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# Subsequent Deliberate Self-Harm in Patients Referred to a Psychiatrist: A Prospective Study

E. D. MYERS

Summary: One thousand and five patients referred to a psychiatrist were questioned, during a routine clinical interview, about current and previous suicidal ideas and previous suicide behaviour; they were also specifically asked what made life worth living for them at that time. In a four-year case-record follow-up 102 patients (10.1 per cent) were found subsequently to have attempted deliberately to harm themselves. Such deliberate self-harm (DSH) was significantly associated with female sex, with age below 35, and with evidence of suicidal ideation and/or behaviour at the time of and/or before the initial referral. To the question, "What makes life worth living for you at the present time?" a significant number of subsequent self-harmers had answered 'Nothing' or 'Not much' while a significant number of subsequent non-self-harmers had answered "Spouse and children" or "Family".

The results suggest that the answers to questions about current and previous suicidal ideas and behaviour and perceptions of what makes life worth living may be useful in the prediction of deliberate self-harm.

Deliberate self-harm (DSH) has greatly increased over the past two decades and, in the form of self-poisoning, is estimated to cause about 20 per cent of all acute admissions to hospitals in the United Kingdom (Office of Health Economics, 1981). Apart from its considerable consumption of hospital resources, the high incidence of DSH is of concern in that a significant number of patients who show the behaviour eventually kill themselves (Dorpat and Ripley, 1967; Barraclough *et al*, 1974; Ovenstone, 1973). Those who do not may experience, after single or multiple attempts, adverse physical, psychological or social sequelae.

A prerequisite for reducing the incidence of DSH lies in the identification of those most at risk. Previous work on prediction has centred on patients who have already made at least one attempt, and scales predicting repetition have been evolved (Buglass and Horton, 1974; Siani *et al*, 1979). Such studies have concentrated on diagnostic, demographic and social factors and on previous psychiatric history; their design has not permitted the consideration, prospectively, of patients' suicidal ideas.

In the work that follows, an attempt was made to record at a first clinical interview some aspects of suicidal ideation in a cohort of patients referred to a psychiatrist, irrespective of whether they had or had not previously attempted self-harm. A four-year case-record follow-up was conducted, and subsequent self-harmers were compared with non-self-harmers in respect of the data initially recorded.

## Method

The work was carried out in the hospitals and clinics of the North Staffordshire Health District, a half urban, half rural area with some 480,000 people. The patients comprised those seen for the first time by the author between April 1972 and March 1976 in outpatient clinics, on domiciliary visits, or as inpatients in psychiatric or medical wards.

A total of 1,108 patients was seen. Of these, 34 were not included in the study because of dementia (14), subnormality (5) or other conditions (15) which would have prevented their understanding what was being asked of them. A further 39 were omitted either by design or in error, the former when it was thought inadvisable to put the scheduled questions at an initial consultation.

The remaining 1,035 patients were asked during a routine clinical interview, the following questions, in the order given:

(1) Do you feel suicidal?
(2) Have you felt suicidal in the past?
(3) Have you made a suicide attempt in the past?
(4) What makes life worth living for you at the present time?

The answers to questions 1, 2 and 3 were recorded as 'yes', 'no' or 'uncertain'. If the patient was being seen because of an episode of deliberate self-harm, 'the past' in questions two and three referred to the time pre-dating that episode. The answers to question four were placed in one or more of the following categories:

(i) Spouse and children, or 'family'.
(ii) Spouse (or cohabitee) alone.
(iii) Children alone.
(iv) Other relatives.
(v) Other persons.
(vi) Work.
(vii) Hopes for the future.
(viii) Hobbies, pastimes, interests, going out.
(ix) 'I don't know'.
(x) 'Nothing' or 'Not much'.
(xi) 'Life itself' or 'You have to go on' or 'Everything'.
(xii) Religion.
(xiii) Home.
(xiv) Other.

Note was made of the patient's age, sex, civil state, the presence or absence of children and whether the referral had followed an episode of DSH.

The patients' case-notes were subsequently examined for evidence of DSH during the four years following the initial interview. Eighteen patients were found to have died from causes other than suicide and twelve had left the district during the four years, leaving a sample of 1,005 patients for analysis.

All patients with DSH brought to the accident department of the North Staffordshire Hospital Centre are routinely admitted for a psychiatric opinion, unless admission is refused. Those not brought to hospital or not admitted will have been missed from this follow-up; all others will have been included.

### *Statistical techniques*

Correlation analysis was used to suggest relationships between variables, and these were confirmed using contingency table analysis. Chi-square and Fisher exact probability tests of significance were used to test differences. With age differences, an unpaired t-test was used.

## Results

Of the 1,005 patients studied, 102 (10.1 per cent) subsequently attempted self-harm; of these, 43 (4.4 per cent) were 'first-evers' (i.e. had never before attempted self-harm) and 59 (5.7 per cent) were 'repeaters'.

### *Age*

The mean age of those who subsequently attempted self-harm (35.2 years; standard deviation 12.7) was significantly lower ($P < 0.001$) than the mean age of those who did not (39.8 years; SD 16.1). This was due almost entirely to younger females, for whom the figures were 34.1 (SD 12.4) years for attempters and 40.2 (SD 17.1) years for non-attempters.

### *Sex*

A significantly lower proportion of males (27 out of 391, or 6.9 per cent) than females (75 out of 614 or 12.2 per cent) made a subsequent attempt ($P < 0.01$).

### *Civil state*

Table I shows the subsequent DSH rates by civil state for the total sample and for age and sex groups. No statistically significant differences were found in the total sample or when males, females, or patients under 35 years of age were considered separately; in the case of patients of 35 years of age and above, married and single patients together were found to show DSH more frequently (50 out of 462, or 10.8 per cent) than divorced and widowed patients together (three out of 106, or 2.8 per cent); $P < 0.05$. Inspection of the table shows that the highest rate occurred amongst single females of 35 years and above, followed by divorced females under 35, and single males of 35 years and above. The lowest rates occurred amongst widowed patients of both sexes and divorced males over 35 years of age.

### *Suicidal ideas and behaviour*

Table II shows the results of a correlation analysis of answers to the three questions about suicide ideation and behaviour with subsequent DSH. It also gives the result of correlating self-harm as the reason for referral with subsequent self-harm. In the case of all three questions, there was a highly significant correlation ($P < 0.001$) between positive answers and subsequent DSH. In the case of question 1 ('Do you feel suicidal') and question 2 ('Have you felt suicidal in the past?') this degree of significance extended to replies indicating uncertainty, when compared with negative replies. In the case of patients referred because of an episode of DSH, the difference between those who subsequently repeated the behaviour and those who did not was due principally to the female patients ($P < 0.001$); the difference for male patients did not reach statistical significance.

Because of the possibility that the three questions might all be answered positively by more or less the same patients, a correlation analysis of replies to the

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TABLE I

*Deliberate self-harm rates by civil status*

| | Married | | Single | | Divorced/Separated | | Widowed | |
|---|---|---|---|---|---|---|---|---|
| | M | F | M | F | M | F | M | F |
| All patients (n = 1005) | 258 | 414 | 86 | 105 | 30 | 37 | 17 | 58 |
| Subsequent DSH | 19 | 53 | 7 | 15 | 1 | 5 | 0 | 2 |
| Rate % | 7.4 | 12.8 | 8.1 | 14.3 | 3.3 | 13.5 | 0 | 3.4 |
| Patients under 35 years (n = 436) | 77 | 172 | 69 | 82 | 12 | 20 | 2 | 2 |
| Subsequent DSH | 5 | 25 | 4 | 10 | 1 | 4 | 0 | 0 |
| Rate % | 6.5 | 14.5 | 5.8 | 12.2 | 8.3 | 20.0 | 0 | 0 |
| Patients of 35 years and above* (n = 569) | 181 | 242 | 17 | 23 | 18 | 17 | 15 | 56 |
| Subsequent DSH | 14 | 28 | 3 | 5 | 0 | 1 | 0 | 2 |
| Rate % | 7.7 | 11.6 | 17.6 | 21.7 | 0 | 5.9 | 0 | 3.6 |

M = Male; F = Female.

* Married and single v. divorced/separated and widowed: P < 0.05.

TABLE II

*Suicide ideation and behaviour (as indicated at initial interview) and subsequent deliberate self-harm (n = 1005)*

| | Replies | Subsequent DSH | P |
|---|---|---|---|
| 1. Do you feel suicidal?* | | | |
| Yes | 112 | 25 (22.3%) | |
| Uncertain | 44 | 7 (15.9%) | <0.001 |
| No | 847 | 69 (8.1%) | |
| 2. Have you felt suicidal in the past? | | | |
| Yes | 424 | 65 (15.3%) | |
| Uncertain | 25 | 4 (16.0%) | <0.001 |
| No | 556 | 33 (9.5%) | |
| 3. Have you made a suicide attempt in the past?† | | | |
| Yes | 157 | 44 (28.0%) | |
| No | 845 | 57 (6.7%) | <0.001 |
| 4. Was deliberate self-harm the reason for referral? | | | |
| Yes | 195 | 35 (17.9%) | |
| No | 810 | 67 (8.3%) | <0.001 |

* Two patients were not asked question 1.

† Three patients were not asked question 3.

questions was carried out; no significant correlations (at the 10 per cent level) were found.

"*What makes life worth living at the present time?*"

Table III gives the frequency of the different responses to this question, and the proportion of patients showing subsequent DSH in each category of response. The total number of responses is greater than the number of patients in the study because some patients gave more than one response; for the same reason the 'subsequent DSH' total is greater than 102, some episodes being registered under more than one category of response.

In only two categories was the proportion statistically significant (see Table IV).

(a) 'Spouse and children', *or* 'family': the proportion of patients who gave this response and subsequently attempted DSH was significantly

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TABLE III

*Response to 'What makes life worth living at the present time?' and subsequent deliberate self-harm*

| Response | Frequency | Subsequent DSH |
|---|---|---|
| 1. Spouse and children; family | 261 | 12 (4.6%)* |
| 2. Spouse or cohabitee alone | 51 | 7 (13.7%) |
| 3. Children alone | 179 | 23 (12.8%) |
| 4. Other relatives | 48 | 7 (14.6%) |
| 5. Other persons | 74 | 6 (8.1%) |
| 6. Work | 66 | 4 (6.1%) |
| 7. Hopes for the future | 98 | 9 (9.2%) |
| 8. Hobbies, pastimes, interests, going out | 106 | 6 (5.7%) |
| 9. 'I don't know' | 66 | 7 (10.6%) |
| 10. 'Nothing' or 'not much' | 104 | 22 (21.2%)* |
| 11. 'Life itself'; 'you have to go on'; 'everything' | 81 | 9 (11.1%) |
| 12. Religion | 15 | 1 (6.7%) |
| 13. Home | 48 | 5 (10.4%) |
| 14. Miscellaneous | 76 | 5 (6.6%) |

* $P < 0.001$

TABLE IV

*Breakdown of significant responses to 'What makes life worth living at the present time?'*

| Response | Frequency | | P |
|---|---|---|---|
| | Self-harmers (n actual/n possible) | Non self-harmers (n actual/n possible) | |
| 'Spouse and children', or 'family' | | | |
| All patients (n = 1005) | 12/102 (11.8%) | 249/903 (27.6%) | <0.001 |
| Married patients with at least 1 child (n = 562) | 10/61 (16.4%) | 226/501 (45.1%) | <0.001 |
| (i) Females | 7/47 (14.9%) | 119/304 (39.1%) | <0.01 |
| (ii) Males | 3/14 (21.4%) | 107/197 (54.3%) | <0.05 |
| (iii) <35 yrs of age | 2/22 (9.1%) | 87/173 (50.3%) | <0.001 |
| (iv) ⩾35 yrs of age | 8/39 (20.5%) | 139/328 (42.4%) | <0.025 |
| (v) Females under 35 yrs of age | 2/20 (10.0%) | 53/132 (39.4%) | <0.01 |
| 'Nothing' or 'not much' | 22/102 (21.6%) | 82/903 (9.1%) | <0.001 |

less ($P < 0.001$) than the proportion who did not give the response and subsequently attempted DSH. Because the option of replying 'spouse and children, or family' was open principally only to those patients who were married (or cohabiting) and had at least one child, the analysis was repeated for these patients alone; the significance for this sub-group of 562 patients remains at $P < 0.001$. A breakdown of the sub-group by sex and age reveals the significance to be greater for females and for patients under 35 years of age.

(b) 'Nothing' or 'not much': the proportion of patients who gave this response and subsequently attempted DSH was significantly greater ($P < 0.001$) than the proportion who did not give the response and subsequently attempted DSH.

*Diagnosis*

The breakdown of the 1,005 patients by diagnosis is shown in Table V. The highest proportion of subsequent DSH occurred in alcoholism (17.2 per cent), followed by drug dependence (16.7 per cent) and personality disturbance (14.8 per cent). None of the figures reached statistical significance.

## Discussion

The finding that female sex and age below 35 are significantly correlated with subsequent deliberate

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TABLE V

*Diagnosis and subsequent deliberate self-harm (n = 1005)*

| Diagnosis | Frequency | Subsequent DSH |
|---|---|---|
| 1. Depression (all types except psychotic) | 504 | 67 (13.3%) |
| 2. Anxiety states | 132 | 4 (3.0%) |
| 3. Hysteria | 22 | 3 (13.6%) |
| 4. Personality disturbance | 54 | 8 (14.8%) |
| 5. Schizophrenia | 31 | 0 |
| 6. Affective psychosis | 30 | 2 (6.7%) |
| 7. Alcoholism | 29 | 5 (17.2%) |
| 8. Drug dependence or abuse | 12 | 2 (16.7%) |
| 9. Psychosomatic disorder | 28 | 0 |
| 10. Sexual disturbance | 22 | 2 (9.1%) |
| 11. Other psychiatric disorder | 51 | 2 (3.9%) |
| 12. No psychiatric disorder | 89 | 7 (7.9%) |
| 13. Not known | 1 | 0 |
| Total | 1005 | 102 (10.1%) |

self-harm in psychiatric referrals is in agreement with the results of epidemiological studies (Morgan *et al*, 1975; Wexler *et al*, 1978). The findings in relation to civil state, however, differ from those of some epidemiological surveys. Figures from Edinburgh (Office of Health Economics, 1981; Kreitman, 1981) have shown the divorced of both sexes to have the highest deliberate self-harm rates and single females of 35 years and over to have the lowest rate. In this study, it is precisely the latter group who have the highest rate (21.7 per cent) and, though divorced females have a quite high rate (13.5 per cent), that for divorced males is amongst the lowest (3.3 per cent). Such a finding suggests that what is true for the community at large is not necessarily valid in the clinical situation This point was demonstrated by Luscomb *et al* (1980) in a study of factors mediating between life stress and DSH. They used a control group of psychiatric patients, and obtained results different from those of studies where a general population control had been used. Luscomb *et al* contend that comparisons of deliberate self-harmers with other psychiatric patients are likely to be of greater value in predicting future attempts at self-harm than comparisons with the general population.

It is perhaps not surprising that positive answers to questions about past and present suicide ideation and behaviour are (highly) significantly correlated with subsequent DSH. It is, however, of some value to have demonstrated the predictive significance not only of past DSH but also of admitted suicidal *ideation*. Adam *et al* (1980) in a study of DSH in New Zealand found 'significant suicide ideation to be present in 91.8 per cent of a sample of patients after DSH, 62 per cent reporting that they had had such ideas for more than a year before the attempt and 21 per cent reporting that they had had such ideas continuously'. In the present study, 22.3 per cent of those who admitted feeling suicidal in the present went on to make a subsequent attempt; 15.9 per cent of those who were uncertain also did so, but only 8.1 per cent of those who denied such ideas. 15.3 per cent of those who admitted feeling suicidal in the past went on to make a subsequent attempt and so did 16 per cent of those who were uncertain, but only 9.5 per cent of those who denied such ideas. Both sets of results were significant at a level of $P < 0.001$, and confirm the retrospective findings of Adam *et al*.

The result of analysing answers to the question 'What makes life worth living for you at the present time?' recalls a conclusion reached by Durkheim in his 1897 classic on suicide: 'the immunity of married persons in general is (thus) due, wholly for one sex and largely for the other, to the influence not of conjugal society but of family society'. This study suggests that the patient's perception of his family society as making life worthwhile is a significant predictor of the likelihood of his deliberately harming himself at some future date. The significance holds good for both sexes and for patients above and below 35 years of age. The finding agrees with that of Birtchnell (1981) who, in a comparative study of female psychiatric patients with a history of DSH and matched controls found a significantly greater number of the former to have a 'poor quality marriage'; at the same time there was, as in the present study, no association with divorce or separation.

Patients who subsequently showed DSH were, to a

significant degree, unable to identify anything in their environment that made life, for them, worth living, answering 'nothing' or 'not much' to the standard question. This suggests that a person's perception of life as worthwhile may, in relation to DSH prediction, merit more detailed investigation. Paykel (1980) has drawn attention to the fact that, although DSH is frequently preceded by upsetting life-events, the same life-events are within the range of everyday experience and must frequently be negotiated by other people without suicide supervening. He suggests that some personality or vulnerability factor must mediate between the stress and the suicidal behaviour. Patients' perceptions of the worthwhileness of life at a given point, and their perceptions of the factors contributing to that worthwhileness, may be such mediators, and the perceptions may be revealed by asking the specific question 'What makes life worth living for you at the present time?'.

It might be argued that the significance of the results is largely due to the fact that over half the subsequent self-harmers were 'repeaters'. However, when the 43 'first-evers' and 59 'repeaters' were separately compared with the 903 subsequent non-self-harmers, there were trends for both subgroups in the same direction as the statistically significant results for the total group.

The present work differs from much previous work on DSH in two respects. First, the assessment of suicidal ideas is prospective to the key episode; and second, attention is paid to the patient's perception, rather than to the facts, of his life-situation. Henderson (1981) has recently shown, in a prospective study of social relationships, adversity and neurosis, that it was not lack of relationships but perception of these as inadequate under adversity that had the stronger predictive power for the emergence of neurotic symptoms. This study suggests that the same may be true for the occurrence of deliberate self-harm, and the hypothesis that it may be predictable from the answers to questions about current and previous suicidal ideas and behaviour and about perceptions of what makes life worth living merits further testing.

Figures for the separate analyses of 'first-evers' and 'repeaters' are available from the author.

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E. D. Myers, M.B., Ch.B., F.R.C.P.Ed., M.R.C.Psych., D.T.M. & H., *Honorary Senior Research Fellow in Psychiatry, Department of Postgraduate Medicine, University of Keele, North Staffordshire Medical Institute, Hartshill, Stoke-on-Trent ST4 7NY; Consultant Psychiatrist, North Staffs Health District*

(*Received 30 July 1981*)