, by analogy, I would hold that it was not intended that it should be open to them to find that the deceased had unlawfully brought about his own death by suicide . . . it appears to me that in bringing in a finding of suicide against the deceased, the jury were considering and investigating questions both of civil and criminal liability and were going outside the functions conferred on them by the Coroners Act, 1962 . . ."

We can look forward to Eire having the lowest suicide rate in the world.

In most of continental Europe, the ascertainment of cause of death is separate from the investigation of criminality. Moreover, the cause of death, in all cases, is confidential, and cannot be related to a named individual. This has two effects: the police statistics for suicide are different from the death-certificate statistics, and there is no means whereby relatives can discover what is written on a death certificate and thus have grounds for appeal. Clearly, differences in suicide rates are to be expected.

The probability of detection of an unnatural death varies both with the method used, and with age. The probability of its being labelled as suicide varies according to the circumstances and the legal system within which it is investigated. In view of these facts, direct comparison of recorded suicide rates between countries and across time within countries is naive. At the very least it is essential to use age-, sex- and method-specific rates.

Parasuicide

How do the problems of attempted suicide, failed suicide, or parasuicide relate to those of suicide itself? According to most definitions, suicide is fatal. Thus, it is a 'disease', syndrome, or behaviour that is defined not only by motive and action, but also by outcome. Here there is a problem not dissimilar to that arising in the study of accidents. Were we to study the epidemiology of accidents entirely from the perspective of fatalities, we should have a completely distorted picture of accidents. Death is but one possible outcome of an accident; it is not inevitable nor does it necessarily reflect the severity of the accident itself. To study the accident it is necessary to consider the event rather than its outcome.

The same could be true of suicide. Thus, it could be argued that death is but one possible outcome of a suicide thought or wish. In order to achieve death, a method has to be available for the individual to injure himself; the individual must believe that the method will be fatal; it then has to kill him. The question that arises is whether the individual who has a wish to be dead differs from one who both wishes to be dead and achieves his own death. Does a person

who wishes to be dead yet fails in his attempt to die differ from another who succeeds? Most of the recent research seems to support the view that the answers to these questions are 'yes'. There is, however, another view.

Consider the position of a quadriplegic. Irrespective of his feelings or wishes regarding his own demise, he is limited in his actions. He cannot bring about his own death. Does the relatively low suicide rate among quadriplegics indicate that they do not wish to die; does the quadriplegic who wishes to die differ materially from the able-bodied person who kills himself? Does the quadriplegic not express his wish to die because there is a taboo against suicide **and** he is not able to express himself in action?

Although the evidence for the separation of suicide from attempted suicide is at first sight compelling, there are certain aspects of it that allow for debate. Stengel *et al* (1958) suggested, "There are strong reasons for treating the two groups as different though related phenomena". His justification for this was that the two groups differed in their characteristics. The view was reiterated by Carstairs (1960): "Those who commit suicide and those who survive after an attempted suicide are two distinct groups . . . They differ, for example, in their epidemiological characteristics . . . the sex ratio is reversed, they are younger and they tend to use poison".

The differences between the epidemiology of suicide and attempted suicide that both Stengel and Carstairs noted have been well documented by others, but that alone is insufficient evidence to regard them as two distinct groups. Poisoning is one of the few methods from which survival is possible; suicidal poisonings are more common among women than men, younger patients are more likely to survive than the elderly, and a fatal suicidal poisoning is more likely to be detected in the young than the old. Many of the apparent differences in the epidemiology can be explained in terms of method preference and lethality.

Kreitman *et al* (1969) have the rare distinction of having contributed a new word to the English language – parasuicide. They went further than either Carstairs or Stengel. They wrote:

> ". . . the existing term attempted suicide is highly unsatisfactory, for the excellent reason that the great majority of patients so designated are not in fact attempting suicide . . . what is required is a term for an event that simulates or mimics suicide, in that he is the immediate agent of an act which is actually or potentially harmful to himself. Yet the attempted suicide patient is not usually addressing himself to the task of self destruction and rarely can his behaviour be construed in any simple sense as orientated primarily towards death."

The evidence upon which Kreitman's hypotheses were generated was experience in dealing with patients who had been admitted for treatment of an 'overdose'. The fact that many, or even most, patients who have been admitted to hospital for an overdose do not express a wish to be dead at the time they are interviewed is irrefutable. It has been reported on many occasions by impeccable clinicians and research workers. On the other hand, there is much evidence to suggest that the person who has been treated for an 'overdose' or other parasuicidal act is at higher risk of suicide than the general population. It has proved difficult, if not impossible, to distinguish between those who will commit suicide and those who will not.

It seems that the flaw in the arguments regarding the separation of fatal and non-fatal suicidal behaviour is that it cannot be assumed that the explanation given for a type of behaviour is the reason for it. *Post hoc* explanations differ from reasons. In order to be sure that we are dealing with two essentially separate types of behaviour, we should investigate both in the same way, which we cannot do. The evidence used to evaluate motive in the case of suicide differs from that available for the assessment of the living. Suicide is investigated by legal officers using a combination of evidence, direct and circumstantial, left by the deceased. Those interviewed are all aware that death has occurred. What they remember, and how they interpret their recollections, will be affected by their knowledge that death has occurred. The attempted suicide gives his own story. It is not possible to interview the dead, nor is it responsible or ethical to investigate the living as if they were dead. To do this, questions would have to be asked of those close to the parasuicide about his state of mind and actions, without disclosing the fact that the patient is alive.

Many of the discussions on taxonomy have neglected these facts, and theories have been founded on the assumption that both types of evidence represent the truth. It cannot be said that either or neither are the truth; they represent different truths that are not comparable. It is possible there is a true continuum between suicide and failed suicide. There may be differences between individuals who plan their own self-destruction and those for whom the act is impulsive. Clearly, the more thought given to the act, the greater the security of outcome.

Earlier, I gave the example of the quadriplegic, who because of his disability, has little control over whether he lives or dies. Consider now the antithesis

of this situation: are the high rates of suicide among doctors caused by the stress of the job, or by accessibility of the most common method used by them – drugs? Are the high rates of suicide among people who live in tower blocks due to the depressing environment, or because people who live at ground level cannot kill themselves by jumping out of windows? Are the high rates of suicide in the USA caused by the miserable life style or because the possession of a handgun is a basic human 'right'? Are the high number of overdoses among teenagers due to the fact that we insist on treating adolescents for their adolescence, or because adolescence is now a more painful process than it was a generation ago? The epidemiological data will fit either hypothesis in each example.

It is essential to maintain a more open mind in the investigation of suicide and parasuicide than has been apparent in the past if we are to make progress. There is no doubt that, in common with many other phenomena, there are a large number of causes, but fundamentally there has to be the right combination of circumstances and state of mind for a fatality to occur. Chance may not produce all at the same time; the fact that it does not, does not mean that we should continue to work on a dichotomous model. It is worth recalling the account that Jerry Lewis gave of himself after a suicide attempt; he put the muzzle of the revolver into his mouth and was feeling for the trigger when "Thank God I heard my children laughing and running through the hall. That snapped me out of it. The suicide impulse lasted only a moment – but that's all it takes". One wonders how many American parasuicides there are in heaven and how many failed suicides there are in England.

References

ALVAREZ, A. (1971) *The Savage God: A Study of Suicide*. Harmondsworth: Penguin.

BAECHLER, J. (1980) *Suicides*. Oxford: Basil Blackwell.

BRUGHA, T. & WALSH, D. (1978) Suicide past and present – The temporal constancy of under-reporting. *British Journal of Psychiatry*, **132**, 177–179.

CARSTAIRS, G. M. (1960) Discussion on suicide. *Proceedings of the Royal Society of Medicine Meeting, November 1960*, pp. 262–268.

DURKHEIM, E. (1897) *Le Suicide*. Paris. Translated (1952) as *Suicide: A Study in Sociology*, by J. A. Spaulding & G. Simpson. London: Routledge and Kegan Paul.

KREITMAN, N., PHILIP, A. E., GREER, S. & BAGLEY, C. R. (1969) Parasuicide. *British Journal of Psychiatry* (letter), **115**, 746–747.

PATEL, N. S. (1973) Pathology of suicide. *Medicine, Science, and the Law*, **13**, 103–109.

STENGEL, E., COOK, N. G. & KREFGER, I. S. (1958) Patterns of death among suicide attempters, a psychiatric population and a general population. *Archives of General Psychiatry*, **34**, 1155.

R. D. T. Farmer, PhD, MB, BS, MFCM, MRCGP, *Professor and Head of Department of Community Medicine, Charing Cross and Westminster Medical School, 17 Horseferry Road, London SW1P 2AR*