Effect of death of Diana, Princess of Wales on suicide and deliberate self-harm

KEITH HAWTON, LOUISE HARRISS, LOUIS APPLEBY, EDMUND JUSZCZAK, SUE SIMKIN, ROS McDONNELL, TIM AMOS, KATY KIERNAN and HILARY PARROTT

Background The death of the Princess of Wales in 1997 was followed by widespread public mourning. Such major events may influence suicidal behaviour.

Aims To assess the impact of the Princess's death on suicide and deliberate self-harm (DSH).

Method Analysis, using Poisson regression, of the number of suicides and open verdicts ('suicides') in England and Wales following the Princess's death compared to the 3 months beforehand, and the equivalent periods in 1992–1996. Similar analysis on DSH presentations to a general hospital.

Results Suicides increased during the month following the Princess's funeral (+17.4%). This was particularly marked in females (+33.7%), especially those aged 25–44 years (+45.1%). Suicides did not fall in the week between the death and the funeral. Presentations for DSH increased significantly during the week following the death (+44.3%), especially in females (+65.1%). Examination of case notes suggested that the influence of the death was largely through amplification of personal losses or exacerbation of existing distress.

Conclusions The death of a major public figure can influence rates of suicidal behaviour. For DSH, the impact may be immediate, but for suicide it may be delayed.

Declaration of interest None.

Major events can influence rates of suicidal behaviour, perhaps through their impact on the degree of integration or cohesion within society (Durkheim, 1897). Some suicides are related to grief after bereavement (Bunch, 1972). Media reporting of deaths, especially of celebrities, can also influence suicide rates (Bollen & Phillips, 1982). The death of Diana, Princess of Wales on Sunday 31 August 1997 was arguably the event which has had the widest effect on public emotions in recent years, and which received greatest media coverage. During the week following her death there was a huge communal outpouring of grief, culminating in her funeral on Saturday 6 September. We have investigated the possible impact of the death of the Princess of Wales on suicides in England and Wales and on deliberate self-harm (DSH) in the Oxford area.

METHOD

Suicides

We obtained from the Office for National Statistics daily counts of deaths which were recorded as suicides (ICD–9 codes E950–E959) or undetermined injury deaths (E980–E989, excluding E988.8) (World Health Organization, 1977) between 1 June and 30 November for the years 1992 to 1997. The data were amalgamated into weekly (Sunday to Saturday) counts.

Deliberate self-harm

All cases of deliberate self-poisoning or self-injury presenting to the general hospital in Oxford, identified through the Oxford Monitoring System for Attempted Suicide (Hawton *et al*, 1997), were analysed. These data were similarly amalgamated into weekly counts.

Statistical analysis

Poisson regression was used to estimate the extent of any deviation in mortality and DSH following the death of the Princess, compared with mortality and DSH in the preceding 3 months in 1997. To control for seasonal variation and secular trends, including a recent decline in suicide (Kelly & Bunting, 1998) and an increase in DSH (Hawton *et al*, 1997), any changes were compared with those observed in the equivalent periods in 1992–1996.

RESULTS

Suicides

In the week following the death of the Princess of Wales the number of suicides was not significantly different from that expected, based on the 1992–1996 figures (see Fig. 1(a)). The overall mean weekly number of suicides over the 4 weeks following the funeral exceeded the expected value by 17.4% (95% CI 4.0–32.6, P=0.01). The excess was particularly marked in females (+33.7%; 95% CI 5.0–70.3, P=0.019), with weaker evidence of an excess in males (+12.5%; 95% CI −2.3 to 29.4, P=0.1). Examination of the data for the 4 weeks after the funeral showed an excess in females during the fourth week (+70.6%; 95% CI 15.6–152.0, P=0.007). There was an excess of suicides in females in the Princess's age group (25–44 years) in the month after the funeral (+45.1%; 95% CI −2.5 to 116.1, P=0.067).

The overall increase in the number of suicides in both men and women during the month following the funeral, compared to the number observed during the same period in 1992–1996, was approximately 40.

Deliberate self-harm

During the first week after the Princess's death there was an apparent rise in frequency of DSH (see Fig. 1(b)). The number of episodes of DSH exceeded the expected value by 44.3% (95% CI −3.6 to 116.0, P=0.075). The excess in females was 65.1% (95% CI −1.4 to 176.5, P=0.056), but only 19.6% (95% CI −37.5 to 129.2, P=0.6) in males. During the 4 weeks following the funeral there was no evidence of a major increase in DSH presentations, either overall (+2.0%; 95% CI −19.3 to 29.1, P=0.9) or in females (+10.6%; 95% CI −18.9

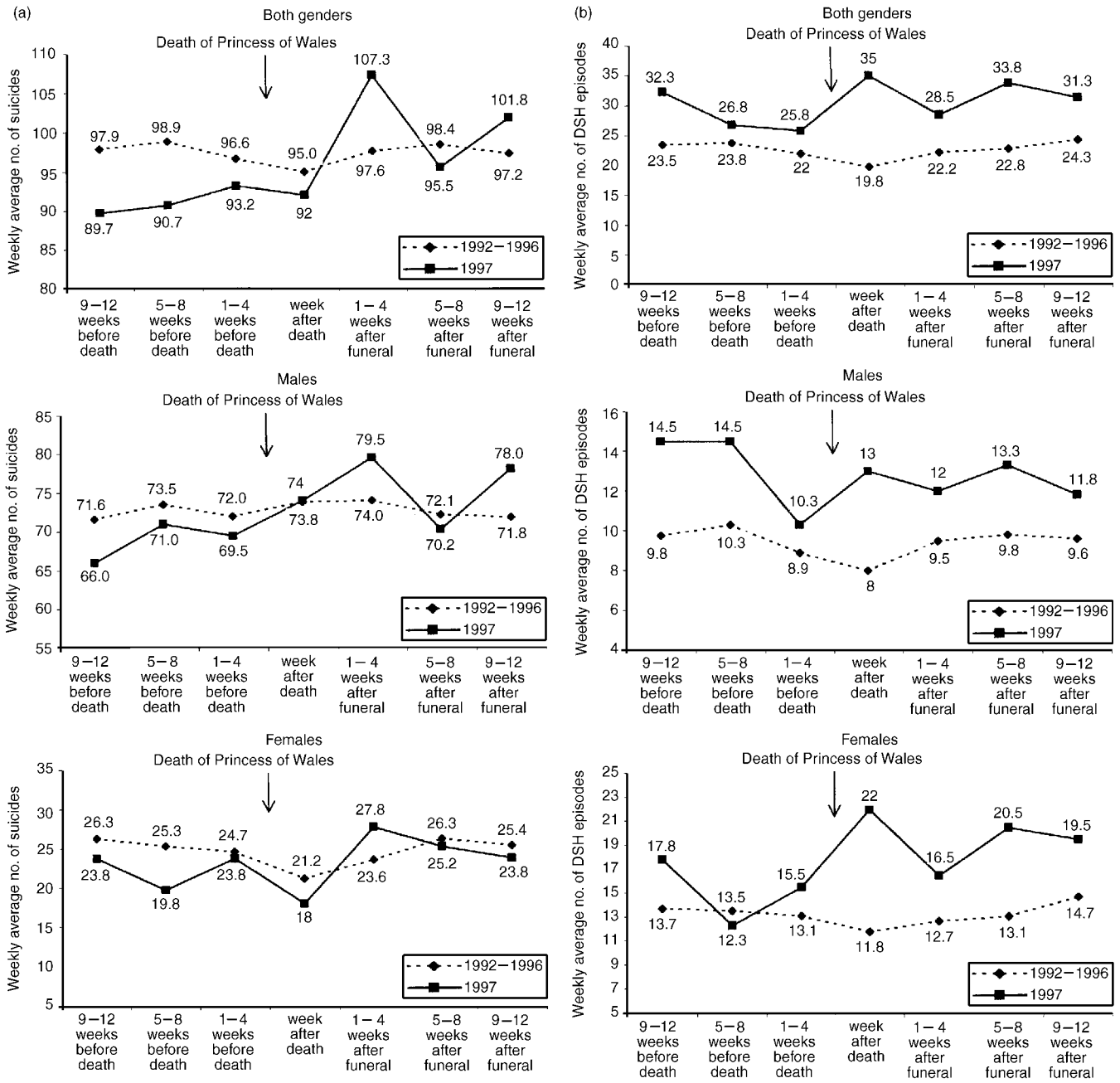

Fig. 1 Mean weekly numbers of suicides and open verdicts in England and Wales (a) and of episodes of deliberate self-harm (DSH) presenting to the general hospital in Oxford (b) in the 3 months before the death of the Princess of Wales, the week following her death, and the 3 months after the funeral; comparison with mean numbers for equivalent periods in 1992–1996. Note: the 1997 values for the week after death are *absolute* numbers of suicides.

to 50.9, P=0.5) and males (−8.2%; 95% CI −35.9 to 31.5, P=0.6), taken separately. However, as found for suicide, there was an excess of episodes in females in the fourth week after the funeral (69.6%; 95% CI −3.8 to 198.9, P=0.068). There were insufficient numbers in specific age groups to conduct an analysis of DSH episodes by age.

Case notes examination in DSH patients

Scrutiny of the case notes for 116 patients who presented to the hospital in Oxford following DSH during the 5 weeks after the death of the Princess, and were assessed by the general hospital psychiatric service, revealed that in nine (7.8%) cases (all involving overdoses) there was mention of Princess Diana's death as contributing to the DSH (Table 1). All but one occurred in the first 9 days after the death. Two-thirds were male. The apparent influence of the Princess's death varied (Table 1), the two most prominent themes being amplification of the impact of other

losses, and general distress about the death in the context of other difficulties.

DISCUSSION

We have found evidence of an increase in the number of suicides in England and Wales and of DSH presentations to one general hospital following the death of the Princess of Wales. The increase in suicides contrasts with the reported reduction in suicides in the USA following the assassination of President Kennedy in 1963 (Biller, 1977).

There was no evidence of a decline in suicides in the week following the death of the Princess, as might be expected from apparently greater social cohesion (Durkheim, 1897). The increase in the number of suicides occurred in the month following the funeral, when depressive disorders may have been amplified or precipitated in vulnerable individuals. In contrast, DSH presentations increased substantially only in the week following the Princess's death. Since many acts of DSH are impulsive, one might have expected the impact to be more immediate, and the review of the DSH case notes supports this.

The increase in both suicide and DSH following the Princess's death was mainly found for females. The suicides occurred particularly in the age range which included the Princess's age (36 years), suggesting a specific modelling effect (Bandura, 1973), in keeping with findings for media influence on suicide (Schmidtke & Schaller, 2000). The increase in the number of suicides and DSH episodes in females in the fourth week after the funeral is difficult to explain. The increase in suicides in the month following the funeral appeared to relate to individuals who were in contact with psychiatric services as well as those who were not, since, according to data from the National Confidential Inquiry into Suicide and Homicide by People with Mental Illness (Appleby *et al*, 1999), there was no change during this period in the proportion of suicides known to mental health services.

CLINICAL IMPLICATIONS

- Loss of key public figures may influence rates of suicide and deliberate self-harm (DSH).
- This study found no reduction in suicidal behaviour as a result of apparent social cohesion.
- The impact on DSH can be fairly immediate, but the nature of the influence may vary; the impact on suicide may be more delayed.

LIMITATIONS

- Although secular and seasonal trends were controlled for in the analyses, it is impossible entirely to rule out chance fluctuations or other influences which might explain the findings.
- The DSH patients whose case notes were examined were not systematically questioned regarding the possible influence of the Princess's death, and there was no information of this kind for the suicides.
- The DSH findings were of borderline statistical significance, and were based on data from just one area and therefore on a relatively small number of cases.

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Table 1 Overdose patients presenting during first 5 weeks following the death of the Princess of Wales and mentioning the death as a contributing factor

Gender	Age group (years)	Previous DSH	Factors contributing to overdose
Male	25–44	No	Upset at Princess's death, against background of losses and mental health problems
Male	15–24	No	Affected by Princess's violent death, against background of recent bereavements and excessive drinking
Male	25–44	No	Stress of trauma involving partner and discovery that key support was preoccupied with the Princess's death
Female	45+	No	Birthday on day of Princess's death, long-standing anxiety, parent with terminal illness
Male	25–44	Yes	Upset by death of Princess; in context of depression, excess alcohol use and mild learning disability
Female	15–24	Yes	Media coverage of Princess's funeral amplified grief for brother who also died in road traffic accident
Female	25–44	Yes	Dissociative episode triggered by funeral of Princess; childhood ? sexual abuse
Male	45+	No	Upset by death of Princess, loss of social roles due to violent death of son, deteriorating physical health
Male	45+	Yes	Sadness over Princess's death, low mood, alcohol abuse

DSH, deliberate self-harm.

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