

Suicidal behaviour in children and adolescents

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It is common practice to call non-fatal self-inflicted intended harm by ingestion or otherwise 'attempted suicide' or parasuicide; self-inflicted death is termed 'completed suicide', even if the attempt or perceived wish to die is weak.

The last two decades have seen increases in rates of suicide and death in older children and teenage youths. Only a minority of parasuicides intend their action to be lethal. Nevertheless, by 1980 suicide ranked second as the cause of death in adolescents and young adults in the USA (Center for Disease Control 1986). As in adults, older teenagers who commit suicide are more commonly male, suffer from a significant psychiatric disorder and use more dangerous methods. By comparison, younger teenagers who attempt suicide use methods that are more likely to give rise to discovery. The way in which these groups with suicidal behaviour differ and overlap bears a close resemblance to patterns in adult suicide and parasuicide.

In this chapter, we document these patterns and review advances in our knowledge of epidemiology, psychiatric morbidity, diagnosis and classification, motivation and other information about origins, nature, outcome, prevention and intervention in relation to suicidal behaviour. Whereas there is extensive information about parasuicide, it is more difficult to obtain detailed information about suicide. This is because in the latter we are heavily reliant on psychological autopsies, most of which consist of uncontrolled studies, and most of these are based on samples of small size (Shaffer 1974). Until recently there have been few controlled studies (Shafii et al 1985, Brent et al 1988) and even these studies are limited by the small size of their samples. A careful and systematic study by Hoberman & Garfinkel (1988) is less constrained by small sample size—they review over 200 suicides—but again, there are no controls. The only continuing large-scale controlled study is that in New York by Shaffer and colleagues (1988).

EPIDEMIOLOGY

Although few children before the teenage years commit suicide (Shaffer et al 1988), US figures provide evidence of a threefold increase in suicide of older teenagers, from 2.7 per 100 000 in the 1950s to 9 per 100 000 in the mid

1980s, with a heavy preponderance of males. Does this increase reflect a real phenomenon or is it based on previous legal under-reporting? The explanation is probably multifactorial; the prevailing view in the USA being that the increase largely parallels an increase in melancholia and depression in youths reared after the Second World War (Klerman 1988).

The full extent of parasuicidal behaviour in the teenage years is not clear as, again, an important proportion of parasuicides do not come to the notice of official agencies (Kienhorst et al 1987). Thus, in determining the prevalence of parasuicide, we are heavily dependent on information about referrals to hospitals or other emergency services such as that in Oxford, UK (Hawton & Goldacre 1982). Such centres provide rates for overdoses in younger teenagers of about 1.3% and in older teenagers of 3.4%. However, these community surveys, which include schools, suggest that the above constitutes an underestimate by almost 1% of the true rate (Smith & Crawford 1986). The evidence available in the UK suggests that the rates for parasuicide in adolescents, which showed a dramatic increase in the 1970s, have declined in the 1980s (Platt et al 1988). This pattern of decline has not been reported in US surveys.

Not only do completed suicides tend to be under-reported but the estimation of rates is subject to many errors. Fortunately, these errors are considered to be random (Sainsbury 1986). The issue is further complicated because recently there has been support for the view that those who threaten or think about suicide may be similar to those who act (Ellis 1986). Research data suggest an overlap of characteristics of youths who present with suicidal ideas, threats, attempts and completed suicide, as well as with the wider group of psychiatrically disturbed children in their teenage years. It is therefore often difficult to define those circumstances which precipitate parasuicide or completed suicide (Shafii et al 1985, Pfeiffer 1986). Furthermore, such overlap of features extends into the general population, where, in young adults, 17% of women and 20% of men report some degree of suicidal ideation (Goldney et al 1989). Suicidal ideation is common in students, too, but only a small proportion of these go on to parasuicide or complete suicide (Rudd 1989).

Klerman (1988) when writing about the current youthful age of melancholia among adolescents (and young adults) suggests that temporal trends or changes can be divided into three types—age, period and cohort effects (Susser et al 1985).

Age effects are influenced by the age distribution of the general population. Thus, while there might be an absolute increase of suicide amongst the 'baby-boomers' born in the post Second World War era, we have to ask if there has been a change in the age-specific incidence.

Period effects refer to changes in rates during a specified time period and in popular parlance may be described as 'epidemics' (Klerman 1986). For our purposes we are looking not so much for infectious agents as for psychological or social precipitants, such as unemployment.

Cohort effects refer to temporal experience which is sustained within the cohort, such as the 'baby-boomers' with increased rates of suicide as they entered adolescence (Offer et al 1984). In his review, Klerman (1986) concludes that not only is there an overall increase in youthful depression, but as there is an earlier age of onset, some form of period or cohort effect must be postulated. These arguments apply equally to suicide. An analysis by Lavori et al (1987) of siblings of probands under the age of 50 reports a period effect that is greater for younger and less for older cohorts.

Age and sex factors

Suicide in the prepubertal population is uncommon, with the main increase in suicide rate being in the older teenage group (Shaffer & Fisher 1981). Shaffer & Fisher suggest that psychological immaturity, reflected in poorer planning, may protect children from successful suicide attempts. However, suicidal thoughts and parasuicidal behaviour do occur in children, with the former being more common than the latter (Garfinkel et al 1982).

In adolescence suicide is commoner among boys than girls and this pattern is consistent in western cultures. For instance, in the UK male suicides outnumber female suicides by about three to one; since 1981 the rate of completed suicides in Australian adolescent boys has doubled (Koski 1987). Further, there are reported increases in male suicide rates separately in Scotland, England and Wales up to the early 1980s, with a simultaneous decrease in completed female suicides (McClure 1987). Similarly, the increase in young male suicides in the USA is dramatic (Rosenberg et al 1987) with the rate increasing by a factor of three for boys aged 15-19 years during the period from 1950 to 1980.

The above-mentioned male:female ratio is heavily reversed in parasuicide (Garfinkel et al 1982). Shaffer & Fisher (1981) have suggested that these higher female:male ratios may in part represent a greater willingness by females to signal their distress and need for help, but the true explanations are likely to be more complex.

Method

Completed suicides tend to use more violent methods than parasuicides. A substantial increase in adolescent male suicide in the UK is due to hanging, strangulation, suffocation, or carbon monoxide poisoning, but fewer by firearms and explosives (McClure 1987). In the USA, however, firearms are now the most common means of suicide for both sexes in their teenage years. Hoberman & Garfinkel (1988) report that hanging is more frequent in younger teenagers and the use of firearms more frequent in older teenagers. Furthermore, the use of handguns is over-represented in completed suicides when compared with recourse to shotguns and rifles.

The importance of the availability of a particular means is also reflected in the low rates for carbon monoxide poisoning in those states in the USA where

the level of car ownership is low (Huusko & Hirvonen 1989). However, in children and adolescents, carbon monoxide poisoning is used by one in five females, and is infrequently used under the age of 14 years.

Self-immolation is a rare cause of completed suicide in western cultures, and is associated with previous attempts and pre-existing psychiatric illness (Hammond et al 1988).

In the UK an important factor in completed suicide in young people is substance abuse, with over 50% of youth suicides having this as an additional diagnosis. The relationship between the diagnosis of substance abuse and those one in four youths who had another principal diagnosis such as depression is obscure (Fowler et al 1986). The increase in substance abuse may also be a major factor in the increase in suicide rates (Rich et al 1986).

In the study by Hoberman & Garfinkel (1988) most decedents committed suicide at home and one-half left a note. Impulsivity appeared commonplace, although a few of the subjects in major studies are reported to have had long periods of brooding before the suicide (Hoberman & Garfinkel 1988).

For parasuicides, overdoses prove to be the common method (Garfinkel et al 1982) with availability often determining the substance employed. The notion that the restriction of certain toxic substances from general use may favourably influence the suicide rate is supported by the finding of a reduction in carbon monoxide poisoning following detoxification of domestic gas (Kreitman 1976) and by the relationship between prescribing habits and attempted suicides (Forster & Frost 1985).

Alcoholism, especially in male teenagers, increases the risk of parasuicide and substantially of repeated parasuicide. Often, there is account of an increase in drinking before the event. These young alcoholics commonly report an onset of alcohol problems before their 20th birthday. Additionally, they are beset by a range of psychosocial and family problems, especially paternal alcoholism. Young alcoholics have three times the rate of depression compared with their peers in the general population and are four times as likely to be parasuicidal (Hawton et al 1989).

THE CAUSES OF SUICIDE

Modern research supports the notion that psychiatric and psychological disorders are important causes of suicide in younger and older teenagers. Psychological and psychiatric co-morbidity have been widely reported in teenage suicides and parasuicides, though rates vary from study to study. A number of patterns have emerged. First, in suicides, retrospective evidence suggests that between one-half (Hoberman & Garfinkel 1988) and two-thirds have an affective disorder (Shafii et al 1989), which occasionally is of a bipolar nature (Brent et al 1988). In those studies that focus on younger cohorts, anger in one or other form is reported in one in five of younger suicides (Shaffer 1974, Hoberman & Garfinkel 1988).

Reports from the USA point to a triad of features being related to suicidal

and parasuicidal behaviour (Shaffer 1974, Garfinkel et al 1982, Shafiq et al 1985): first, depressive symptoms, occurring especially in older girls (Hoberman & Garfinkel 1988); secondly, substance abuse (alcohol and drugs), which may impair judgement and decrease personal control, and thirdly, conduct disorders, particularly in younger boys (Hoberman & Garfinkel 1988). However, the links are closer with teenage suicides than with parasuicides. In hospital studies, young male schizophrenics who have experienced multiple admissions to hospital are at particular risk of suicide (Roy 1986). Finally, specific clinical studies of victims of child sexual abuse are now reporting high rates of parasuicide (Rimsza et al 1988).

In addition to the above major disorders, indices of poor general psychological adaptation and other problems are common concomitants of both suicide and parasuicide. Three qualities have been identified. First, a sense of hopelessness is frequently present, either as part of an affective disorder or on its own; it may even be predictive of the lethality of the act (Pfeiffer 1986). Secondly, impulsivity is a common characteristic of parasuicidal acts, and thirdly, poor socialization skills are often noted (Brent et al 1986). In addition, learning disorders are commonly reported amongst teenage suicides (Brent et al 1988, Shaffer et al 1988).

The twin themes of depression and a sense of hopelessness merit special comment. Depression is now diagnosed more readily and at an earlier age (Angold 1988, Kolvin et al 1991). In addition, depression and hopelessness frequently coexist in children and teenagers with suicidal behaviour. This gives rise to the question whether suicidal behaviour is facilitated directly by depression or indirectly through the sense of hopelessness—recent research has shown that depression remains related to suicidal behaviour in adolescents, even after hopelessness has been statistically allowed for (Cole 1989). Furthermore, depressives with a history of suicidal behaviour are at high risk for parasuicide or completed suicide should further depressions occur (Clark et al 1989). Suicidal behaviour in teenagers must be seen as having some links with depression.

Klerman (1988) argues for a genetic factor contributing to liability to depression which he sees as interacting with environmental factors. He goes on to speculate about two major changes in environmental factors—biological factors and psychosocial risk factors. Examples of biological factors are changes in nutrition and the contribution of viruses. Examples of psychosocial factors are demographic shifts, including the baby boom, increasing urbanization and greater geographic mobility of families with the consequent reduction of attachments, and female unemployment. Similar trends have been demonstrated in cohorts after the Second World War in several studies in different countries, as exemplified by Goldney & Katzikitis (1983) in Australia and Klerman (1986) in the USA.

Finally, so far clinicians have not paid sufficient attention to more deep-seated psychological and intrapsychic explanatory factors. Systematic exploration of these may provide a greater depth of understanding of their

complexity and also guides to treatment of specific subgroups. Thus, a weaker ego has been emphasized; Ward et al (1987) emphasize the attribution of problems and Azarnow et al (1987) highlight the importance of coping strategies.

CLASSIFICATION

There have been various attempts to achieve a more sophisticated classification or subclassification of suicidal behaviour. So far, little more has been achieved than providing a descriptive account of the most common presenting symptoms. Perhaps the most that can be achieved by such methods is the better definition of co-morbidity in relation to methods used, and age and sex of the children.

The main subdivision in the literature lies between suicidal and parasuicidal behaviour. Are these distinct entities or do they represent merely a difference of degree of serious motivation and lethality or a continuum from ideation to completion? As already indicated, adolescent parasuicides are mainly girls. However, it is in the area of motivation, intent and psychiatric disorder that the differences are obvious (Goldacre & Hawton 1985, Brent et al 1988). The suicides show a powerful wish to die, high intent, more in the way of complex affective disorders (not always recognized) and more frequently a family history of suicide and affective disorder. Although the differences are few, they suggest an important relationship with affective disorder, and less in the way of impulsive gestures aimed at influencing their personal environment or attention-seeking phenomena, retreat from stressful situations, etc. On balance, while there is some overlap, the evidence suggests that suicide may well be impregnated with heavy loadings of depressive disorder in the family, which is sometimes unrecognized.

ENVIRONMENTAL, SOCIAL AND FAMILY FACTORS

These are discussed under the four headings of precipitating factors, other family factors, social contagion and perinatal complications.

Precipitating factors

Compared with the general population or medical controls, the precipitants of suicidal behaviour are often recent stressful life problems. These are diverse, and include social relational crises, confrontation with parents, conflict with the law, experiences of abuse or assault in girls and, in particular, loss of a parent (Shaffer 1974, Garfinkel et al 1982, Shafiq et al 1985, Koski 1987, Brent et al 1988). Many of these events, especially in suicides, have a brief 'stress-suicide interval' (Shaffer et al 1988). They are not stresses that are specific to suicide, but rather heighten the risk in those youths presenting with serious psychiatric conditions (Hoberman & Garfinkel 1988). Some consider the impact of the stressor may be more important than the stress itself.

Other family factors

Suicidal behaviour often occurs against a background of family disturbance and other social pathology compared with controls; such factors include family breakdown (Shaffer 1974), disturbed relationships and family conflict (Azarnow et al 1987, Kreitman 1988), family violence and abuse (Cohen-Sandler et al 1982, Koski 1987). High rates of serious psychiatric disorder are also reported in the families of those teenagers with suicidal behaviour: such disorders include affective disorders, antisocial disorder and suicidal behaviour (Shaffer 1974, Shafii et al 1985, Brent et al 1988).

Social contagion

Kreitman et al (1970) have hypothesized that, in adults, a form of social contagion may be operative whereby someone is more likely to harm him- or herself if exposed to someone who has done so. A crucial issue in the social contagion hypothesis is the influence of the media. In the USA there are two sources of support for this hypothesis. First, a number of workers in the USA (Wasserman 1984, Gould & Shaffer 1986, Phillips & Carstensen 1986) have shown that prominence of suicide in the media over a 1-2-week period is followed by an increase in suicidal behaviour, mainly amongst young people (Shaffer et al 1988); they argue that this is an imitative phenomenon (Wasserman 1984). Second, Harkavay-Friedman et al (1987) showed that high-school students with suicidal behaviour are more commonly aware of someone who has shown suicidal behaviour. Although there is not consistent support in recent surveys for the social contagion hypothesis (Kessler et al 1989), and especially not so for the mid 1980 period, on balance the evidence cannot be ignored. Perhaps teenagers are more vulnerable and impressionable than adults in the face of media influences.

Perinatal complications

It is notable that excesses of perinatal complications have been reported in adolescent suicides (Salk et al 1985), but the links or pathways are not clear. There has been speculation mostly about poorer postnatal care and poorer parenting by index mothers.

SUICIDAL RISK

This important theme has been less well explored in teenagers than in adults (Morgan et al 1990). However, it is possible to obtain a fair indication of the pattern of risk factors as re-attempts of suicidal behaviour run at up to 15% per year according to the series under investigation (Cohen-Sandler et al 1982, Goldacre & Hawton 1985). Some studies have focused more specifically on risk factors (Pfeiffer 1986, Brent et al 1988). So far the patterns that emerged have proved poorly consistent with those reported in adulthood, but

it may well be that these have not yet been adequately explored; it would be wise for clinicians to draw up lists of indicators described in adulthood following deliberate self-harm, and to address these in assessment of risk (Morgan et al 1990). It is likely that, in due course, knowledge about risk factors will expand.

The indicators of a high risk for parasuicide or suicide among teenagers following deliberate self-harm are as follows: first, serious psychiatric disorder such as depression, especially bipolar disorders, and previous hospitalization for schizophrenic disorders (Weiner et al 1979); the second is high suicidal intent (Brent et al 1988). The third consists of previous attempts at deliberate self-harm: for instance, in suicide it has been reported that the rate is 10–20% in those studies based on coroner reports (Thompson 1987, Hoberman & Garfinkel 1988) and rises to 40–50% when based on evidence from psychological autopsies (Shaffer 1974, Shafii et al 1985). The fourth indicator consists of lack of co-operation or poor compliance with treatment. The fifth indicator is when there are new or an increased number of consultations with a general practitioner after previous episodes of self-harm. Sixth is the advent of new significant life events, particularly loss (Kerfoot 1988). The seventh indicator refers to parasuicide almost exclusively and consists of a series of indices of poor psychological adaptations, the most important of which is a sense of hopelessness—most agree that it is a powerful predictor and a scale has been devised to measure this in teenagers (Kasdin et al 1983). Other psychological indices include poor social relationships, evidence of hostility or aggression and academic problems. Hoberman & Garfinkel (1988) emphasize the heterogeneity of these factors but commonly recurring themes are withdrawal and supersensitivity. The importance of these factors or combinations of them are likely to differ from one teenager to another; they are complex and varied, and need to be given due weight by the examining clinician.

PREVENTION

Shaffer and colleagues (1988) have reviewed those risk factors for suicide in teenagers to which prevention measures could be addressed. A major primary prevention thrust in the USA has been the development of general school-based programmes, aimed at heightening awareness of the problems, with the hope that school staff and peers will be able to have access to those teenagers at risk. These approaches are complemented by programmes to improve the teenager's coping abilities. However, as Shaffer et al point out, predicting which teenagers in the general population may commit suicide is likely to be a costly and inefficient exercise, as it consists of the prediction of rare events from common ones (Eisenberg 1990). Nevertheless, such arguments have less force when focusing on populations at high risk, such as those teenagers who have previously been the subject of deliberate self-harm. In these circumstances, in theory at least, secondary prevention/intervention programmes, analogous with those which have been utilized in relation to

maladjusted children in ordinary schools (Kolvin et al 1985), are likely to prove less expensive and more efficacious. Unfortunately, the available evidence suggests that these crisis services have limited impact, for three main reasons (Shaffer et al 1988): first, there is a low utilization rate in the suicide-prone population; secondly, there are serious questions about the quality of the advice that is offered, and thirdly, even where crisis advice is offered, the compliance is poor.

INTERVENTION AND MANAGEMENT

Management of those who contemplate suicide is important because a number will go on to attempt and some even to complete suicide. The evaluation of other risk factors should be undertaken by a professional who is not only aware of the social factors and the nature of the individual psychosocial crisis but is also able fully to evaluate the mental status of the child or adolescent (Hoberman & Garfinkel 1988). The increased awareness of depression in children and its differing presentation from adult-type depressive illness may enable a particularly high-risk but potentially treatable group to be identified. We cannot stress sufficiently the importance of a rapid comprehensive evaluation. A range of therapies, often multimodal, has been advocated including no-suicide contracts, cognitive approaches, brief counselling geared to problem-solving, family approaches and relevant pharmacological treatment.

Unfortunately, treatment programmes for teenage parasuicides have seldom been evaluated, hence, one is heavily reliant on adult experience. Irrespective of what is offered, the compliance tends to be poor, as most of the suicide attempters seen in emergency departments in hospitals and offered subsequent psychiatric appointments do not return (Wrate & Kolvin 1978, Clark 1989). This is likely to limit the effects of good management (Shaffer et al 1988). Such reservations apply equally to the psychodynamic, cognitive-behavioural (Trautman & Shaffer 1989) and pharmacological approaches that have been advocated for teenage parasuicides. These approaches need to be evaluated systematically in controlled trials. So far, little empirical evidence is available as to the efficacy of each of these, and thus there are few guides for clinicians (Brent & Kolko 1990). Until such evidence is available, clinicians will have to practise psychotherapy and other forms of treatment, guided presumably by their own positive experiences when treating other disturbed teenagers.

KEY POINTS FOR CLINICAL PRACTICE

The main relevant areas of clinical practice with regard to suicide concern the education of colleagues, assessment and subsequent management.

As suicide is now an important cause of death in the adolescent and young

adult population, colleagues practising in primary and secondary care need continuing education about risk factors and assessment. They also need to be alerted to two major forms of co-morbidity for completed suicide: there are marked associations, first, with misuse of alcohol and drugs and second, with major affective and functional disorders. Such factors may not become apparent until a close relative or partner of the patient is interviewed. Questions may arise as to confidentiality, but eliciting a history of risk factors must be viewed as different from divulging confidential information.

With regard to management, first reducing availability and access to violent methods is of crucial importance, especially in the high-risk period following an attempt. Allied to this is alertness to the potential toxicity of prescribed drugs. Second, the co-operation of relatives, partners and other carers is of great importance in successful after-care.

The cumulative risk for repeated attempts remains high and thus, of fundamental concern is the high rate of retreat of the subject from co-operation after a parasuicidal episode.

Finally, current evidence suggests that suicidal behaviour constitutes a continuum from suicidal ideation to completed suicide. This may be complicated by personality problems which may impair the ability to form stable relationships and hamper the achievement of a therapeutic alliance.

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REFERENCES

- Angold A 1988 Childhood and adolescent depression II: research in clinical populations. *Br J Psychiatry* 153:476-492
- Azarnow JR, Carlson GA, Guthrie D 1987 Coping strategies, self perceptions, hopelessness and perceived family environments in depressed and suicidal children. *J Contemp Clin Psychol* 55:361-366
- Brent DA, Kolko DJ 1990 Suicide and suicidal behaviour in children and adolescents. In: Garfinkel BD, Carlson AG, Weller EB (eds) *Psychiatric disorders in children and adolescents*. WB Saunders, Philadelphia
- Brent DA, Kalas R, Edelbrock C 1986 Psychopathology and its relation to suicidal ideation in childhood and adolescents. *J Am Acad Child Psychiatry* 25:606-673
- Brent DA, Perper JA, Goldstein CE et al 1988 Risk factors for adolescent suicide. A comparison of adolescent suicide victims with suicidal inpatients. *Arch Gen Psychiatry* 45:581-588
- Center for Disease Control 1986 Youth suicide in the US, 1970-1980. Department of Health and Human Services
- Clark DC, Gibbons RD, Fawcett J, Scheffner WA 1989 What is the mechanism by which suicide attempts predispose to later suicide attempts? A mathematical model. *Abnorm Psychol* 98:42-49



- Clark CF 1989 Deliberate self poisoning in adolescents. *Arch Dis Child* 63:1479-1483
- Cohen-Sandler R, Berman AL, King RA 1982 Life stress and symptomatology. Determinants of suicidal behaviour in children. *J Am Acad Child Psychiatry* 21:178-186
- Cole DA 1989 Psychopathology of adolescent suicide: hopelessness, coping beliefs and depression. *Abnorm Psychol* 98:248-255
- Eisenberg L 1990 Public policy: risk factor or remedy? In: Shaffer D, Phillips I, Enzer N (eds) *Risk factors and the prevention of child psychiatric disorders*. ADAMHA, Washington DC
- Ellis TE 1986 Toward a cognitive therapy for suicidal individuals. *Prof Psychol Pract* 17:123-130
- Forster DP, Frost CEB 1985 Medicinal self poisoning and prescription frequency. *Acta Psychiatr Scand* 71: 567-574
- Fowler RC, Rich CL, Young D 1986 San Diego suicide study II. Substance abuse in young cases. *Arch Gen Psychiatry* 43:962-965
- Garfinkel B, Froese A, Hood J 1982 Suicide attempts in children and adolescents. *Am J Psychiatry* 139:1257-1261
- Goldacre M, Hawton K 1985 Repetition of self-poisoning and subsequent death in adolescents who take overdoses. *Br J Psychiatry* 146:395-398
- Goldney RD, Katzikitis M 1983 Cohort analysis of suicide rates in Australia. *Arch Gen Psychiatry* 40:71-74
- Goldney RD, Winefield AH, Tiggemann M, Winefield HR, Smith S 1989 Suicidal ideation in a young adult population. *Acta Psychiatr Scand* 79:481-489
- Gould MS, Shaffer D 1986 The impact of suicide in television movies. Evidence of imitation. *N Engl J Med* 315:690-694
- Hammond JS, Ward CG, Pereira E 1988 Self inflicted burns. *J Burns Care Rehabil* 9:178-179
- Harkavay-Friedman JM, Asnis GM, Boeck M, Di Fiore J 1987 Prevalence of specific suicidal behaviours in a high school sample. *Am J Psychiatry* 144:1203-1206
- Hawton K, Goldacre M 1982 Hospital admissions for adverse effects of medicinal agents (mainly self-poisoning) among adolescents in the Oxford region. *Br J Psychiatry* 141:106-117
- Hawton K, Fagg J, McKeown SP 1989 Alcoholism, alcohol and attempted suicide. *Alcohol* 24:3-9
- Hoberman HM, Garfinkel BD 1988 Completed suicide in youth. *Can J Psychiatry* 33:494-504
- Huusko R, Hirvonen J 1989 The problem of determining the manner of death as suicide or accident in borderline cases. *Z Rechtsmed* 100:207-213
- Kasdin AE, French N, Unis A, Esveldt-Dawson K, Shevich R 1983 Hopelessness and depression and suicidal intent among psychiatrically disturbed in-patient children. *J Cons Clin Psychol* 51:504-510
- Kerfoot M 1988 Deliberate self poisoning in childhood and early adolescence. *J Child Psychol Psychiatry* 29:335-343
- Kessler RC, Downey G, Stipp H, Milavsky JR 1989 Network television news stories about suicide and short term changes in total US suicides. *J Nerv Ment Dis* 177:551-555
- Kienhorst CWM, Wolters WHG, Diekstra RFW, Otte E 1987 A study of the frequency of suicidal behaviour in children aged 5 to 14. *J Child Psychol Psychiatry* 28:153-165
- Klerman GL 1986 Evidence for increases in rates of depression in North America and Western Europe in recent decades. In: Hippius H, Klerman GL, Mattusek N (eds) *New results in depression research*. Springer, New York
- Klerman GL 1988 The current age of youthful melancholia: evidence for increase in depression among adolescents and young adults. *Br J Psychiatry* 152:4-14
- Kolvin I, Garside AF, Nichol AR et al 1985 *Help starts here. The maladjusted child in the ordinary school*. Tavistock, London
- Kolvin I, Barrett L, Bhate SR, Berney TP, Famiyuwa OO, Fundudis T, Tyrer S 1991 *The*

- Newcastle child depression project; diagnosis and classification. *Br J Psychiatry* (in press)
- Koski R 1987 Is suicidal behaviour increasing among suicidal youth? *Med J Aust* 147:164-166
- Kreitman N 1976 The coal gas story. United Kingdom suicide rates 1960-1971. *Br J Prev Soc Med* 30:86-93
- Kreitman N 1988 Suicide, age and marital status. *Psychol Med* 18:121-128
- Kreitman N, Smith D, Eng-Seong T 1970 Attempted suicide as a language: an empirical study. *Br J Psychiatry* 116:465-473
- Lavori P, Klerman GL, Keller M et al 1987 Age period cohort analyses of secular trends in onset of major depression: findings in siblings of patients with major affective disorder. *J Psychiatr Res* 21:23-35
- McClure GM 1987 Suicide in England and Wales 1975-1984. *Br J Psychiatry* 150:309-314
- Morgan HG, Vassilas CA, Owen JH 1990 Managing suicide risk in the general world. *Br J Hosp Med* 44:56-59
- Offer D, Ostrov E, Howard KI 1984 Epidemiology of mental health illness among adolescents. In: Call J (ed) *Significant advances in child psychiatry*. Basic Books, New York
- Pfeiffer CR 1986 The suicidal child. Guilford Press, New York
- Phillips DP, Carstensen LL 1986 Clustering of teenage suicides after television news stories about suicide. *N Engl J Med* 315:685-689
- Platt S, Hawton K, Kreitman N, Fagg J, Foster J 1988 Recent clinical and epidemiological trends in parasuicide in Edinburgh and Oxford: a tale of two cities. *Psychol Med* 18:405-418
- Rich CL, Young D, Fowler RC 1986 San Diego suicide study I: young vs. old subjects. *Arch Gen Psychiatry* 43:577-582
- Rimsza ME, Berg RA, Locke C 1988 Sexual abuse, somatic and emotional reactions. *Child Abuse Neglect* 12:201-208
- Rosenberg ML, Smith JC, Davidson LE, Conn JM 1987 The emergence of youth suicide: an epidemiological analysis and public health perspective. *Annu Rev Public Health* 8:417-440
- Roy A 1986 Suicide in schizophrenia. In: Roy A (ed) *Suicide*. Williams & Wilkins, Baltimore, pp 97-112
- Rudd HD 1989 The prevalence of suicidal ideation among college students. *Suicide Life Threat Behav* 19:173-183
- Sainsbury P 1986 The epidemiology of suicide. In: Roy A (ed) *Suicide*. Williams & Wilkins, Baltimore, pp 17-40
- Saik L, Lipsitt LP, Sturmer WQ, Reilly BM, Levat RH 1985 Relationship of maternal and perinatal conditions to eventual adolescent suicide. *Lancet* ii:624-627
- Shaffer D 1974 Suicide in childhood and early adolescence. *J Child Psychol Psychiatry* 15:275-291
- Shaffer D, Fisher P 1981 The epidemiology of suicide in children and adolescents. *J Am Acad Child Psychiatry* 20:545-565
- Shaffer D, Garland A, Gould M, Fisher P, Trautman P 1988 Preventing teenage suicide: a critical review. *Am Acad Child Adol Psychiatry* 27:675-687
- Shafiq M, Carrigan S, Whittinghill JR, Derrick A 1985 Psychological autopsy of completed suicide in children and adolescents. *Am J Psychiatry* 142:1061-1064
- Shafiq M, Steltz-Lenarsky J, Derrick AM, Beckner C, Whittinghill JR 1988 Comorbidity of mental disorders in the post-mortem diagnoses of completed suicide in children and adolescents. *J Affective Disord* 15:227-233
- Smith K, Crawford S 1986 Suicidal behaviour among 'normal' high school students. *Suicide Life Threat Behav* 6:313-325
- Susser M, Watson W, Hopper K 1985 *Sociology in medicine*. Oxford University Press, New York
- Thompson TR 1987 Childhood and adolescent suicide in Manitoba: a demographic study. *Can J Psychiatry* 32:264-269

- Trautman PD, Shaffer D 1989 Paediatric management of suicidal behaviour. *Paediatr Ann* 18:134-138
- Ward LG, Friedlander ML, Silverman WK 1987 Children's depressive symptoms: negative self-statements and causal attributions for success and failure. *Cogn Ther Res* 11:215-227
- Wasserman IM 1984 Imitation of suicide. *Am Sociol Rev* 49:427-436
- Weiner A, Weiner Z, Fishman R 1979 Psychiatric in-patients: 8 to 10 year follow up. *Arch Gen Psychiatry* 36:689-700
- Wrate RM, Kolvin I 1978 A child psychiatry consultation service to paediatricians. *Dev Med Child Neurol* 20:347-356