

Completed Suicides in the District of Timur Laut, Penang Island – A Preliminary Investigation of 3 Years (2007-2009) Prospective Data

S Bhupinder DMJ(Path); T K Kumara BSc, A M Syed(AMO)

Department of Forensic Medicine, Penang Hospital, 10990 Jalan Residensi, Penang, Malaysia

SUMMARY

This article describes the completed suicide patterns which occurred in the Timur Laut district of Penang Island, Malaysia. In a prospective cohort study over the three years period (2007-2009) there were 138 cases of suicide deaths. The number of suicide deaths for the year 2007, 2008 and 2009 were 45, 41 and 52 deaths, respectively. Majority of the suicide deaths were by jumping from height (47.1%), followed by hanging (34.1%) and by drowning (10.9%). The male victims outnumbered females in a 3 : 1 ratio.

KEYWORDS:

Forensic medicine, deaths, suicide, Timur Laut, Penang, Malaysia

INTRODUCTION

A correct classification of manner of death is important for the next-of-kin's, for insurance purposes, for research and for public health policies based on cause-of-death statistics¹. Suicide is defined as a conscious act of self-induced annihilation occurring in a life situation in which death is felt to be the best possible solution². It is a known fact that the incidence of suicide vary widely according to time, region, age group, sex and race³. A total of 138 suicidal deaths were autopsied during the three years period (2007-2009) at the Department of Forensic Medicine, Penang Hospital, Malaysia. The obtained data was statistically analysed and is presented in Figure I and Tables I-VI.

METHODS

According to a suicide comparison study, suicide statistics are generally recognized to be unreliable due to a systematic miscalculation of medically certified suicides as deaths due to undetermined violent deaths (which refer to violent not known to be accidentally or deliberately inflicted⁴). To avoid such miscalculation, in the year 2007, the Department of Forensic Medicine, Penang Hospital successfully implemented the "Death Registry System" database to record all suicide deaths autopsied in the hospital (department). The registered data was analysed using JMP 8 (SAS Institute Inc., Cary, USA) according to the methods of suicide, age groups, ethnicity, nationality, day and month of suicides and the location of the suicides* (*based on police stations of respective cases).

RESULTS

The suicide deaths in the Timur Laut district were between 41-52 cases during the three years study period (Table II). The main method of the suicide deaths was jumping from height (47.1%, $n=65$), followed by hanging (34.1%, $n=47$) and drowning (10.9%, $n=15$) (Table III). The age groups of 35-39, 40-44 and 55-59 years were at high risk (Table IV). Chinese contributed 77.5% ($n=107$) of the suicide deaths in Timur Laut district, Penang Island followed by Indians (10.9%, $n=15$) and others (8.7%, $n=12$) (Table IV). Among the 138 suicide deaths, Malaysians contributed 90% ($n=124$) of the total suicide deaths (Table I). When there is a suicide

Table I: The number of the suicide victims and their nationality in Timur Laut district, Penang Island

Nationality	N (%)
AMERICAN	1 (1)
INDIAN	3 (2)
INDONESIAN	2 (1)
MALAYSIAN	124 (90)
MYANMAR	1 (1)
NEPALESE	1 (1)
SINGAPOREAN	1 (1)
THAILAND	1 (1)
UNKNOWN	1 (1)
VIETNAMESE	3 (2)
Total	138 (100)

Table II: Numbers of suicide deaths which occurred in Timur Laut District, Penang Island

Months	Year		
	2007	2008	2009
January	8	3	3
February	5	6	4
March	1	2	3
April	0	3	3
May	7	4	7
June	5	4	2
July	0	6	7
August	2	1	6
September	5	2	5
October	6	5	4
November	4	1	6
December	2	4	2
Total	45	41	52

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Corresponding Author: Dato' Dr Bhupinder Singh, Senior Consultant Forensic Pathologist, Department of Forensic Medicine, Penang Hospital
Email: bhupinder.dr@gmail.com

death in an area, the death would be investigated by the investigation officer from the nearest police station. Based on this understanding the suicidal deaths were separated according to the respective police stations as shown in Table VI. There are four police stations that received the high number of suicide cases and they are Jelutong (18.8%, *n*=26), Sg. Nibong (15.9%, *n*=22), Air Itam (13%, *n*=18) and Jalan Patani (13%, *n*=18).

DISCUSSION

The Timur Laut district is the most highly populated district in Penang with the population of 494 000, 502 000 and 511 300 person for the year 2007, 2008 and 2009, respectively^{5,6}. The common methods of suicide deaths in Timur Laut district were jumping from height followed by hanging and drowning (Table III). Similarly, in Singapore the commonest method of suicide was jumping from height⁷. On the contrary, compared to 6 months study done by National Suicide Registry Malaysia hanging, strangulation and suffocation found to be the preferred methods of suicide⁸. In Kuala Lumpur, Nadesan⁹, Murty *et al.*¹⁰ and Hayati *et al.*¹¹ found poisoning and hanging were the preferred method of suicide. Another interesting finding is that self-immolation was only amongst the Indian ethnic group similar to Nadesan⁹ findings and it also has been reported as a common suicidal behavior in eastern Sri Lanka¹².

In the Timur Laut district, Penang Island, when the suicide deaths were analysed according to the day of incident, less suicide deaths occurred on Sunday while Thursday recorded

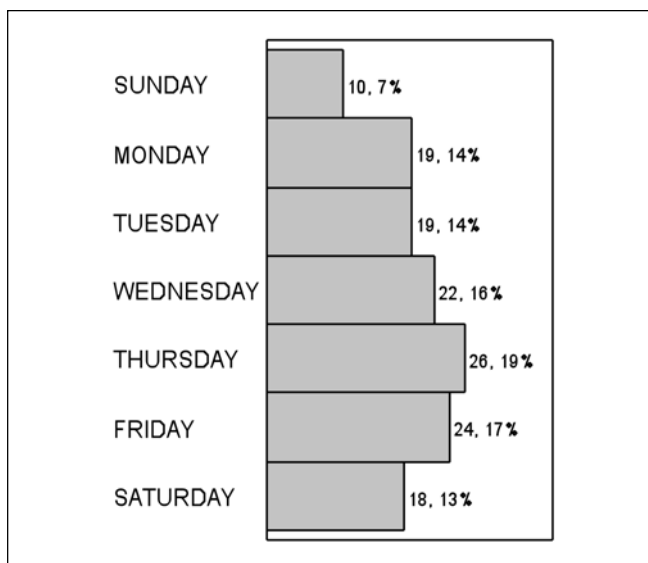


Fig. I: The number and percentage of suicide deaths by days of incidences in Timur Laut district, Penang Island.

the highest incidence of suicides though it can occur at any time of the day (Figure I). Comparing by gender, males were found to be more successful in completing the suicide. Similar patterns were also observed in other studies conducted in Malaysia^{8,9,10} and others worldwide¹³ except for China where more completed suicides were amongst females¹⁴. The age group at highest risk in this part of Penang Island is the age group of 40-44 years while the age groups

Table III: Gender comparison among the ethnicity on the methods of suicide in Timur Laut district, Penang Island (2007-2009) (F = Female, M = Male)

Suicide methods	Chinese		Indian		Malay		Others		Total (%)
	F	M	F	M	F	M	F	M	
Burn	0	0	0	2	0	0	0	0	2 (1.4)
Drowning	2	9	0	3	0	0	0	1	15 (10.9)
Hanging	6	29	1	4	0	2	1	4	47 (34.1)
Jumping from height	17	38	3	1	1	0	4	1	65 (47.1)
Poisoning	0	6	0	1	0	0	1	1	9 (6.5)
Total	25	82	4	11	1	2	6	7	138 (100)

Table IV: Number of suicide deaths according to the age groups, race and gender in Timur Laut district, Penang Island (F= Female; M= Male)

Age group	Chinese		Indian		Malay		Others		Total (%)
	F	M	F	M	F	M	F	M	
20-24	1	4	0	1	0	1	3	1	11 (8.0)
25-29	3	4	1	1	0	0	0	0	9 (6.5)
30-34	0	4	1	2	0	0	2	2	11 (8.0)
35-39	2	12	0	1	0	0	1	1	17 (12.3)
40-44	5	15	0	2	0	0	0	0	22 (15.9)
45-49	4	5	2	1	0	1	0	0	13 (9.4)
50-54	1	8	0	0	1	0	0	0	10 (7.3)
55-59	5	11	0	1	0	0	0	1	18 (13.0)
60-64	2	7	0	1	0	0	0	0	10 (7.3)
65-69	1	6	0	0	0	0	0	1	8 (5.8)
70-74	1	3	0	1	0	0	0	0	5 (3.6)
75 above	0	3	0	0	0	0	0	0	3 (2.2)
unknown	0	0	0	0	0	0	0	1	1 (0.7)
Total	25	82	4	11	1	2	6	7	138 (100)

Table V: The population, suicide deaths and rates based on main ethnicity in Timur Laut district, Penang

*Source: Department of Statistics Malaysia, Penang. (Projections based on the 2000 Population Census)

Characteristics	2007		2008		2009	
	Female	Male	Female	Male	Female	Male
Population ('000)*						
Chinese	158.2	152.8	160.4	154.7	162.7	156.7
Indian	22.9	22.0	23.1	22.1	23.3	22.3
Malay	50.7	47.9	51.8	48.1	53.0	48.4
Suicide deaths						
Chinese	5	30	6	22	14	30
Indian	1	5	3	3	0	3
Malay	1	1	0	0	0	1
Suicide rates/100,000						
Chinese	3.0	19.6	3.7	14.0	8.6	19.0
Indian	4.3	22.7	13.0	13.6	-	13.5
Malay	1.9	2.0	-	-	-	2.0

Table VI: The number of suicidal deaths according to the respective police stations in Timur Laut district, Penang Island during the period 2007-2009

Location	Chinese		Indian		Malay		Others		Total (%)
	F	M	F	M	F	M	F	M	
A/Itam	2	13	1	2	0	0	0	0	18(13.0)
B/Feringgi	0	1	0	1	0	0	0	0	2(1.5)
Bdr Baru A.Itam	3	6	0	0	0	0	2	0	11(8.0)
Central	2	4	0	1	0	1	1	1	10(7.3)
D/Keramat	0	6	0	0	0	0	0	0	6(4.4)
Jelutong	4	16	0	3	0	0	1	2	26(18.8)
Jln Patani	3	9	2	1	0	0	2	1	18(13.0)
Kg Baru	3	4	0	0	1	1	0	0	9(6.5)
Lbh. Pantai	0	1	0	0	0	0	0	0	1(0.7)
P/Tikus	1	5	0	1	0	0	0	1	8(5.8)
Sg Nibong	5	14	0	2	0	0	0	1	22(15.9)
Tg. Tokong	2	3	1	0	0	0	0	1	7(5.1)
Total	25	82	4	11	1	2	6	7	138(100)

of 35-39 and 55-59 share about the same risk (Table IV). Studies in Kuala Lumpur found the age group of 20-40 years⁹ and 21-30 years¹⁰ were most at risk. Others found that young adults, ages 20-24, and the elderly, are at greater risk of dying by suicide¹⁵. Studies found that elderly men (> 60 years) are more prone to kill themselves than elderly women^{8,16,17, and 18} and at this age group they are more likely than any other age group to die by committing suicide¹⁹. We found the retirement age group 55-59 years old contributed 13% of the total suicide deaths (Table IV). Though the correlation between the retirement and suicide in current population of study is not clear, literature reviews shows there is an increased in the number of suicides by newly retired pensioners^{20, 21}. As per ethnic group, Chinese represent 77.5% of the suicide deaths as they are the majority ethnic group in Timur Laut district, Penang Island followed by Indians and others (Table IV). A study conducted at Kuala Lumpur General Hospital¹¹ (year 1999) and University Malaya Medical Centre (UMMC)¹⁰ (year 2000-2004) found that Chinese represent the highest proportion of suicide deaths of their study locality which is similar to our findings. However, earlier study conducted at UMMC (year 1996-1998)⁹ found it was the Indian were the commonest ethnic group. In comparison, others found the highest suicidal deaths were amongst the ethnic Indians in Malaysia^{9,22}. In Kuala Lumpur the suicide rates for the Chinese, Indian and Malay is 8.6, 21.1 and 2.6 per 100,000¹¹. Current study found the suicide rate among the Chinese men was in

between 14.0-19.6 per 100,000 for the past 3 year (Table V). For the year 2007-2008 the suicide rate slightly increased among the Chinese female and double up in 2009. The male Indian ethnic group were mainly affected in the year 2007 with the suicide rate 22.7 per 100,000 and it dropped to 13.5-13.6 per 100 000 for the last two years of study. For the Indian female suicide rate there is marked fluctuation for the past 3 years and there were no suicide deaths for the female of Indian ethnic group in 2009. The suicide rate among the Malays remained below 2.0 per 100,000 and there was no suicide death among this ethnic group in 2008 though they represent the second largest population in the Timur Laut district.

In this paper, much focus has been centred on the epidemiology of completed suicides. It is estimated that approximately 25 individuals have made an attempt, and even a greater number have contemplated suicide for each suicidal death¹⁵. Whereas, for every completed suicide estimated there are about six survivors. A survivor is a person who has had someone very close to them complete suicide and these individuals should be considered to be at higher risk for suicide themselves and should be evaluated appropriately²³. Suicide risk in the general population has been associated with several factors including religion^{9,13,22,24}, socioeconomic status^{25,26}, urban and rural areas^{14,27,28}, unemployment²⁹, seasonal changes^{30,31}, medical disorders³², drugs and alcohol consumption^{15,33,34,35,36} and gambling^{34,37}.

Generally, suicide results from a complex interaction of biological, genetic, psychological, sociological, local culture and environment factors³⁸ though recent study shows that people living in families with stronger sources of social support and integration decreases risk of suicide³⁹.

In conclusion, we found the suicide rates was high amongst Chinese ethnic group, the most affected age groups was of 40-44 years old. The four main suicide hot spots in the Timur Laut district in Penang Islands were Jelutong, Sg. Nibong, Air Itam and Jalan Patani. We hope, the future suicide prevention strategies can be formed by greater understanding of the local situation and addressing the local geography of suicide deaths.

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