4 June 1966

British
Medical Journal 1393

Suicide in Dublin

P. DESMOND McCARTHY,* L.R.C.P.&S.I., D.P.M.; DERMOT WALSH,† M.B., D.P.M.

Brit. med. J., 1966, 1, 1393-1396

Professor Carstairs (1961) has stated: "Southern Ireland has a reported suicide rate which is among the lowest in the world, but this is a country in which the Roman Catholic Church has great authority. It is doubtful whether there really are few suicides or whether there, for religious reasons, great pains are taken to represent suicide when it occurs as death from other causes."

Since no work had previously been done on suicide in Ireland, we decided to study suicide in Dublin over a 10-year period. We were especially concerned to establish a reliable suicide rate for the area under consideration and by extension to draw some hypothetical conclusions about suicide in the country as a whole. We were also interested in investigating the social, economic, and medical patterning of our suicide sample both in itself and in relation to such key studies on suicide as those of Cavan (1928) in Chicago, Sainsbury (1955) in London, and Farberow and Shneidman (1961) in Los Angeles.

Present Investigation

Method.—Permission was obtained from the Dublin City Coroner and the County Dublin Coroner to examine their records for the years 1954 to 1963 inclusive to find every case coming to their courts during that period irrespective of the verdicts they returned. To this end we examined, in the first place, the registers of both coroners for 1954 to 1963. Entries in these registers in each case described briefly the mode and circumstances of death, and if any of the entries were such as to indicate the possibility of self-inflicted death then the records for that case were scrutinized in detail and suicide was either confirmed or excluded. In three cases we were unable to decide from the evidence available whether the person had killed himself or not, and these three were excluded from further consideration. The data presented therefore cover every suicide known to either coroner occurring in the Dublin city and county area with a population of 718,332 (Census of Population of Ireland, 1961) from 1954 to 1963 inclusive.

Sample.—There were 315 suicides in the sample. Of these, 31 were excluded from analysis because the coroner's records of them were incomplete. In three of the excluded cases the suicide had removed all traces of identity, so that very little information was available. The remaining 284 cases comprise the group discussed below.

Rate.—With 315 suicides for 10 years for the population studied, the mean annual suicide rate for the period was 4.5 per 100,000 of population.

Age and Sex.—There were 158 male suicides (55.6% of the sample) and 126 (44.4%) female (Table I). The breakdown by age group shows the low incidence in early adolescent life, rising through the third and fourth decades and falling a little in the fifth, reaching a peak at ages 50 to 70 and then falling. This trend is also evident in the age-specific rates showing the annual rate per 100,000 population in each group, with a considerable preponderance in males over 60, which largely accounts for the overall male excess.

Marital Status.—Of the 282 cases for which data were available, 106 (37.5%) were married, 115 (40.6%) single, 32 (11.3%) widowed, and 17 (6%) separated. In addition, a further 3 (1%) were cohabiting. The married rate for the population at risk was 5.1 per 100,000 and the single rate 5.5. The widowed rate, however, was only 4.2. These rates are age-corrected in that the population aged 14 or under is excluded from the compilation. Dealing only with the population aged 50 and over, it was found that 69 (46%) of the 150 persons concerned were married and the remaining 81 (54%) were widowed, single, or separated. Thus the relevant rates for this age group were; married 8.0 per 100,000, single/widowed 10.7 per 100,000.

TABLE I.—Age and Sex Distribution

Age Group		Age—Specific Rates per 100,000				
	Male	Female	Total	Male	Female	Total
0-9 10-19 20-29 30-39 40-49 50-59 60-69 70-79 80 +	0 4 (2·5%) 22 (13·9%) 29 (18·9%) 21 (12·7%) 28 (17·8%) 40 (25·3%) 10 (6·3%) 4 (2·5%)	0 2 (1.6%) 12 (9.6%) 24 (19.2%) 20 (15.8%) 31 (24.6%) 25 (19.8%) 12 (9.6%)	0 6 (2·1%) 34 (11·9%) 53 (18·6%) 41 (14·4%) 59 (28·7%) 65 (18·3%) 22 (7·7%) 4 (1·4%)	0 0·62 5·0 7·1 5·7 8·8 18·8 9·1 12·8	0 0·3 2·3 5·0 4·4 8·1 8·6 6·6	0 0·46 3·4 5·9 4·9 8·4 10·4 7·6 4·3
Total	158 (55.6%)	126 (44·4%)	284			

Area of Residence.—The areas of residence of our cases were classified by a modification of the Dublin Postal District Areas shown in the accompanying map. The River Liffey divides Dublin into northern and southern parts, and the city grew up around both banks, spreading outwards as it expanded. Thus the central areas—1, 2, 7, and 8—still contain much eighteenth- and nineteenth-century building, which has now deteriorated and includes a high proportion of rooming-houses, inadequate tenement accommodation, single-person households, and cheap bed-and-breakfast hotels and hostels. Outside these areas residential centres of more recent origin continue to proliferate as the innermost areas decay. The number of suicides and the annual rates per 100,000 by area are shown in Table II.

TABLE II

Area	No.	Rate/ 100,000	Area	No.	Rate/ 100,000	Area	No.	Rate/ 100,000
1 2 3 4 5	33 29 19 21 6	6·1 5·1 3·8 6·8 3·5	6 7 8 9 10	28 37 33 7 2	5·7 6·9 8·7 1·7 0·6	11 12 14 County Outside	16 2 36 13	1·3 3·4 1·2 2·8

Domiciliary Status.—Seventy-seven (27.7%) people were living alone, 33 (11.8%) were in institutions, and 168 (60.4%) were living either with relatives or with friends.

Social Status.—We have used the five broad occupational groups of the Registrar-General of England and Wales. We found that 19 (6.9%) belonged to group 1, 49 (14.1%) to group 2, 59 (21.4%) to group 3, 36 (13.0%) to group 4, and 113 (40.9%) to group 5. There is no such general classification in force in the Irish Census of Population Returns, but occupations are classified specifically and at length. Accordingly it would have been very difficult to classify the population at

^{*} Assistant Medical Director and Consultant Psychiatrist, St. John of God Psychiatric Hospital, Stillorgan, Co. Dublin. † St. Loman's Hospital, Ballyowen, Palmerstown, Co. Dublin.

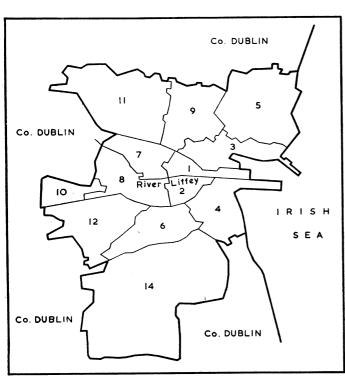
risk into these five groupings, and so we were unable to establish suicide rates by social class.

Time of Year.—The breakdown by monthly occurrence was as follows: January 23, February 21, March 14, April 37, May 23, June 26, July 27, August 29, September 16, October 26, November 16, and December 25.

Method of Suicide.—Methods used were as follows: carbon monoxide in 106 (36.9%), drowning in 103 (35.8%), tablets in 17 (5.9%), hanging in 16 (5.4%), corrosives in 13 (4.8%), jumping in 9 (3.1%), cutting in 8 (2.7%), shooting in 7 (2.1%), and miscellaneous methods in 5 (1.7%) cases.

Causes.—We attempted to establish the most relevant, if not directly precipitating, cause of suicide in all cases. Mental or personality abnormality appeared most important in 126 (61.8%), physical ill-health in 32 (15.7%), disturbances in personal or social relationships in 31 (15.2%), reverses in business or employment in 7 (3.4%), financial difficulties in 5 (2.4%), and difficulties with the law in 3 (1.5%). In five of the cases where physical health was considered the main determinant, suicide was a clear-cut release from painful or intolerable illness. Thus one person suffered from a very painful dermatomyositis, one from carcinoma of the bronchus, and another from paralytic disseminated sclerosis; a woman made miserable by a severe hemiplegia and a young man with painful blindness of recent origin also killed themselves. Two young males who had developed skin conditions were so extremely upset by their lesions that they committed suicide. In three cases a threat of court proceedings seemed relevant. Thus one suicide followed a quite trivial traffic accident and subsequent charge, and in a particularly pathetic case a girl of apparently previously sound personality got herself into serious financial difficulties through failure in a business venture and killed herself rather than face proceedings with their implications for her family.

Previous Medical Care.—In 170 (59.8%) cases the subject had seen a doctor within three months of suicide, almost all of them because of complaints relevant to the illness which led to suicide; in 69 (24.1%) cases that doctor was a psychiatrist. Ninety-three (32.7%) had previously been in a psychiatric hospital, and 17 (6%) were in hospital at the time of suicide—10 of them in psychiatric hospitals. A further 93 (32.7%) had



City of Dublin divided into areas of residence.

never been in a psychiatric hospital, nor had they seen a doctor within three months of their deaths.

Intimation.—Only 23 were known to have intimated either verbally or in writing that they would commit suicide.

Previous Attempts.—Only 22 were known to have made previous attempts and in only two cases was there a known family history of suicide.

Note.—Thirty-one had left suicide notes. Some of these were aggressive, some self-recriminatory, and some merely warned visitors to beware of the gas used in the suicidal act.

Diagnosis.—Thirty-two had taken alcohol prior to their suicide and 18 had a history of excessive drinking. Of those in whom a diagnosis other than that of a depressive illness could be established there were 30 schizophrenics, 9 psychopaths, 7 alcoholics, 2 epileptics, and 1 homosexual.

Verdict.—In 136 (47.8%) cases a verdict of suicide was returned. In the remainder the verdict was couched in broad general terms, phenomenologically descriptive of the circumstances leading to death and excluding any consideration of motivation.

Discussion

The official suicide rate for the whole of the Republic of Ireland during 1954 to 1963 has fluctuated from 2.0 to 2.7 per 100,000 (Statistical Abstracts, 1954-63), and we have found the official rate for Dublin city and county to be 2.2 per 100,000 for the same period. Our investigation has shown that the rate of suicide based on all cases of sudden death coming to the coroners in the Dublin area for the same time was 4.5 per 100,000, and thus twice the official rate. We have no reason to suspect that there is any difference in the recording practices of coroners in the rest of Ireland regarding the proportion of self-inflicted deaths in which an official verdict of suicide is returned. In fact the constancy of the official Irish suicide rate from year to year and the small variations over time between the four provinces of the Republic (Statistical Abstracts, 1954-63) suggest that such is not the case. In consequence we feel justified in assuming that the true suicide rate for the whole of Ireland for the period under study was, in keeping with our Dublin experience, twice the official rate and thus almost certainly below 5.5 per 100,000.

The degree to which rates determined from coroners' inquests under-represent the real suicide incidence has often been discussed (MacDonald, 1964), but there is no evidence to suggest that suicides are less likely to come to the coroner's court in Ireland than elsewhere.

Our findings indicate that the Irish suicide rate is almost certainly one of the lowest in Europe—only Northern Ireland has an official rate which is lower than our true rate (W.H.O., 1961). The antecedents and determinants of this are not our concern here.

When we come to examine the characteristics of our sample in more detail, the first point we notice is that we found almost as many females as males, and this is of considerable interest, because nearly every study of this nature has indicated a considerable male excess. Normally in western countries the male rate is about four times greater than that of females (Stengel and Cook, 1958). From the age-specific rates (Table I) it can be seen that there is little difference in rate between the sexes from ages 30 to 60 and it is only at the top and bottom ends of the scale that the male excess becomes a significant one. Many European suicide rates have shown a trend in recent years towards a relative increase in female suicides, particularly in the higher age groups (Swinscow, 1951). It is possible that what we have seen is in keeping with this trend, though we have no comparative data for earlier years in Ireland. The universal tendency for suicide risk to increase with age is clearly shown, though there is a moderate but not significant dip in the 40-49 age group. There is also a decline from 70 onwards.

1395

It is fairly standard finding in studies of this nature that the single and widowed have higher rates than the married, though Sainsbury's (1955) findings were only moderately weighted in this direction. Our sample, with a married rate of 5.1 per 100,000 of population aged 14 and over as against a single rate of 5.5, conforms with the London experience. When those aged 50 and over are considered it is found that the single-and-widowed/married ratio increases only slightly, the rates being 10.7 per 100,000 and 8.0 per 100,000.

Influence of Social Topography

Many workers have dealt with the social topography of large cities (Faris and Dunham, 1939; Dayton, 1940; Hyde and Kingsley, 1944). Broadly speaking, they see large cities as composed of a number of concentric sectors or zones. The inner and most central area comprises the socially disorganized, structurally poor, cosmopolitan part of a city in which there is a high proportion of lodging-houses and single-person tenement residences, hotels, and hostels. In this central area there is little social cohesion and people tend to lead isolated and lonely lives. Often, too, there is a high proportion of elderly and single or widowed people in this inner circle. Many researchers, such as Cavan (1928) and Mowrer (1942), have found high suicide rates and high mental-illness-prevalence rates, particularly for schizophrenia and psychopathy, in this inner city ring. Outside of this central area there tends to be a zone of factory and office development, and surrounding this and on the periphery is the residential section of either workingclass schemes or more affluent middle-class and upper-incomegroup housing. In terms of this topography and by reference to the map it is apparent that areas 1, 2, 7, and 8 represent for Dublin the central section. It is necessary to point out that there is a high proportion of hotels, lodging-houses, roominghouses, and so on in these areas, particularly in Dublin 1 and 2 and parts of Dublin 7. Dublin 1 has 18.5% of its population living alone compared with 2.9% of the whole north city, and Dublin 2 has 6.7% single-person households compared with 3.2% for the whole south city (Statistical Abstracts, 1963).

From Table II it can be seen that the four central areas have four of the highest suicide rates in the whole city. The position of Dublin 4, however, with a rate of 6.8 per 100,000, needs some explanation. This is in most part an upper-middle-class residential area, and it may well be that the high rate here is a reflection of socio-economic status rather than anything else, thus lending support to what we were unable to assess otherwise -that the higher income groups have big suicide rates. Of our total of suicides 27.7% were living alone at the time of the event, considerably in excess of the figure of 3% for the total population. Of the suicides in Dublin 1 and 2 38.9% were living alone, which is again considerably higher than the percentage of the total population of these two areas who live alone. These figures correspond closely with those of Sainsbury (1955), who found that 29.7% of his suicides were living alone, whereas the percentage of people living alone in the total area at risk was only 7.5%.

Other Factors

Most studies show a rise in the suicide rate in middle and late spring. Our figures are suggestive in that there is a fairly substantial increase in April, but otherwise no marked trend emerges. At the time of their deaths 15.5% of our suicides were unemployed, significantly in excess of the live register for the period considered, which varied from 1.5% to 4.5%. However, rather than conclude that unemployment is a major determinant in suicide, it is important to realize that both suicide and unemployment were often symptomatic of a fundamental disorganization of personality functioning which led to

unemployment some time before the eventual suicide. Carbon-monoxide poisoning and drowning were in equal part responsible for almost three-quarters of our cases. It is remarkable that tablets of one sort or another accounted for so small a proportion, but we have no explanation to offer for this.

It is of interest that 61.8% of our suicides seemed attributable to disturbances of personality or overt psychiatric illness. This is in close agreement with Sainsbury's (1955) finding of 64% in his series of 390 suicides in London. It would appear that the majority of those who eventually commit suicide do so because of personality difficulties or because of frank psychiatric illness. That doctors have ample time to take appropriate action if they recognize the symptoms is indicated by the fact that 59.8% of our cases were seen by a doctor within three months of the suicide, almost all of them because of complaints symptomatic of the disturbance which eventually led to death. In 24.1% of cases the doctor seen was in fact a psychiatrist. In our series 32.7% had previously been in a psychiatric hospital, and it would seem that the suicide risk for those who had previously been in a psychiatric hospital is high. Twenty-eight (9.8%) of our suicides were born outside the Republic of Ireland, a proportion substantially greater than that of foreignborn in the area. This is consonant with findings from most studies, which have shown immigrants to have higher suicide rates than the native-born.

Conclusion

Suicide is a universal phenomenon of human behaviour, apparently varying widely in incidence in different cultural backgrounds. We have found the Dublin, and inferred the Irish, rate to be among the lowest of all European rates. We have found in Dublin, as have other workers elsewhere, that suicide was commoner in the elderly, in the single and widowed, and in the central disorganized areas of our city, in which large numbers of people live in social isolation. We found, unlike other workers, that the sex distribution was almost equal.

We found a tendency for the rate to rise in late spring, and found it to be higher among the foreign-born of the population. We were unable to distinguish rates by social class. The suicide rate among the unemployed was high. We found that in the majority of our cases suicide was committed for personality or psychiatric reasons and that it was carried out mostly and in equal part by carbon-monoxide poisoning and by drowning. We found that the majority of them had seen their doctor shortly before their death and that one-third of them had previously been in a psychiatric hospital.

Summary

A survey of suicide in Dublin covering the years 1954 to 1963 was carried out by examination of coroners' records.

A mean annual suicide rate of 4.5 per 100,000 population was established for the period investigated. The rate increased with age up to age 70 and declined from then on. At all ages the male rate exceeded the female. Rates were highest in the central city areas, which are regions of low social cohesion containing a high proportion of the elderly, the unattached, and the migrant living alone in single-room or hostel accommodation.

Carbon-monoxide poisoning and drowning account for almost three-quarters of all deaths, and well over half of the suicides had been to a doctor within three months of their death. In addition, one-third had previously been in a psychiatric hospital.

We wish to thank Dr. D. A. McErlean, City Coroner, Dr. J. P. Brennan, County Coroner, and their clerk Mr. T. Tighe, who gave

Office, Dublin

us all possible help and cooperation all through. We also wish to express our gratitude to Professor E. Stengel for his advice and

REFERENCES

Carstairs, G. M. (1961). Proc. roy. Soc. Med., 54, 262.
Cavan, R. S. (1928). Suicide. Univ. of Chicago Press.
Payton, N. A. (1940). New Facts on Mental Disorders. Thomas, Springfield, Illinois. Farberow, N. L., and Shneidman, E. S. (1961). The Cry for Help. McGraw-Hill, New York. Office, Dublin.
Sainsbury, P. (1955). Suicide in London. Chapman and Hall, London.
Statistical Abstracts (1954-63). Statistics Office, Dublin.
Stengel, E., and Cook, N. G. (1958). Attempted Suicide. Chapman and Hall. London.
Swinscow, D. (1951). Brit. med. J., 1, 1417.
W.H.O. (1961). Epidemiological and Vital Statistics Report, 14, 156 et

Faris, R. E. L., and Dunham, H. W. (1939). Mental Disorders in Urban Areas. Univ. of Chicago Press.
Hyde, R. W., and Kingsley, L. V. (1944). New Engl. 7. Med., 231, 543, 571.

MacDonald, J. M. (1964). Amer. J. Psychiat., 121, 366. Mowrer, E. R. (1942). Disorganization, Personal and Social. Philadelphia. Report of the Inspector for Mental Hospitals, 1953-1962. Stationery

seq. Geneva.

Torsion of the Testis: a Review of 58 Cases

W. R. ALLAN, B.A., M.B., F.R.C.S., F.R.C.S.ED.; R. B. BROWN, M.B., B.S., B.SC., F.R.C.S.

Brit. med. J., 1966, 1, 1396-1397

Torsion of the testis is not uncommon in urological practice as a whole. The condition, however, is not often seen by the general practitioner, and consequently diagnosis may be delayed and early operation not always achieved. This paper presents the results obtained from current methods of diagnosis and treatment, with special reference to the problem of early diagnosis. Fifty-eight consecutive cases operated on during 1948-64 following the diagnosis of torsion of the testis have been reviewed and contrasted with a similar consecutive number of cases of acute epididymo-orchitis, as the latter provide the main problem in diagnosis.

Aetiology

Torsion usually occurs in an imperfectly descended testis. In some cases this failure of descent is obvious, but more commonly, though the testis may seem to be well placed in the scrotum, it has failed to settle completely and attain fixation. The posterior borders of the testis and the body of the epididymis, instead of consolidating with the posterior scrotal layers, are left with a complete investment of tunica vaginalis, forming a mesentery or mesorchium for the testis. terminal part of the spermatic cord may also have an abnormal complete investment of tunica, causing an intravaginal testis to hang supported on a narrow pedicle. The anatomical defect is developmental, usually bilateral, and occasionally familial (Jones, 1962).

In only 30 of the 58 cases were detailed descriptions given of the anatomical condition found at operation, but 28 of these had a voluminous tunica, 26 had a long intravaginal cord, and 24 had a well-developed mesorchium. This mobility of the testis is thought to allow a twist, which is initiated by the cremaster and often associated with minor effort. It is of some interest that approximately half the cases in this series occurred in the spring.

Clinical Features

The clinical aspects of torsion in the cases reviewed bore a marked resemblance, and several features of diagnostic importance emerged. Torsion of the testis is described in the newborn, when it has to be differentiated from trauma and infarction, but the common age of incidence is in older children and young adults. In the present series the average age at torsion was $16\frac{1}{2}$, with a range of 4 to 69 years, and most of the cases (70%) occurred in the 13 to 18 age group. This contrasts clearly with acute epididymo-orchitis, which falls into an older age group, cases being far more common over the age of 25 (Fig. 1).

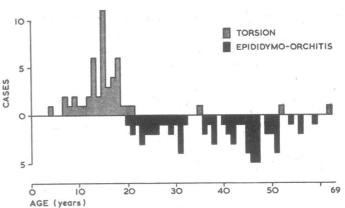


Fig. 1.—Differing age incidence of torsion of the testis and acute epididymo-orchitis.

The presentation of torsion was found to be fairly constant, with the sudden onset of pain in the testis, groin, or lower abdomen, usually but not always severe, and associated with nausea but not commonly vomiting. Urinary symptoms were absent in all cases. In contrast, the pain in epididymitis was slow in onset, and most of the patients (75%) admitted to urinary symptoms, often noting them before the onset of pain.

On examination the temperature was raised in only 20% of cases of torsion, the average finding being 98.8° F. (37.1° C.). A raised temperature was more commonly found in epididymitis (95%), and the average reading, 100.4° F. (38° C.), was much higher. Pain and tenderness usually precluded accurate palpation, but after torsion the testis was sometimes noted to be high in the scrotum. Rapid swelling of the testis and scrotum, with early scrotal oedema and later redness of the skin, were often found in torsion. This oedema and inflammation of the scrotum was not noted in the early stages of acute epididymoorchitis. The relief of pain afforded by elevation of the testis in epididymitis was not found helpful in distinguishing cases

Diagnostic aids, such as aspiration of hydrocele fluid and examination of the urine, were of some help, but in the presence