SUICIDE IN MALTA

A Preliminary Study

J.A. MEILAK
B.Pharm., M.D., M.R.C.Psych., D.P.M.

P. CASSAR
S.B.St.J., M.D., B.Sc., D.P.M., F.R.Hist.S.

J.L. GRECH
Ph.C., M.D., D.C.P. (Lond.), D.M.J., F.C.Path.

This paper was read, in a slightly shorter version, at the 1974 Clinical and Scientific Meeting of the Association of Surgeons and Physicians of Malta.

The purpose of this study is to survey the incidence and features of suicide in the Maltese Island, with special reference to the social, psychiatric and forensic aspects. The study covers the period between 1955 and 1972.

This is a preliminary report. The processing of the collected data has as yet not been finalised. Certain social factors will need more detailed analysis. However, it was considered useful that the communication of some of the results be made even at this stage.

Method

Cases included in this study fall into one of the following three groups:

Group 1. — Where the Magistrate's verdict was that of suicide.

Group 2. — Where the Magistrate's verdict was an open one, but where suicide was highly probable.

Group 3. — Where, only in a few cases, the Magistrate's verdict was one of accidental death, but because of certain circumstances as revealed by this study, suicide was considered probable.

All these cases were originally retrieved from a comprehensive register of Magistrate's inquests on uncertified deaths kept by one of us. The relative Magistrate's 'proces verbal' was systematically examined and data were extracted therefrom. This involved the scrutiny of all depositions of witnesses at the inquest, including general practitioners, psychiatrists, police-officers, relatives, friends or other persons who could furnish any relevant information. The post-mortem protocol was also examined. All the cases were checked with regard to possible admission to Mount Carmel Hospital, in which case the hospital records were also examined. The information extracted from all these documents was recorded in a special item-sheet constructed specifically for the purpose of this survey.

Incidence

The total number of deaths which fulfilled the set criteria, which occurred between 1955 and 1972, is 171. Of these, 128 were males and 43 were females, giving a male/female ratio of 2.97 : 1. The yearly total distribution is shown in Figure I. The incidence over the period under review is quite variable, but on the whole there is a slight upward trend. The annual rate expressed as a mean for the whole period is 2.9 per 100,000 population. If the period is divided into two equal intervals, the rate for the years 1955-63 is 2.8, and for the years 1964-72 it is 3.1. During the whole period, and included in the total number, there were 24 persons not of Maltese nationality, accounting for 14% of the cases. It may prove worthwhile to compare the two groups, but for the present purpose, only the methods by which suicide was committed are considered.

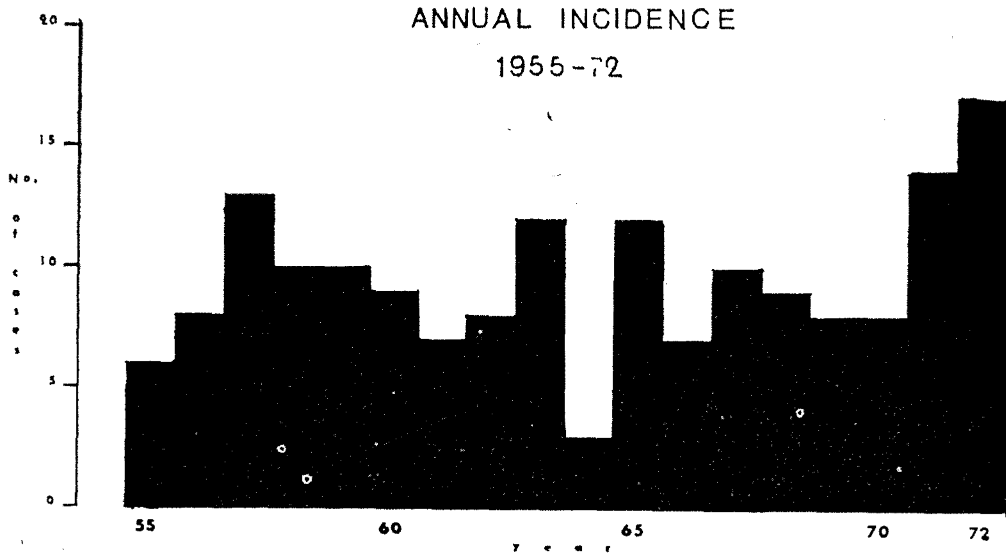

Fig. 1

Age distribution

Figure II shows the incidence of the various age-groups and in both sexes, expressed as age-specific rates per 100,000 based on population figures for 1964. There is a progressive increase in the age-specific rate for males with a peak at the age-group 55-64, followed by a slight decline. There is also a peak in the same age-group in females, but a second higher peak occurs at the age of 75 and over.

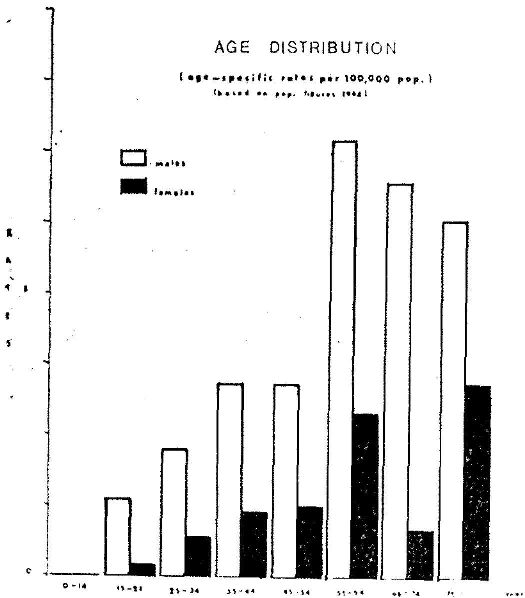

Fig. 2

Diurnal variations

Most suicides occur between 2 a.m. and 5 p.m., and the lowest incidence is observed in the late hours of the evening. (Figure III). The peak hour is between 7 and 8 a.m. This may correspond with the diurnal variation in mood, often manifest in the 'endogenous' type of depression. It was not possible to establish with enough certainty the time of death in 21 of the cases.

Seasonal variations

As can be seen from Figure IV, the highest incidence occurs in May. A smaller peak occurs in September. The lowest number recorded was in the months of August, October and December.

Marital status

In Table I are shown the marital states of all the subjects at the time of death. Figures are given as raw-scores and as specific rates per 100,000 population for each marital state for males and females. For this latter purpose, estimates were based on the distribution of the population from the age of 17 upwards. (Malta

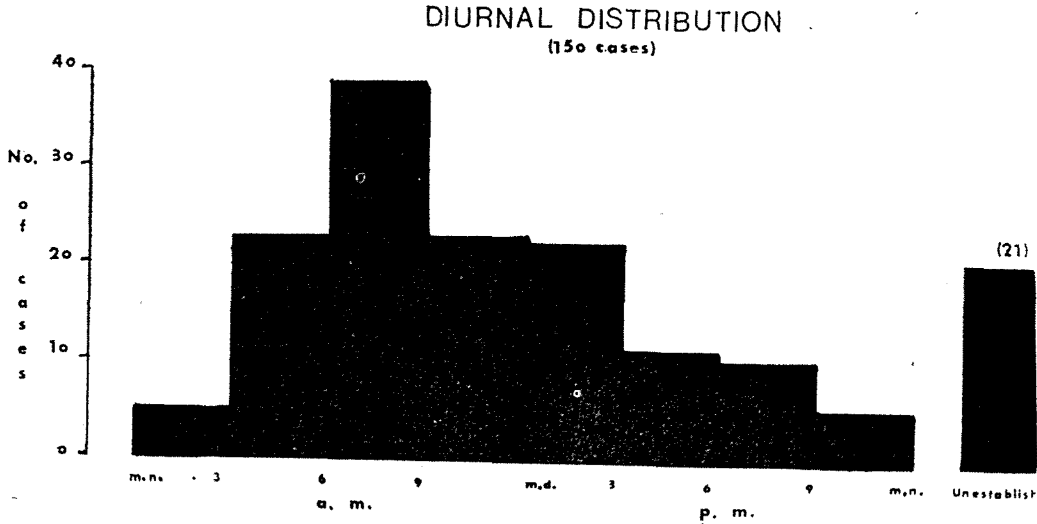

Fig. 3

Census, 1967). It is evident that the incidence among widowers is very high.

Table I

Status	*Males*		*Females*	
	No.	*Rate per 100,000*	*No.*	*Rate per 100,000*
Single	47	6.9	13	1.7
Married	59	6.0	24	2.2
Widowed	17	24.8	5	2.5
Separated	3	—	1	—
Not known	2	—	—	—

(Rate per population over 17)

Social isolation

Of the males, 13.3% were living alone prior to their death. The figure for females is 16.4%. These proportions appear fairly high when only about 3% of the general population are living in single person households. (Malta Census, 1967 — Report on Housing Characteristics).

Population density

The relationship exisiting between the incidence of suicide and the density of population was examined. (Table 2) Following population density statistics (Malta Census, 1967), suicides were allocated to five different density areas, and the rate for each area was calculated. In this section, suicides occurring in hospital and suicides committed by foreigners were excluded to prevent a bias with regards to certain localities. As can be seen, the rate is fairly uniform, excepting that for areas of medium-high density, where the rate is somewhat higher.

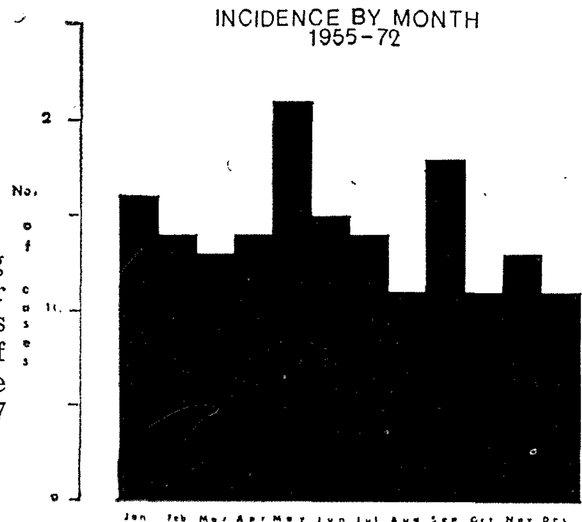

Fig. 4

Recent stress

Recent stresses were identifiable in 45% of the cases under review, and were detectable in 50% of the males, but only

Table II

Population density

Pop. per sq. mile	*No. of suicides*	*Total pop. for each density area*	*Rate per 100,000*
40,000 and over	18	41,000	2.2
30,000–40,000	39	77,400	2.8
10,000–30,000	61	158,000	2.1
Under 10,000	8	20,200	2.2
Rural areas	7	17,800	2.2

in 30.2% of the females. An attempt has been made to list and classify the various stresses that might have been an important factor in the provocation of suicide. (Table 3) These situations were described by persons who were close to the deceased at some time immediately preceeding the death and to which they ascribed an important role. Under this heading, physical illness was taken into account only if the subject was overtly distressed by its presence.

Concomitant physical disease

Moderate to severe physical illness or disability was a feature in 39.2% of the total number of cases, and both sexes were equally affected. Cardiovascular disease was the most common condition. (Table 4)

Table III
RECENT STRESS

Nature of stress	*Males*	*Females*	*Total*
Threat to life through serious ilness; severe pain or incapacity	15	3	18
Disturbed family relations	13	4	17
Financial worries	11	—	11
Bereavement	4	3	7
Insecurity in work	5	—	5
Sexual conflicts	4	—	4
Separations	3	1	4
Illness in relatives	3	1	4
Imprisonment	2	—	2
Unemployment	1	—	1
Failure in examinations	1	—	1
Fear of arrest	1	—	1
Impending eviction	1	—	1
Enforced loneliness	1	—	1

Table IV
ASSOCIATED PHYSICAL DISORDERS

System	*Males*	*Females*	*Total*
Cardiovascular	10	4	14
Genito-urinary	5	4	9
Respiratory	3	5	8
Digestive	8	—	8
Nervous	4	1	5
Musculo-skeletal	5	—	5
Diabetes	6	2	8
Blindness; deafness	6	—	6
Unspecified	3	1	4
Total	50 (39.1%)	17 (39.5%)	67 (39.2%)

Previous suicidal attempts

Previous attempts at self-destruction were recorded in 21 cases (11 males and 10 females). Thus 8.6% of the males and 23.3% of the females had made a previous attempt before the last successful act. This discrepancy between the two sexes will be investigated further.

Medical care

A general practitioner or a specialist other than a psychiatrist, had been consulted within the last six months previous to the death in 32.2% of the cases. A history of psychiatric care of variable duration within the six months preceeding death, was obtainable in 21.1%; and more females (30.2%) than males (17.9%) were under such care. Admission to Mount Carmel Hospital at sometime, featured in the history of 21 cases (12.3%), so that 9.4% of the males and 20.9% of the females in the group had received psychiatric treatment in hospital.

Psychiatric illness

The available records were examined with the object of retrieving information that would make a psychiatric diagnosis possible. This approach persented great difficulties, particularly because the medico-legal protocol was not in many cases informative enough, or lacked proper orientation in this respect. Whenever medical evidence or case-notes were available, an opinion on the psychiatric status of the subject could be formed. The information given at the inquest by witnesses who had known the deceased well, often contributed towards establishing revealing aspects on his mental status. On this basis, it was possible to identify important mental symptoms in 77.2% of the cases, and this in 74.2% of the males and in 86% of the females. Depressive states ranged highest by far, with schizophrenia, paranoid psychosis and personality disorder accounting for almost two-thirds of the remaining cases. (Table 5)

Table V

PSYCHIATRIC DIAGNOSIS

	Males	*Females*	*Total*
Depression	63	25	88
Schizophrenia Paranoid states	11	4	15
Personality disorder	7	5	12
Alcoholism	5	1	6
Arteriopathic Psychosis	3	—	3
Epilepsy	3	—	3
Senile Dementia	1	1	2
Drug dependence	—	1	1
Kleinefelter Syndrome with transsexualism	1	—	1
Huntington's Chorea	1	—	1

Suicide in institutions

Suicide was committed by 14 patients while receiving treatment in a hospital, and Table 6 shows the distribution. Two persons committed suicide while serving a sentence in H.M.'s Civil Prison.

Table VI

SUICIDE IN INSTITUTIONS

Hospital	*No.*
St. Luke's	7
Mt. Carmel	3
St. Vincent de Paul	2
Military	2
Total	14
Prison	2

Method of suicide

The methods of suicide are shown in Table 7. Important differences are readily discernible regarding the methods adopted by the two sexes, as well as when a comparison is made between Maltese persons and those of foreign nationality. While physical violence is the most common method in the Maltese group, self-poisoning is much more prevalent among the foreign nationals. A striking difference is evident in the frequency of the use of carbon monoxide gas by the two nationality groups. There is evidence of changing patterns over the years, and self-poisoning appears to be gradually becoming more popular among the Maltese nationals. This is probably due in part to

Table VII

METHOD OF SUICIDE

	Maltese			*Other nationality*			
	M.	*F.*	*T.*	*M.*	*F.*	*T.*	*Total*
Jumping from heights	47	11	58	1	2	3	61
Hanging	29	2	31	4	2	6	37
Drowning	10	12	22	1	—	1	23
Shooting	12	—	12	—	—	—	12
Poisoning — drugs	5	7	12	2	2	4	16
— chemicals	7	—	7	2	—	2	9
— CO gas	1	1	2	4	3	7	9
Cut throat	2	—	2	1	—	1	3
Burning	—	1	1	—	—	—	1

the fact that more and more persons are receiving medication with antidepressants and tranquillizers.

Discussion

It is generally agreed that suicide is under-reported. The sum of the definite suicide rate and the equivocal death rate may give a closer approximation to the true incidence of suicide; this has been noted by Barraclough (1973).

The suicide rate for the Maltese Islands (following the criteria mentioned above), is among the lowest in Europe. Our rate of 2.9 per 100,000 is lower than that of Eire (5.4 per 100,000). A few other national figures are given for comparison: West Berlin 42.8; France 20.6; England and Wales 11.9 (W.H.O., 1971). The suicide rate in Malta seems to be increasing slightly, in contrast to the progressively declining rate in England and Wales.

The Maltese suicide sex-ratio of three males to one female is similar to that of other countries in Europe and, of the United States, the usual proportion being 2 or 3 men for every woman. Sainsbury (1955) in London obtained a ratio of 2 : 1. The male preponderance is even higher in Norway, Finland and Eire.

It is an undisputed fact that there is an increased risk of suicide with advancing years. Statistics for England and Wales by the Registrar-General (1970) show a peak incidence in males in the age 75-84, and in females in the age 65-74. The rate in Malta increases sharply at 55, but the peak incidence is somewhat different. Several factors may explain the association between old age and suicide; among these are the presence of serious physical disease, the severity of the involutional and senile depressions, and the role of social stresses like poor financial circumstances, bereavement and isolation.

The monthly variation in incidence found in this study is in agreement with other investigations. Suicides are commoner in late spring and early summer, and this pattern applies to most countries with a temperate climate. (Dahlgren, 1945, Sainsbury 1955). However this phenomenon is not so evident, or is absent, in tropical and sub-tropical countries (Asuni, 1962).

According to Durkheim (1951), marriage has a protective influence against suicide. Sainsbury (1955), however, in his London survey, found that the married had a higher rate. In our case, single males have a slightly increased risk than their married counterparts. Risk is dramatically increased for widowers. With females, the different marital states do not show much difference in risk; widows are definitely not so suicide-prone as widowers.

Social isolation is a difficult factor to estimate. With our methods, the only pointer that could be assessed satisfactorily, was whether the individual was living alone or with others. Admittedly, this is only one aspect of the problem; and it is

not always reliable, as a person who lives alone can have satisfying social contacts. However, as our figures show, people who live alone have a higher incidence of suicide. Is social isolation one of the causes of self-destruction? This is a very controversial problem. Hare (1956) has shown that isolation is often the result of self-segregation; hence, the same abnormal personality traits which lead to isolation may also predispose to suicide.

In Europe, on the whole, suicide is commoner in large cities than in the smaller towns and rural areas. This finding has also been corroborated in Hong Kong. We have not been able to prove any clear correlation between population density and suicide. Our rural areas have practically the same rate as the more densely populated urban areas. It may well be that the forces which lead to social breakdown in the large industrialized towns, do not operate in the Maltese city, which is a fairly stable residential area.

Nearly 40% of our suicides were suffering from physical disease. In about 12%, physical illness was an important determining factor. These findings agree with the Chichester studies (Barraclough, 1968; Sainsbury, 1968), where 40% had a concomitant physical disorder. It has been said that suicidal attempts provoked by physical disease are more often successful than those made from any other cause (Metropolitan Life Insurance, 1945).

Sainsbury (1955) found that 47% of his London suicides had a definite or probable mental disorder. In the more recent Chichester survey, a psychiatric diagnosis of depression was made in 80% of cases. In our series, 77% of the suicides had shown symptoms pointing to the presence of mental disorder, and at least half of the total number were suffering from a severe depression. Different authors quote widely differing figures. Such a disparity is to be expected. The criteria for the presence of mental illness may vary between different investigators. A more important factor is the adequacy of the data present in the records on which the research is based. It is very probable that inquests, which are more exhaustive in this respect, will disclose a higher rate of mental disorder.

Conclusion

The findings reported here are in general agreement with observations made in other European countries. In Malta, suicide is most frequent in late-middle age and in old age, and is commoner among males than females. The frequent association with physical illness is significant. Symptoms of mental illness are observable in the large majority of cases, and severe depressive disorders are by far the most common. Some form of stress is encountered in about half the cases, but how far this factor determines the act cannot be established with certainty, as perspectives and values so often change in depression. Living alone is associated with increased risk. Risk is also increased for widowers. Slightly less than half of the total number had come in contact with one or more medical practitioners in the period preceding their death. The method chosen to accomplish the act reflects cultural patterns; a change in preferences is becoming apparent.

References

ASUNI, T. (1962) Brit. Med. J. 2-, 1091.

BARRACLOUGH, B.M. *et al.* (1968) Proc. of the 4th Int. Conf. for Suicide Prevention, Los Angeles, 791.

BARRACLOUGH, B.M. (1973). Brit. J. Psychiat. *122*, 95.

DAHLGREN, K.G. (1945). On Suicide and Attempted Suicide. Lund.

DEMOGRAPHIC REVIEW OF THE MALTESE ISLANDS (1964). Table 6, p.7 Central Office of Statistics, Malta.

DURKHEIM, E. (1951). Suicide. Glencoe, Free Press, Chicago.

HARE, E.H. (1956). Mental Illness and Social Conditions in Bristol. J. Ment. Sci., *102*, 349.

MALTA CENSUS 1967, Table P3, pp.72-74; Table P5, pp.147-148, Central Office of Statistics, Malta.

MALTA CENSUS (1967), Report on Housing Characteristics. Table H4, p.240; Maps of Population Density.

METROPOLITAN LIFE INSURANCE (1945). Statistical Bulletin, *26*, No. 2, p.9.

REGISTRAR GENERAL (1970). Suicide and

self-inflicted injury, Table 1, in Office of Health Economics Information Sheet, No. 18, Oct. 72.

SAINSBURY, P. (1955). Suicide in London. Maudsley Monograph No. 1, 64, Chapman and Hall.

SAINSBURY, P. (1968). Suicide and depression, in Recent Developments in Affective Disorders, eds. A. Coppen and A. Walk. Royal Medico-Psychological Ass.

W.H.O. (1971) World Health Annual Statistics (1968), Vol. 1, Vital Statistics and Causes of Death, Table 4.1.2. Geneva; W.H.O.