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Pattern of suicide: a review of autopsies conducted at the University Hospital, Kuala Lumpur

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Abstract

Suicide is one of the ten leading causes of death in the world, accounting for more than 400,000 deaths annually. The pattern of suicide and the incidence of suicide vary from country to country. Cultural, religious and social values play some role in suicide. Compared to the West and some of the countries in the Asian region the incidence of suicide is low in Malaysia. A three-year retrospective study of all the autopsies performed at the University Hospital, Kuala Lumpur was analysed and the cases that were definitely determined as suicides were further studied. 48.8% of all suicides were ethnic Indians though Indians formed only 8% of the Malaysian population. 38.1% of suicides were Chinese who formed 26% of the population while only 3.6% were Malays, who formed 59% of the population. The preferred methods of suicide were poisoning and hanging. The majority were in the age group 20-40 yr. The study may have missed some cases that would have been wrongly concluded as accidental deaths and a few others where the police would have released the bodies without postmortem examinations.

Key words: Suicide, hanging, poisoning

INTRODUCTION

Suicide is defined in "Stone's Manual to the Justices" as the self-killing of a person of sound mind and years of discretion, that means it is done voluntarily and intentionally. Rettersol (1970) and Fawcett *et al*. (1969) have defined a suicide attempt as any action resulting in self-injury when this action is undertaken consciously for the purpose of self-destruction and death is prevented by intervention of factors beyond the person's control such as mechanical failure, detection or rescue by another party or medical intervention. Suicidal behavior is often referred to as a "cry for help", because it appears that most people who commit suicide or attempt to commit suicide really did not want to die. Some want to end their pain and fail to see any other way to do so other than suicide. It is also viewed as "a coping mechanism used to deal with stress and undesirable life situations".

For centuries, English law designated suicide as a special crime punished by mutilation of the body, sanctions on the place of burial, forfeiture of property, and censure of the family. This was reversed in 1961 by the Suicide Act 1961. However, it is questionable whether such harsh punishments ever reduced the incidence of suicides. Presently, in many countries, an attempt to commit suicide is not a crime. In the united States of America, except in nine states, a suicide attempt is not a crime. Sri Lanka, where presently the youth suicide rate is one of the highest in the world, has amended section 302 of the penal code so that attempted suicide is no longer a crime.[1] In Malaysia, a suicide attempt is still a criminal offence under section 309 of the penal code.[2]

Many authorities believe that the cause of suicide later in life depends on bitter childhood experiences such as a broken family, insecurity, lack of parental love and affection, physical and sexual abuse and deprivation. The continuing bouts of these factors lead to uncertainty, fear, anxiety and depression that push the child into a state of despair which may continue into adult life. If this attitude is not corrected the desire to survive is replaced with a wish to die.[3] Besides these, loneliness, depressive illnesses, stresses and strains of modem day materialistic life, alcohol dependence, chronic illnesses, distressing life situations such as marital problems, failed love affairs, unemployment are other factors which also contribute to suicide.[4] Cultural, religious, social and interestingly even political factors determine the incidence and the patterns of suicide.[5] Hindus and Buddhists believe in

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rebirth and consider suicide by self-immolation as a form of purification and both religions do not have strong sanctions against suicide.[6,7] In Japan, suicide is accepted or even expected in the face of disgrace. Islam, Judaism and Christianity condemn suicide and consider it as a sin.[8] Thousands of LTTE fighters in Sri Lanka have committed suicide by swallowing cyanide or blowing themselves up as human bombs for political cause.[9]

In Malaysia, hanging, poisoning and fall from heights appear to be the most common suicide methods. The methods of suicide also depend on the environment, availability of suicidal materials, nature of job one does and other personal beliefs.[10] For instance, the workers in the plantation sector in Malaysia often resorted to ingestion of agro-chemicals such as paraquat because of its free availability. India and Sri Lanka show a very high incidence of suicide by ingesting insecticides and weedicides, which too is due to the free availability of such substances. Suicides by swallowing cyanide salts, for example, are commonly found amongst laboratory workers or gold workers who had easy access to cyanide salts. Swallowing the seed kernel of the yellow oleander plant to commit suicide occurs in the dry zones of Sri Lanka and India where this plant grows wild. It is a very deadly poison containing a cardiogenic glycoside. This habit was probably introduced into Sri Lanka by the Indian Movies.

Suicide carries a stigma and often family members try to cover up both attempted suicides and suicides. Besides, suicide will lead to loss of insurance claims and other kinds of compensations. The responsibility of deciding on the manner of death as to whether it was a natural, suicidal, accidental or homicidal death lies with the coroner or the magistrate who investigates such deaths. However, in certain situations the pathologists who perform autopsies in such deaths may have to advice the law enforcement agencies as well as the coroner or the magistrate as to whether a particular death was a suicide or not. This study reports on the autopsy findings on suicides in Malaysians.

MATERIALS AND METHODS

A retrospective review of all autopsies that were conducted at the Department of Pathology, University Hospital Kuala Lumpur (UHKL) over the three-year period from 1 August 1995 to 31 July 1998 was carried out. The cases consisted of deaths that occurred at the UHKL and the bodies of victims that were referred to the UHKL for autopsy. However, the police may have released some of the suicide deaths that occurred at the UHKL after the inquest but without an autopsy examination and such cases are not included in this study. This Department of Pathology UHKL handled less than one-third of the number of medico-legal autopsies in and around the City of Kuala Lumpur and Petaling Jaya.

The records of 1775 autopsies were reviewed. From these, 114 cases were initially selected and looked at in greater detail. Based on the information provided by the police, eyewitness accounts and history from relatives, scene visits, and autopsy findings along with toxicological and other relevant investigations, 84 cases were determined as suicides with certainty. The rest of the cases were suspicious but there were difficulties encountered in definitely ascertaining them as suicides. Kuala Lumpur and other surrounding cities have a large population of illegal immigrant workers from several Asian countries and many deaths had no social details, particularly bodies found floating in rivers, and fallen from heights. It was difficult to determine whether many of such deaths were suicides or accidents.

The selected cases were studied in detail as to the age, sex, marital status, ethnicity, social status, method employed for committing suicide and any possible underlying causes such as distressing life situations and psychiatric illnesses. Definite cases and the doubtful cases were studied separately. Suicide always carries a stigma and hence the relatives in many situations attempt to hide the reasons for suicide and some totally deny the possibility of suicide. It is also true that at times relatives and friends are taken by surprise when someone close to them had committed suicide for no obvious reasons.

RESULTS

A total of 84 definite cases of suicides were studied in detail. Table 1 shows the distribution of suicide according to ethnicity. It is noteworthy that only 3 (3.6%) of cases were ethnic Malays although Malays constituted 59% of the normal population in Peninsular Malaysia. In contrast, 41 (48.8%) of cases were Indians although Indians formed only 8% of the population. 32 (38.1%) were Chinese, who formed 26% of the normal population. It is relevant to note that "Indians" included those who originated from the Indian sub-continent and also those from Sri Lanka, formally known as Ceylon.

TABLE 1: Autopsied suicidal deaths by ethnic group

Ethnic Group	Number (%) of cases	Normal Population Distribution (Peninsular Malaysia)
Malay	3 (3.6)	59%
Chinese	32 (38.1)	26%
Indian	41 (48.8)	8%
Others	8 (9.5)	7%
Total	84 (100)	100%

Table 2 shows the racial and gender preferences for different methods of suicide. Hanging, poisoning and jumping from heights are the three most popular methods. There were a total of 31 deaths by hanging and of these, 16 were Indians and 11 were Chinese. 30 cases died from poisoning, of whom 20 were Indians and 8 were Chinese. There were 13 cases of jumping from high-rise buildings and of those 8 were Chinese but none were Indians. Interestingly, of the eight Chinese, 7 were females. Poisoning remained a popular method of committing suicide among the Indians. The three deaths due to bums were all Indians and among them 2 were females.

Of the 3 Malays in this study, all three were females. Two of them jumped from high buildings while one had taken an overdose of drug. Two had interpersonal relationship problems while one was a psychiatric patient. It is interesting to note that not a single Malay male was amongst the suicide deaths.

The group "others" consisted of 4 Indonesians, 3 Bangladeshis and one British and these 8 were foreigners. 4 died from hanging of which 2 were young Indonesian housemaids. 3 fell from heights. The British national died of inhalation of car exhaust fumes. The latter method is only common amongst the Westerners and our autopsy review over the past few years showed that there was only one other case, a Chinese car mechanic, who committed suicide by inhalation of car exhaust fumes.

Overall there were 39 females and 45 males. 40 were mamed, 35 unmarried, 2 were divorced, one widowed and in 6 cases no details were available.

In 56 cases some definite reason for suicide was identified. 24 had definite psychiatric illnesses such as schizophrenia and depression and some of them were on medication. 3 had previous attempts at suicide. 6 were suffering from chronic illnesses, old age and depression. 23 were depressed owing to various reasons such as love affairs, marital problems, family disputes, financial problems, unemployment and unwanted pregnancy in one unmarried girl. 4 of them left behind a suicidal note. 24 were unemployed and most of these victims were from the lower socio-economic group. In 8 cases there were definite problems related to alcohol and other drugs.

Table **3** shows the age and gender distribution amongst the suicide victims. 46 (54.8%) deaths were in the 21 to 40 years age-group. There were 12 (14.3%) deaths under 20 years of age. These

TABLE 2: Suicidal methods by ethnic group and gender

Methods employed	No. of cases	Indian		Chinese		Malay		Others	
		M	F	M	F	M	F	M	F
Hanging	31	8	8	10	1	0	0	2	2
Poisoning	30	12	8	3	5	0	1	1	0
Fall from heights	13	0	0	1	7	0	2	3	0
Drowning	4	1	0	2	1	0	0	0	0
Bums	3	1	2	0	0	0	0	0	0
Trains	2	0	1	1	0	0	0	0	0
Plastic bag asphyxia	1	0	0	0	1	0	0	0	0
Total	84	22	19	17	15	0	3	6	2

two groups together formed almost 70% of cases. The youngest victim was a 13-year-old Indian girl who swallowed paraquat weedicide. The next youngest was a 15-year-old Indian girl who had set fire to herself. The youngest Chinese victims were a 20-year-old male who hanged himself and 20-year-old female who jumped from a building. The youngest Malay victim was an 18-year-old unmarried, pregnant girl who swallowed chloroquin tablets. Chloroquin is considered as a drug that could induce abortion. Had she taken it with that intention, then her death may be considered as an accidental over dosage. Most of the elderly suicides belonged to the Chinese ethnic group, the oldest being an 86-year-old Chinese lady.

TABLE 3: Distribution of autopsied suicide deaths by age-group and gender

Age-group (yr)	Male	Female	Total
< 20	3	9	12
21-30	12	11	23
31-40	15	8	23
41-50	2	6	8
51-60	7	2	9
61-70	2	2	4
> 70	1	3	4
Total	42	41	83*

*The age is not known in one adult Chinese male

DISCUSSION

This study shows a very low rate of suicide in Malaysia compared to many Western and Eastern countries. However, this is a very limited study confined only to cases that were examined at the UHKL. No accurate details are available about the situation in rural Malaysia and East Malaysia. It is also important to note that owing to religious sentiments police may have released the bodies of suicide victims among Malays after inquest but without autopsy examinations. In addition there were 30 deaths which were suspicious but there was no definite evidence available to classify them as suicides.

As mentioned earlier, suicide is one of the ten leading causes of death in the world accounting for more than 400,000 deaths annually. In the United States, suicide is the eighth leading cause of death." It was estimated that 27 Sri Lankans commit suicide every day (The Sunday Times, 23.09.97). The suicide rate for Sri Lanka had increased from 6.5 per 100,000 in 1950 to 44.3 in 1988, one of the highest suicide rates in the world (Ceylon Daily news, 10.06.1996). Lithuania ranks next to Sri Lanka with a suicide rate of 42.0 per 100,000 population.[12] A study conducted in Saudi Arabia too showed a very low suicide rate of 1.1 per 100,000.[13] However, that study comprised of many expatriate workers and most of the suicides were among them. Therefore, if the expatriate group were excluded then the rate would have dropped further. The rate of suicide in Malaysia for 1994 was 0.18 per 100,000. In neighbouring Singapore, however, the rate was 13.1 for 100,000 in 1986.[6] Malaysia has a population of 20 million people consisting of three major ethnic groups and Table 1 shows the population ratio of various ethnic groups. Malays who formed 59% of the population had a suicide rate of 3.6% where as Indians who formed 8% of the population showed a suicide rate of 48.8% and the Chinese forming 26% of the population showed a suicide rate of 38.1%. It is very evident that suicide is not a problem amongst the Malays. In Singapore the ethnic composition is quite different, Chinese forms 76.6%, Malays 15% and Indians 6%. Yet the rate of suicide reflected almost a similar pattern with Indians leading with 20.3 per 100,000 followed by Chinese 14.8 per 100,000 and lastly Malays 2.1 per 100,000.[6] The Saudi Arabian study too showed a similar pattern with non-Arabs particularly Indians, Bangladeshis and Sri Lankans completely out numbering the locals.[13] This study showed that out of a total of 221 suicides, 170 (77%) were Asians and non-Asians and Saudis were 51. Among the Asians, Indians topped the list with 94 (43%) deaths.

It is very obvious that Indians form the most vulnerable group in committing suicide and majority of them was Hindus. In contrast suicide rate amongst Malays and Muslims in Islamic countries like Saudi Arabia, Kuwait (0.4 per 100,000 population in 1985) and Egypt (0.03 per 100,000 population in 1980) are extremely low.[6]

According to various studies, religion appears to be one of the important factors that control the rate of suicides. Islam strongly forbids suicide and the social support system is also strong among Muslims and Malays to look after those who have problems.[14,15] Chinese are mostly Buddhists and Buddhism similar to Hinduism does not censure suicide and hence it is not seriously considered as a sin. Besides, the Chinese are materialistic and achievement-oriented and mainly concerned about the family interests. Pressure to do well starts at a very young age and hence the Chinese are put into

enormous pressure and stress early in life.[4] Naturally this may lead to anxiety, depression and even suicide in the event of failure to achieve the expected target. The main problem amongst the Indians appears to be multifactorial namely religious and cultural values, economic problems, impulsive behaviour and alcoholism among males. Male dominance with lesser freedom among Indian females owing to the cultural pattern too may be a reason for suicide among Indian women particularly those who are educated and employed.[16]

Psychiatric illnesses still remain an important cause for suicide. Depression in particular and other types of mental illnesses contribute to a large number of suicides. This study too showed that 47 (55.9%) of the 84 victims had some form of definite mental illness ranging from depression, schizophrenia to suicidal tendencies. The middle aged Malay woman who jumped from a high building was suffering from long term psychiatric illness. It is estimated in England that 1 in 9 people could be expected to spend some time as an inpatient in a psychiatric hospital, the most common diagnosis being depression.[17] With families becoming increasingly isolated in modem day materialistic life and the traditional close knit extended family unit becoming something of the past, it is inevitable that owing to this social isolation more and more people are going to be affected with anxiety, depression and suicidal tendencies, a price that we have to pay for the so-called modem day life.

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