

General practice consultation patterns before and after intentional overdose: a matched control study

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SUMMARY. This study investigated the general practice consultations of 46 patients during the year before and 13 weeks after hospital admission for deliberate self-poisoning. These were compared with data for controls matched for age, sex, family structure and area of residence.

The frequency of consultations increased as parasuicide approached but this effect was due to large increases in a few patients. The greatest increase in the number of consultations and an increase in subjects consulting for physical problems occurred four to six months before the event. The seriousness of the attempt assessed by suicidal intent was unrelated to consulting pattern either before or after overdose. The rate of default from appointments was less than for controls, although this was not significantly different.

Because of the problems in identifying when intentional self-harm will occur and the common presentation being psychosocial distress rather than mental illness, intervention to prevent parasuicide is likely to prove even more difficult than for suicide.

Introduction

IT has been established that patients who take overdoses attend their general practitioner more frequently than the general population and that their consultation rate increases before the event.¹⁻⁵ As these episodes of deliberate self-harm seem to have a recognizable prodromal period it has been suggested that general practitioners might be able to prevent their occurrence.^{2,3,6}

Crockett reported the experience of one general practice by retrospective analysis of consultations made within five years of overdose. His population had a low consultation rate, a low prevalence of overdose and included overdoses taken up to 21 years before his study.⁵ Other work from the UK^{1,2} and abroad,^{3,4} lacked controls or adequate matching of controls, or did not account for contaminating factors such as repeat episodes or joining the practice during the study period. The nature of the presentation to primary care was not assessed in any of these papers.

This study re-examines this primary care consultation pattern, paying particular attention to careful matching of subjects. The main aim was to determine whether at-risk patients could be identified prior to deliberate self-harm on the basis of either the number or nature of consultations. A second aim was to establish what changes occurred in consultation patterns after deliberate self-harm.

Method

The population under investigation were patients admitted to the regional poisoning treatment centre at the Royal Infirmary of Edinburgh following an act of deliberate self-poisoning, and

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subsequently assessed by the psychiatric team. About 70% of parasuicides in Edinburgh are seen in hospital.⁷ The policy is that all poisoning cases are referred to the regional poisoning treatment centre where approximately 90% of events are assessed by a psychiatrist.⁸ The arrangements are less structured where other forms of deliberate self-harm are concerned,⁸ so that these patients who have different characteristics anyway⁹ were not included in this study.

Sample

The initial sample consisted of 107 consecutive patients who had attempted deliberate self-poisoning and who were registered with 28 of the teaching practices formally associated with the department of general practice, University of Edinburgh. Eight practices were either unable or unwilling to participate in the investigation. This reduced the sample to 75 subjects whose medical records were then examined and for whom a control matched for practice, age (within one year), sex, family structure and area of residence was sought, using the practice age-sex register and a street directory.

At this stage a further 29 subjects were excluded because of one or more of the following reasons: registered with their practice for less than one year ($n=17$); no adequately matched control ($n=6$); known to have taken another overdose during the previous year ($n=15$). The 46 remaining patients reported here were all cases of deliberate self-poisoning, who were admitted to hospital within a three month period from September to November 1987.

Data collection

Each consultation with the general practitioner during the 52 weeks before and the 13 weeks after admission was coded for the main presenting complaint using the classification of the Royal College of General Practitioners.¹⁰ Complaints were subsequently distributed into four general categories — physical, mental, social/family and non-specific. The date of each consultation was noted and its duration from the admission to the treatment centre calculated in weeks; data were later aggregated into three month (13 week) intervals. The standard demographic data collected routinely by ward psychiatrists on all patients for the Medical Research Council unit for epidemiological studies in psychiatry⁶ were supplemented by the administration of the Beck suicidal intent scale¹¹ which was completed for each patient in the course of psychiatric assessment.

Analysis

Statistical analysis was based on non-parametric techniques for paired samples¹² — subjects versus controls and subjects across time periods — Wilcoxon's signed rank test, Spearman's rank correlation test and McNemar's test being employed. Means were used for consultation frequencies to allow comparison with normative data.

Results

The sample comprised 16 men and 30 women with a mean age of 33.6 years (range 16–69 years); 12 (26%) had had a previous parasuicide recorded. Twenty five (54%) were employed, 16 of 44 responders (36%) were married and 19 of 30 responders (63%) were in social classes 3 and 4. Two patients had had short in-

patient psychiatric admissions following their overdose. These characteristics were broadly consistent with those of the whole parasuicide population treated at the centre. Six hundred and twenty nine consultations for the subjects and 232 consultations for the controls were analysed.

Frequency of consultation

During previous year. By all measurements and during all time intervals, parasuicide patients consulted more frequently than their controls (Tables 1 and 2).

In the year prior to admission the median number of consultations for the subjects was 6.5 (95% confidence limits 2–11); over the same period the median was 2.0 (1–4) for controls. The mean consultation rate for subjects was 10.8 consultations in the year before overdose (mean for women 14.4, for men 4.3) compared with a mean of 3.5 consultations per year for the controls over the same period (mean for women 4.3, for men 1.6). Four (9%) of the subjects had not visited their general practitioner in the previous year and a further 12 (26%) had only one or two consultations in the year compared with 11 of the control group (24%) who had not visited their general practitioner in the previous year.

While the number of consultations per 13 week period almost doubled over the year for the subjects (Table 1) the frequencies of attendance indicate this was not evenly distributed among the patients (Table 2). Indeed three subjects accounted for 199 out of the 629 consultations (32%). In the year before admission 12 patients accounted for the 25 occasions when seven or more consultations were recorded in any three month period.

The consultation frequency was further assessed in two comparisons (Table 3). When the number of consultations made by

Table 1. Number of consultations by the parasuicide patients during the 12 months before and three months after admission to the regional poisoning treatment centre compared with control patients over the same period.

	Number of consultations by subjects [controls]				
	Period before admission				Period after discharge 0-3 mths
	12-9 mths	9-6 mths	6-3 mths	3-0 mths	
Total	90 [45]	98 [38]	133 [32]	177 [47]	131 [70]
Maximum by a patient	16 [6]	13 [6]	14 [6]	30 [9]	20 [10]

Table 2. Consultation pattern of the parasuicide patients during 12 months before and three months after admission compared with control patients over the same period.

Number of consultations	Number of subjects [controls]				
	Period before admission				Period after discharge 0-3 mths
	12-9 mths	9-6 mths	6-3 mths	3-0 mths	
0	17 [26]	18 [27]	14 [31]	15 [22]	13 [23]
1	14 [9]	9 [11]	6 [8]	7 [13]	8 [10]
2	7 [4]	5 [2]	7 [2]	4 [7]	10 [4]
3	0 [3]	4 [4]	4 [2]	5 [1]	3 [2]
4-6	4 [4]	5 [2]	8 [3]	6 [2]	8 [4]
7-12	3 [0]	4 [0]	6 [0]	6 [1]	2 [3]
13+	1 [0]	1 [0]	1 [0]	3 [0]	2 [0]

Table 3. Frequency of consultation comparing subjects with their controls and subjects across time intervals.

Pattern of consultations	Number of subjects				
	Period before admission				Period after discharge 0-3 mths
	12-9 mths	9-6 mths	6-3 mths	3-0 mths	
More than control	19	23**	29***	25**	22*
Fewer than control	13	7	5	9	13
Increased from previous period	—	17	24**	19	16
Decreased from previous period	—	11	11	14	21

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, Wilcoxon signed rank tests, comparing 'fewer consultations than control' with 'more consultations than control' and 'decreased consultations from previous period' with 'increased consultations from previous period'.

each subject was compared with his or her control, significant differences between the groups in all periods, apart from nine to 12 months before the event, were found; however this difference was most marked at three to six months before the overdose and not immediately before it. When the change in the number of consultations compared with the preceding period was analysed for each subject, all three pre-admission comparisons revealed an increase in consultations but only the difference between months three to six and six to nine reached significance. The trend after parasuicide was in the opposite direction.

During preceding week. Fifteen (33%) overdose patients and four (9%) controls had seen their general practitioner in the week before overdose (McNemar's test 5.88, $df = 1$, $P < 0.05$). This was the peak week in terms of number of subjects consulting ($n = 15$, weekly mean 7.5) and the total number of consultations they made ($n = 22$, weekly mean 9.6).

Failed to attend. Over the whole period of the study 13 appointments for the subjects (2% of all consultations) and 10 for the controls (4% of all consultations) were recorded by the general practitioner as not attended: this was not a significant difference (McNemar's test = 2.48, $df = 1$, NS).

Nature of presentations

More than one category of complaint was recorded for 36 subjects and 10 controls.

During the year before the overdose 33 subjects versus one control had more consultations for mental problems ($P < 0.001$) than their match, and 26 subjects versus zero controls attended more often about social and family matters ($P < 0.001$). There was a tendency for subjects to be more frequent attenders with non-specific complaints than their match (18 subjects versus six controls; $P < 0.05$) but not with physical symptoms (22 subjects versus 14 controls, NS).

This pattern of consultation type remained consistent across the year before and the three months after the overdose apart from during the period three to six months before the event. This was when physical presentations in particular became significantly more frequent in comparisons of both subject against control and change within subjects (Table 4). This change was reversed in the final months to be replaced by an increase in the number of subjects presenting with mental problems, which in turn abated after the overdose.

Table 4. Frequency of consultations for different problems comparing subjects with their controls and subjects across time intervals (36 subjects and 10 controls had more than one category of complaint).

Pattern of consultations	Number of subjects				
	Period before admission				Period after discharge
	12-9 mths	9-6 mths	6-3 mths	3-0 mths	
<i>Consultations for physical problems</i>					
More than control	11	14	24**	15	13
Less than control	13	13	6	13	15
Increased from previous period	—	8	21**	9*	12
Decreased from previous period	—	10	5	18	14
<i>Consultations for mental problems</i>					
More than control	10**	18***	17***	24***	11**
Less than control	2	0	0	1	1
Increased from previous period	—	13	9	23***	4**
Decreased from previous period	—	6	13	5	22
<i>Consultations for social/family problems</i>					
More than control	11**	12**	9*	15***	13**
Less than control	0	0	1	0	1
Increased from previous period	—	7	3	10	12
Decreased from previous period	—	6	9	4	11
<i>Consultations for non-specific problems</i>					
More than control	8	8	14*	11	8
Less than control	3	2	4	6	8
Increased from previous period	—	5	16*	8	7
Decreased from previous period	—	5	4	12	13

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, Wilcoxon signed rank tests, comparing 'fewer consultations than control' with 'more consultations than control' and 'decreased consultations from previous period' with 'increased consultations from previous period'.

Suicidal intent

There was a weak positive correlation between the degree of suicidal intent assessed by the Beck scale and the number of consultations during the preceding year but this was not statistically significant ($R_s = +0.17$, $df=44$), and it diminished even further when only the three months immediately prior to the overdose were considered ($R_s = +0.11$, $df=44$). There was no difference in mean Beck score between the 15 subjects who consulted in the week before overdose (8.5) and the 31 who did not (8.3).

It might be expected that patients with high suicide intent would be monitored more closely by their general practitioner and it is perhaps surprising therefore that there was no relationship between suicidal intent and frequency of consultation with the general practitioner after overdose ($R_s = +0.05$, $df=44$).

Discussion

Parasuicide is a frequent cause of emergency medical admission. Although some groups of patients have a better prognosis,¹³ in general, attempts to prevent recurrence through psychological or social intervention have proved ineffective.¹⁴ The finding of escalating primary care attendances prior to overdose has led to the implication that general practitioners may be missing the opportunity to prevent the act, either by not recognizing the signs or through ignoring the evidence.^{2,3,6}

Unlike suicide, where 90% of patients have a psychiatric illness at the time of death, principally depression,⁶ only a minority of overdose patients are mentally ill.¹⁵ These patients usually present with emotional distress rather than mental illness,¹⁶ so in effect they represent a small section of the 35–50% of primary care patients found to have some degree of psychosocial distress when consulting their general practitioner.¹⁷

Patients who cause intentional self-harm are better viewed as sharing a common endpoint of behaviour with diverse background factors and motives rather than a mental disorder and this makes subject selection a particularly crucial element of any investigation of the topic. Our population was a well-defined, closely matched group of these patients but as we excluded 29 out of 75 potential subjects (39%) our findings cannot necessarily be generalized to all parasuicide patients treated in hospital. Furthermore, it should be borne in mind that at least 20–30% of patients who take overdoses are not hospitalized, and are either treated by their general practitioner or receive no medical care.¹⁷ We think it likely our selection criteria biased our sample towards the more stable end of the spectrum of parasuicide patients admitted to our unit.

Given this qualification, the findings of our investigation can be summarized as follows. Patients who intentionally poisoned themselves were likely to attend their general practitioner more frequently than their matched control; nevertheless 35% of the sample had attended the general practitioner no more than twice in the year before the overdose. While increased frequency of consultation was a persistent feature of these patients, the doubling in total number of attendances we noted across the year depended heavily upon a few extreme cases.

The surge in number of subjects consulting, as distinct from the number of consultations, occurred between three and six months before the event. This period also coincided with the only identifiable symptom shift from the usual predominance of mental and social/family problems, when more patients presented physical complaints.

Another point of interest is defaulting from appointments, which is a consistently reported source of difficulty in parasuicide patients at hospital outpatient level.¹⁸ Although the number of defaults was similar for subjects and controls because subjects made many more consultations the default rate was only half that found in controls. This supports the proposition that it is the perceived usefulness of the interview rather than the inherent nature of the patient which is the reason for this problem in hospitals.

Suicidal intent as measured by the Beck scale did not bear a relationship to either the frequency of consultations in primary care or to seeing the general practitioner during the last week before overdose, nor did it influence the subsequent level of contact with the general practitioner. The implication is that the patients who might be identified beforehand because of increased consultations (and it may be argued are being missed) are not at greater risk of suicide than other patients who harm themselves.

Our main conclusion is that attendance frequency or reason for attendance offer the general practitioner no useful means

of recognizing impending parasuicide in the great majority of cases. There are patients in whom many more attendances might form an identifiable prodrome but these are exceptions, while the main changes in reason for consulting occurred several months before the event. In other words these features are neither specific enough nor adjacent enough to the overdose to enable the information to be of practical use in prevention. Thus, we may know with confidence who is at risk of parasuicide¹⁵ but not when this vulnerability will be translated into action.

Before dismissing this line of enquiry altogether we would want to explore further the reason for consulting with better quality primary care data using standardized terminology, a measure of interrater reliability and expanded recording of clinical information. While our parameters were somewhat crude, a change in reason for consulting was identified that would support a hypothesis that a number of these patients may have misleading presentations of physical problems perhaps through somatization of distress. Furthermore, the timing of this change is intriguing, not occurring just before, as might be anticipated, but several months beforehand — which suggests that the model of parasuicide as a dramatic crisis event is condensed and oversimplified.

If there were a pattern of behaviour over the weeks or months leading on to parasuicide then there might be a possibility of intervening. However, it must be stressed that parasuicide is not the same phenomenon as suicide, and the model developed for suicide prevention⁶ cannot necessarily be applied. Some of the reasons for this have already been discussed, in particular the presence of emotional distress rather than specific mental illness. More importantly, deliberate self-harming is the outcome of a variety of motives with intention to die consistently reported in less than half of cases.^{19,20} With a problem that is so complex and diverse, and usually socially rather than medically determined, a role for the general practitioner in prevention of parasuicide, while desirable, may not be feasible.

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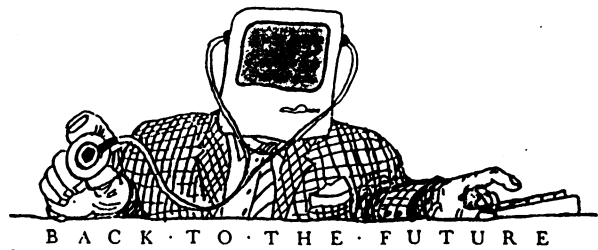
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