PAPERS AND ORIGINALS

Efficacy of a Regional Poisoning Treatment Centre in Preventing Further Suicidal Behaviour

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Summary

A survey of parasuicide (attempted suicide) in general practice in Edinburgh allowed comparison of the rates of further suicidal behaviour in patients treated for their initial episode in the Edinburgh Regional Poisoning Treatment Centre and in those referred to psychiatrists elsewhere or not referred at all. Further suicidal behaviour was only one-third as common among those treated in the treatment centre as among non-admitted patients; patients referred to other psychiatric services did no better than those who were not referred to a psychiatrist at all. The difference in repetition frequencies could not be accounted for in terms of selection of patients in the treatment centre who were less likely to repeat. The tentative conclusion is made that crisis intervention of the kind available at the Edinburgh centre is effective in secondary prevention. The findings add support to Government recommendations that special units like the one in Edinburgh should be set up in other regions.

Introduction

The epidemic rise in the rates of parasuicide* has led to Government reports recommending that district and regional poisoning treatment centres should be established to provide expert medical and psychiatric help for all adults suffering from poisoning (Central Health Services Council, 1962; Central and Scottish Health Services Councils, 1968). Matthew *et al.* (1969) described the organization and work load of the Edinburgh Regional Poisoning Treatment Centre and commented that little action had been taken in other areas to provide such a

service. Perhaps one reason for this delay is that until recently there was virtually no information on the efficacy of psychiatric treatment in preventing further suicidal behaviour.

Bagley (1971) reviewed evaluative studies of suicide prevention agencies. Of particular relevance here is the one reported by Greer and Bagley (1971), which showed that parasuicide patients presenting at the casualty department of a London hospital who were referred to a psychiatrist were less likely to repeat than those who were not referred, particularly if the psychiatric treatment they received was prolonged. Since the difference in repetition frequencies could not all be accounted for in terms of other variables which they found affected prognosis, they concluded that psychiatric help was probably effective. Chowdhury *et al.* (1972), however, showed that intensive psychiatric and social aftercare given to a group of patients at high risk of repetition for six months did not influence the prognosis for further suicidal behaviour. Clearly more evaluative studies are required to justify expenditure on special psychiatric services for cases of parasuicide. Special efforts in developing effective methods of secondary prevention are eminently worth while, because repeated parasuicide is so common and because parasuicide patients are a high-risk group for completed suicide (Kessel and McCulloch, 1966; Dorpat and Ripley, 1967; Buglass and McCulloch, 1970).

A recent survey of parasuicide carried out in general practice in Edinburgh allowed comparison of the rates of further suicidal behaviour (a) after treatment in the Edinburgh Regional Poisoning Treatment Centre, (b) after referral to psychiatrists elsewhere, and (c) after no psychiatric referral. The data are presented here along with some cautious conclusions about the efficacy of the special facilities provided at the Edinburgh Regional Poisoning Treatment Centre.

Method and Results

The method was described in detail elsewhere (Kennedy, 1971). Fifty-two general practitioners in a random sample of Edinburgh practices provided information on all persons over the age of 10 who were poisoned or who deliberately injured themselves during 1970. The operational definition of parasuicide included all non-fatal deliberate acts of self-poisoning or self-injury, which in the case of drug poisoning meant that the patient had intentionally exceeded the approved dose.

*"Parasuicide," meaning "by the side of," "irregular or perverted" suicide, was suggested as an alternative term to attempted suicide by Kreitman *et al.* (1969).

Altogether 204 persons were detected who had had a parasuicidal episode in 1970. Within the year 39 (19%) had repeated at least once, and one person (0.5%) had committed suicide. The total number of parasuicidal episodes was 281.

The rates of further suicidal behaviour in relation to the kind of management received are compared in Table I. There was a highly significant difference in the proportions of persons who

TABLE I—Prognosis for Further Suicidal Behaviour in relation to Treatment

Management of First Episode in 1970	Persons having No Further Episodes		Persons having at least One Further Episode during 1970		Total	
	No.	%	No.	%	No.	%
Admitted to R.P.T.C.	125	88	17	12	142	100
Not admitted to R.P.T.C.: Referred to psychiatrist	20	62	12	38	32	100
Not referred to psychiatrist . . .	19	63	11	37	30	100

$\chi^2 = 17.2829$; D.F. = 2; $P < 0.001$.

repeated after treatment in the regional treatment centre and after other forms of management. Repetition was over three times more common among the latter group, and in this group those who were referred to a psychiatrist did no better than those who were not.

It should be noted that *all* persons who presented with poisoning at hospitals in Edinburgh were admitted to the treatment centre. All patients admitted to the unit were seen by the ward psychiatrist immediately after physical recovery. It may be significant that most of those who were referred to psychiatrists elsewhere were not seen until some days or longer after the episode.

Persons admitted and not admitted to the centre for treatment of their first episode in 1970 were compared on selected variables which previous hospital studies in Edinburgh had found to be related to repetition (Buglass and McCulloch 1970) and on which information had been obtained. They did not differ significantly in sex, age, social class, chronic alcohol misuse, or previous inpatient or outpatient psychiatric treatment. Patients admitted to the unit were significantly *less* likely to have had a previous parasuicidal episode, but Table II shows that on controlling this variable the differences in repetition frequencies between admitted and non-admitted groups persisted.

TABLE II—Prognosis for further Suicidal Behaviour Independent of a History of Parasuicide

Management of First Episode in 1970	Persons having No Further Episode in 1970		Persons having at least One Further Episode in 1970		Total	
	No.	%	No.	%	No.	%
<i>History of Parasuicide in Previous Years</i>						
Admitted to R.P.T.C.	33	77	10	23	43	100
Not admitted to R.P.T.C. . . .	16	53	14	47	30	100
$\chi^2 = 4.3887$; D.F. = 1; $P < 0.05$						
<i>No History of Parasuicide in Previous Years</i>						
Admitted to R.P.T.C.	87	93	7	7	94	100
Not admitted to R.P.T.C. . . .	22	71	9	29	31	100
$\chi^2 = 9.7314$; D.F. = 1; $P < 0.001$						

Discussion

Conclusions from these data about the efficacy of management methods in the poisoning treatment centre in preventing further suicidal behaviour must be cautious and tentative. Parasuicide patients referred and not referred to the unit may have differed in other characteristics not examined, which could explain the

differences in their propensity to repetition. The same problem of interpretation applies to the study reported by Greer and Bagley (1971). Full analysis of the results of this survey (Kennedy, 1971), however, showed that the method of parasuicide and the medical seriousness of the episode seemed to be the major factor affecting referral and therefore distinguishing admitted and non-admitted cases. Since none of the studies on repetition have shown that this variable is related to further suicidal behaviour, this gives more credence to the conclusion that treatment accounted for the better prognosis in admitted patients. A controlled experiment comparing the fates of parasuicide patients randomly allocated and not allocated to treatment in the treatment centre would be the only way of properly evaluating the effectiveness of this service in secondary prevention, but it is unlikely that such an experiment could be ethically justified.

The results are at least encouraging because the reduction in repetition frequency was not marginal—patients admitted to the unit were only one-third as likely to repeat. The findings certainly add support to Government recommendations that special units like the one in Edinburgh should be set up in other regions. They also substantiate the view that general practitioners in Edinburgh should be encouraged to refer *all* their cases of parasuicide to the unit, irrespective of medical indications.

The fact that patients referred to psychiatrists other than at the treatment centre did no better than those who were not referred at all may have important implications. These patients were rarely seen until some days after the episode, and some had repeated before the time of their appointment. Psychiatric help may be most effective at the time of the crisis. Some days later the patient and his relatives may be less open to change. Kessel (1965) believed that in many cases admitted to the unit much could be achieved in the initial interview, at the time of the crisis, when the patient and his relatives faced with their strong emotions were confronted with the realities of their situation. Later, collusion to present an identical, idealized and false picture commonly occurred, making therapeutic change more difficult to achieve.

And yet even if crisis intervention of the kind available in Edinburgh is effective in preventing further suicidal behaviour there is no room for complacency on the part of the treatment team. Repetition after discharge from the unit was common enough (12%), and there is clearly a need for developing and evaluating new methods of treatment and aftercare.

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Glomerular Filtration Rate and Renal Plasma Flow in Long-term Juvenile Diabetics without Proteinuria

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Summary

Glomerular filtration rate and renal plasma flow were examined in 16 young male non-proteinuric diabetics (mean age 28.4 years) with a duration of diabetes of over 15 years (mean duration 21.5 years.) In this selected group of long-term diabetics the glomerular filtration rate was clearly increased, the mean being 136 ml/min (±S.D. 11.8) (normal value 114 ml/min (±14.1), being comparable to that found earlier in short-term diabetics. There was no change in renal plasma flow. It is concluded that kidney function is generally well preserved in long-term diabetics who have not developed proteinuria.

Introduction

The glomerular filtration rate is increased in early juvenile diabetes (Stalder *et al.*, 1960; Ditzel and Schwartz, 1967; Mogensen, 1971a, 1971b, 1971c, 1971d; Mogensen, 1972) and the abnormally high filtration rate is related to the metabolic derangement seen in diabetes (Mogensen, 1971a). Kidney function is also known to decrease with the duration of diabetes. In some patients with diabetes of long duration, however, surprisingly high filtration rates are found (Mogensen, 1971b). The present study was undertaken to examine the degree of functional renal involvement in long-term diabetic subjects without clinical proteinuria to clarify further the natural history of diabetic nephropathy.

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Subjects and Methods

Sixteen young male diabetics with a duration of diabetes of more than 15 years were examined. Their mean age was 28 years (±S.D. 5.2) and the mean duration of diabetes 21.5 years (±7.3). All were insulin dependent. Mean body surface area was 1.82 m² (±0.12). None had proteinuria as judged by the Albustix test on several urine samples. The mean fasting plasma glucose on the day of the clearance test was 197 mg/100 ml (±82), indicating that most of the patients were not strictly controlled. Pertinent clinical data are given in the Table, including the degree of retinopathy according to the classification of Jensen and Lundback (1971). Control subjects were 35 normal young men (medical students) and 24 young male diabetics with diabetes of short duration (mean 4.6 years (±2.7), range 1-12 years). The mean age of the normal subjects and of the short-term diabetics was 25 (±1.9) and 23 years (±5.1) respectively. Their mean body surface areas were 1.91 (±0.11) and 1.81 m² (±0.13) respectively.

Clearance Tests.—The glomerular filtration rate was measured by ¹²⁵I iothalamate and renal plasma flow by ¹³¹I-Hippuran clearance using a constant infusion technique described previously (Mogensen, 1971b). Three or four clearance periods lasting 20 minutes were used in each test. Labelled iothalamate and Hippuran are reliable substances for measuring glomerular filtration rate and renal plasma flow (Magnusson, 1962; Elwood *et al.*, 1967; Elwood and Sigman, 1967; Summers *et al.*, 1967; Skov, 1970; Mogensen, 1971b). Results were corrected to 1.73 m² body surface area. Plasma glucose was measured using a glucose oxidase method (Christensen, 1967). Tests were performed in the morning in the fasting state. The diabetics had been given their last insulin in the morning or afternoon the day before the clearance test.

Results

Results in the 16 long-term diabetics without proteinuria are given in the Table. Glomerular filtration rate and renal plasma

Kidney Function in 16 Non-proteinuric Long-term Diabetics (Duration of Diabetes more than 15 Years)

Case No.	Age (Years)	Duration of Diabetes (Years)	Stage of Retinopathy	Plasma Glucose (mg/100 ml)	Glomerular Filtration Rate (ml/min)	Renal Plasma Flow (ml/min)	Filtration Fraction
1	23	17	0	169	121	470	0.26
2	26	20	I	233	125	613	0.20
3	27	26	I	239	145	642	0.23
4	25	20	II	314	144	543	0.27
5	27	22	I	241	151	616	0.25
6	38	37	I	178	133	470	0.28
7	26	22	0	76	127	498	0.26
8	27	15	0	264	160	688	0.23
9	27	16	0	354	128	544	0.24
10	26	19	II	220	132	554	0.24
11	39	37	III	60	144	570	0.25
12	24	19	I	171	133	573	0.23
13	30	28	III	203	119	512	0.23
14	38	15	III	128	129	564	0.23
15	25	16	I	91	151	606	0.25
16	27	15	I	219	134	577	0.23
Mean ± S.D.	28.4 ± 5.2	21.5 ± 7.2		197.5 ± 81.7	136.0 ± 11.8	565.0 ± 60.2	0.243 ± 0.019