

## Panic and Suicidal Behaviour *Risk of self-harm in patients who complain of panic*

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Several outcome studies of neurosis have reported mortality to be high (e.g. Sims, 1973) and one cause appears to be suicide (Noyes, 1991). Nevertheless, the report by Weissman *et al* (1989) that a neurotic syndrome, panic disorder, and even panic attacks in the absence of definite disorder, were more closely linked to self-harm than other psychiatric conditions, appears to challenge accepted wisdom. As a result papers have appeared disputing, affirming or explaining the risks associated with panic. The conclusions are of importance to clinical practice.

### Significant studies

Previous estimates of mortality in neurosis were based on various experimental methods. Subject samples of different sizes were drawn from different treatment settings; the term 'neurosis' was not consistently defined; follow-up periods were widely discrepant. Most did not look specifically at patients with panic.

Sims & Prior (1978), for example, studied the mortality in 1482 neurotic patients after a mean period of 10.9 years. Mortality was high and in particular the relative risk of death from self-inflicted causes was 6.8, 1% of the sample having committed suicide. However, an apparently large proportion of patients had been suffering from depressive neurosis and, as all were former in-patients, they represented only the most severe cases of neurosis.

Restricted samples have provided less emphatic results. When patients with depression were excluded from the analysis of mortality carried out as part of the Iowa record linkage study (Black *et al*, 1985*a,b*), the risk of death from unnatural causes (suicide and accident) was still high, although only in men was the increase statistically significant. However, in two studies in which subjects were limited to out-patients with anxiety neurosis, no significant increase in long-term mortality was found (Martin *et al*, 1985; Coryell *et al*, 1986), although sample sizes were small. In a shorter follow-up (two years) using data from the Iowa study in a case control design, neurosis was not found to be a risk factor for suicide (Winokur & Black, 1987).

Patients with panic attacks are likely to have been included in these studies, though only that of Martin *et al* (1985) referred to 'anxiety attacks' in describing its sample. This common omission is largely because initial diagnoses would have been made before panic disorder was regarded as an independent entity. Coryell *et al* (1982), however, applied DSM-III criteria (American Psychiatric Association, 1980) to the case notes of patients previously diagnosed as having anxiety syndromes, to obtain a subject sample suffering from panic disorder on whom long-term follow-up data were available. Both men and women were found to have significantly increased rates of unnatural mortality, most of the increase (six out of seven unnatural deaths) resulting from 'suicide'. Equivalent numbers of suicides and deaths from all causes were found in panic disorder and unipolar affective disorder. More recently, a follow-up study of in-patients with 'pure' anxiety neurosis, including those with panic disorder, found that the rate of suicide was two or three times greater than expected, and that around 30% of all premature deaths were the result of suicide (Allgulander & Lavori, 1991).

### The ECA study

The findings of Weissman *et al* (1989) concerned not suicide itself but suicidal thoughts and non-fatal actions. Using data on a large sample of US adults ( $n = 18\,011$ ) – the population studied in the Epidemiologic Catchment Area (ECA) investigations (Regier *et al*, 1984) – these authors found that of 254 subjects who had at some time in their lives satisfied DSM-III-R criteria for panic disorder (American Psychiatric Association, 1987), 20% also had a history of parasuicide. The odds ratio for attempted suicide in panic disorder compared to other disorders was 2.62. An equivalent increase in suicidal thoughts – described as 'thought a lot about death', 'felt like you wanted to die', and 'felt so low, wanted to commit suicide' – was also found. Similar results were reported for subjects who had experienced panic attacks without meeting panic disorder criteria. In other words, those who had never had a psychiatric illness but who had suffered panic attacks were more likely to have carried out a suicidal action than

those who had a history of other mental disorders, including schizophrenia and major depression (odds ratio 1.67). Risk factors for parasuicide in panic disorder included female gender, substance and alcohol abuse, and early age at onset, but not depression.

A number of methodological criticisms can be levelled at these remarkable findings. Firstly, although the authors deal briefly with the confounding influence of comorbidity, stating that the high rate of parasuicide was not the result of coexisting depression in people with panic disorder, it is not possible to be certain of this. As it was not suggested that parasuicide and panic disorder occurred at the same time, merely that they occurred in the same individuals, it is possible that depression was present when the parasuicide took place but was not detected by the interview method – an assessment of lifetime psychopathology made by lay interviewers. There is evidence that patients with panic disorder recall their first attacks well (Lelliott *et al.*, 1989; Lepine *et al.*, 1991), presumably because of their abrupt, intense onset; comparable recall may not be true of depression.

If correct, such criticism goes to the heart of the ECA study design. Furthermore, because the nosological status of panic disorder remains in doubt outside the United States – ICD-10 (World Health Organization, 1992) states that panic disorder should not be diagnosed in the presence of phobias or depression – many of the individuals with panic attacks or disorder could be assumed to be suffering from an undetected primary condition; the results might then be seen as consistent with those of a prospective cohort study by Fawcett *et al.* (1990) in which panic was found to be a short-term risk factor for completed suicide among patients with affective disorder.

A second criticism is that questions about thoughts of death, when asked by lay interviewers, may have detected the catastrophic cognitions of panic attacks rather than actual suicidal thoughts.

Thirdly, it seems inherently unlikely that suicidal behaviour would be more common in those with panic attacks that were not severe enough to be regarded as a clinical disorder rather than in major depression where it is one of the diagnostic criteria.

#### The comorbidity factor

Subsequent reports have addressed the problem of comorbidity using data from six distinct study samples drawn from in-patient, specialist out-patient and community populations in Sweden, France and the USA. The estimated rate of parasuicide in uncomplicated panic disorder has varied from 0%

(Beck *et al.*, 1991) to 17% (Lepine *et al.*, 1993). Four studies calculated rates of parasuicide no higher than is usually found in the general population (Allgulander & Lavori, 1991; Beck *et al.*, 1991; Fava *et al.*, 1992; Friedman *et al.*, 1992). A high rate, of 7%, was found in the only sample drawn from the general population and therefore not subject to referral bias (Johnson *et al.*, 1990), although as this was a reanalysis of the ECA data, it must be seen as a refinement rather than a replication of Weissman *et al.*'s (1989) findings. In the same study, the odds ratio for suicide attempts in the presence of uncomplicated panic disorder was significantly high, at 5.4.

High rates of comorbid diagnoses were found: 88% in one clinic specialising in panic (Lepine *et al.*, 1993); 70% in a general population sample (Johnson *et al.*, 1990). In their presence, the rate of suicide attempts rose steeply, by a factor of 3–4 when the additional diagnosis was depression or substance (including alcohol) abuse (Johnson *et al.*, 1990; Lepine *et al.*, 1993), but in neither of these studies did the comorbidity account for the increase in parasuicide that they found. Both, however, confined their calculations on comorbidity to axis I disorders, though Lepine *et al.* (1993) did comment that *all* parasuicides without an axis I disorder showed evidence of an axis II condition (personality disorder) or depressive symptoms. One study looked specifically at the influence of borderline personality disorder, and found that it raised the rate of parasuicide from 2% in uncomplicated panic disorder to 25% (Friedman *et al.*, 1992).

If additional diagnoses such as depression raise the risk of parasuicide in panic, is the converse also true? Here also the results of these methodologically different studies are varied. Johnson *et al.* (1990) found that parasuicide was more common in patients who had ever met criteria for panic disorder than for uncomplicated depression, but a separate study, also using ECA data but in this case to examine short-term rather than lifetime risk, found that panic did not confer additional risk (Anthony & Petronis, 1991). A negative result was also found by Beck *et al.* (1991).

#### Conclusions

What, then, can be deduced from these contradictory findings? Firstly, there is persuasive evidence that the mortality in patients with severe neuroses, including those with panic, is high and that this is partly accounted for by an excess of suicide. Secondly, panic attacks appear to be one of several factors that are linked to an increased short-term

risk of completed suicide in major affective disorder. Thirdly, in the heterogeneous group of all patients with current or previous panic attacks, the risk of parasuicide is high, although most of their risk can be accounted for by associated morbidity in the form of depression, alcohol or substance abuse, and disturbed behaviour such as that described by the axis II disorder of borderline personality. As parasuicides and suicides are overlapping populations, it seems likely that comorbidity will also explain some of the fatal self-harm in severe neurosis.

The arguments for comorbidity, however, should not be taken as dismissing the dangers in patients with recurrent panic attacks. As a group presenting in clinical practice, their rate of self-harm appears to be higher than was once recognised. Until future prospective studies are able to specify the timing and predictors of maximum vulnerability, the risks of their condition must be seen and treated as serious.

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