

## Life Events and Parasuicides in Hospital Kuala Lumpur, Malaysia

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### ABSTRACT

**Objective:** The aim of this study is to compare the prevalence of life events among parasuicide patients with the prevalence of similar life events among age, sex and race matched patients with non-chronic medical illness. **Methods:** A hospital-based case-control study using convenience sampling method was conducted in Hospital Kuala Lumpur for a period of three and a half months. A total of 50 patients admitted consecutively after an episode of parasuicide and who fulfilled criteria for entry into the study agreed to participate. For each case one age-, sex- and race-matched control was selected from the list of patients who were admitted to the same hospital for non-chronic medical illness. **Result:** Statistical analysis showed that compared with medically ill patients, parasuicide patients had significantly higher prevalence of threatening life events six months ( $p < 0.001$ ) before their act and these life events were significantly concentrated in the last one month before the attempt ( $p = 0.001$ ). Among the seven categories of life events, cases had a significant excess of interpersonal problems ( $p < 0.001$ ) that included serious problems with a close friend, neighbour or relative, break-up of a steady relationship and separation due to marital difficulties. **Conclusion:** The results suggest that there is a high prevalence of life events among parasuicide patients when compared with medically ill patients especially during the month prior to their admission to the hospital. The data also indicate that there is a significant association between suicide attempts and interpersonal problems.

**Keywords:** Life events, Parasuicide, Case-controlled, Malaysia

### INTRODUCTION

The term parasuicide is defined broadly to describe all non-fatal self-injurious behaviour with clear intent to cause bodily harm though the intention to die is often unclear. It is often used interchangeably, as in this paper, with the term suicide attempt though a strict definition of *suicide attempt* would include some indication of an intent to die. While the rate of parasuicide ranges between 2.6 and 542 per 100,000 in medically treated individuals, the lifetime prevalence from general population surveys is higher ranging between 700 and 1,100 per 100,000.<sup>[1]</sup> The risk of repetition of this behaviour is also very high with 40% of suicide attempters going on to repeat their act and 13% of them will do so in the year following their attempt.<sup>[2]</sup>

Suicide attempters commonly have psychosocial difficulties and frequently suffer from mental health problems. They are at high risk for future suicide attempts and completed suicide.<sup>[3]</sup> The global suicide rate is estimated to be about 16 per 100,000 or one death in every 40 seconds and has become the third leading cause of death among those aged 15-44 years in some countries.<sup>[4]</sup> Studies have shown that the risk of suicide following parasuicide is estimated around 3% after 10 or more years.<sup>[5, 6]</sup>

An increased rate of threatening or stressful life events in the recent history of individuals who attempt suicide or die by suicide have consistently been reported in many studies on suicidal behaviour<sup>[7]</sup> and its occurrence increases to a peak during the month preceding the attempt and is most marked in the week beforehand.<sup>[8]</sup> Earlier researchers have suggested that the main risk factor for parasuicide might have to do with interpersonal conflict, especially in relation to a partner.<sup>[9]</sup>

These findings have been supported by Beautrais *et al.* who found that individuals who made serious suicide attempts had elevated rates of life events mainly associated with interpersonal difficulties, work issues, financial difficulties, and legal problems.<sup>[7]</sup> In research looking at life events in young people, two sets of life events were commonly found to be associated with suicidal behaviour. These include relationship breakdowns; arguments with partners, family or friends; bereavement; and legal, forensic, disciplinary crises (including legal difficulties and charges and being in trouble with police).<sup>[10]</sup> Researchers have also found that these recent adverse life events are very important factors to determine future suicide risk because they make a moderate contribution to suicide attempt risk

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with estimated odds ratio (OR) ranging from 1.3 to 15.8 (median=4).<sup>[11]</sup> In Malaysia, a retrospective study of 134 case notes of the patients who attempted suicide showed that interpersonal difficulties such as marital quarrels and other family conflicts were the prominent precipitating factors in 67.3% of cases.<sup>[12]</sup>

Although the relationship between life events and parasuicide has frequently been recognized in the local and international literature, we are not aware of any local study on life events using standardized life events questionnaire. Using a standardized questionnaire will ensure more reliable and comprehensive data collection. The aim of this study is to determine the prevalence of threatening life events among parasuicide patients compared to a control group of patients with acute medical illness.

## METHODS

This case-control study was conducted in Hospital Kuala Lumpur (HKL), a 2300-bedded hospital and the largest hospital under the Ministry of Health of Malaysia, for three and a half months in 2004. Ethics approval for this study was obtained from the Ethics Committees of the Faculty of Medicine, National University of Malaysia (UKM Medical Centre) and the Ministry of Health.

The definition of parasuicide is based on WHO/EURO Multicentre Study of Parasuicide which defines parasuicide as 'an act with a non-fatal outcome in which an individual deliberately initiates a non-habitual behaviour, that without intervention from others will cause self-harm, or deliberately ingests a substance in excess of the prescribed or generally recognized dosage, and which is aimed at realizing changes that the person desires via the actual or expected physical consequences'.<sup>[13]</sup>

Sampling was carried out from consecutive series of admissions to the Hospital Kuala Lumpur following episodes of parasuicide. The cases were identified through a daily review of the admission book at the Emergency Department and psychiatric referral book at the Psychiatric Department. In HKL all the patients presented with parasuicide episode were routinely seen in the Emergency Department before they were admitted to the medical wards for further management and referral to the psychiatric clinic for psychiatric evaluation.

Exclusion criteria were: patients aged less than 16 or more than 65 years, not fit to be interviewed, diagnosed with psychotic disorder and not be able to converse in either Malay or English. A total of 50 cases was selected and they were interviewed after their doctors consider they were medically fit, often one or two days before they were discharged.

For each case one age-matched ( $\pm 5$  years), sex- and race-matched control was selected from the list of patients who were admitted to the same hospital for non-chronic medical illness. The same exclusion criteria were applied to the controls as the cases. Additionally, patients with long-standing chronic illness (information was obtained from the case notes) and past history of parasuicide and mental illness were also excluded from the study. The interview was conducted by the first author who was trained in conducting structured interview and administering questionnaires in a room to provide comfort and privacy to the participants. Prior to the interview, written consent was obtained from the respondents and for the subjects who were under 18 years old consent was obtained from their parents or legal guardian.

To exclude psychotic disorders the Mini International Neuropsychiatric Interview (M.I.N.I)<sup>[14]</sup> was used. The interviewer was trained to use the M.I.N.I. by an experienced senior psychiatrist in using the instrument. Sociodemographic questionnaire was administered to obtain information about gender, age, ethnicity, marital status, educational level, employment status, past parasuicide history and psychiatric illness of the participants.

To record threatening life events experienced by the respondents we used self-rated English and Bahasa Malaysia versions of the 12-item Life Events Questionnaire (LEQ).<sup>[15]</sup> LEQ measured threatening life events that occur in the six months prior to the parasuicide. Each item was scored 1 if it was checked and 0 if not. A total score would be the sum of all items. For the purpose of analysis, the 12 common life events were grouped into seven categories: (1) personal issues, (2) family illness or bereavement issues, (3) interpersonal issues, (4) work issues, (5) financial issues, (6) legal issues (serious problems with the law or police) and (7) other life events.<sup>[7]</sup> The English version of the LEQ has high sensitivity and good test-retest reliability.<sup>[15]</sup> The English version of LEQ was translated into Bahasa Malaysia and back translated into English to ensure the context of questionnaire was preserved. However the Bahasa Malaysia version of LEQ is yet to be validated. Permission to use all the questionnaires was obtained from the respective authors.

Data from the present study were analyzed using the Statistical Package of the Social Sciences. The comparison between groups was carried out by using Pearson's Chi-square test or Fischer exact test. Yates' correction was used where the expected values were less than 5. Confidence interval and level of significance were set at 95% and 0.05 respectively.

## RESULTS

A total of 50 patients with parasuicide and 50 medically ill inpatients aged between 17 and 53 years (median 24.5 years, 26.6 years, S.D.  $\pm 8.7$  years) were included in the study. Respondents were mainly women (78%). In term of

ethnicity, more than half (53%) of the respondents were Indians followed by Malays (40%) and Chinese (8%). A majority (70%) of the cases were either single or divorced compared to only 46% of the controls. This difference was significant ( $p=0.015$ ). Thus most of the parasuicide cases were not married. As for employment status and educational level, the result of analysis did not find any significant differences between the two groups. A fuller account of the characteristic of the respondents, may be found in Hamidin *et al.* [16]

**Table 1:** A comparison of the number of cases and controls on the presence or absence of life events six months before the study

Life events	No. of cases n (%)	No. of controls n (%)	p value
Present	50 (100%)	31 (62%)	
Absent	0 (0%)	19 (38%)	<0.001
Total	50 (100%)	50 (100%)	

**Table 2:** A comparison of the number of cases and controls on the occurrence of specific life events six months before the study

Life Event Questionnaire	cases		Controls	
	n	(%)	n	(%)
You yourself suffered a serious illness, injury or an assault.	1	(2)	2	(4)
A serious illness, injury or assault happened to a close relative.	4	(8)	3	(6)
Your parent, child or spouse died.	0	0	5	(10)
A close family, friend or another relative (aunt, cousin and grandparent) died.	8	(16)	11	(22)
You had a separation due to marital difficulties.	7	(14)	1	(2)
You broke off a steady relationship.	10	(20)	3	(6)
You had serious problem with a close friend, neighbour or relative.	40	(80)	2	(4)
You became unemployed or you were seeking work unsuccessfully for more than one month.	12	(24)	9	(18)
You were sacked from your job.	3	(6)	2	(4)
You had a major financial crisis.	14	(28)	6	(12)
You had problems with the police and a court appearance.	0	0	0	0
Something you valued was lost or stolen.	8	(16)	5	(10)

**Table 3:** Comparison of the number of cases and controls on the occurrence of specific category life events six months before the study

Life Events	cases		Controls		OR (95% CI)	p
	N	(%)	n	(%)		
1 Personal illness issues	1	(2)	2	(4)	0.5 (0.0,5.7)	1.000
2 Family illness or bereavement issues	11	(22)	18	(36)	0.5 (0.2,1.2)	0.185
3 Interpersonal issues	47	(94)	6	(12)	114.9 (27.1,487.6)	< 0.001
4 Work issues	12	(24)	10	(20)	1.3 (0.5,3.3)	0.810
5 Financial issues	14	(28)	6	(12)	2.9 (1.0,8.2)	0.078
6 Legal issues	0	0	0	0	-	-
7 Other life events	8	(16)	5	(10)	1.7 (0.5,5.7)	0.554

OR = odds ratio

CI = confidence interval

**Table 4:** Distribution of life threatening life events by month, prior to parasuicide among cases and controls

Month	1*	2	3	4	5	6	Total	
No. of life events	Cases n (%)	68 (63.5%)	14 (13%)	6 (5.6%)	4 (3.7%)	2 (1.8%)	13 (12.1%)	107 (100%)
	Controls n (%)	11 (22.4%)	14 (28.6%)	6 (12.2%)	5 (10.2%)	2 (4.1%)	11 (22.4%)	49 (100%)

\*p &lt; 0.001

*Life events in the last six months prior to the study*

All the cases reported that they had experienced at least one threatening life event in the past 6 months compared to the controls (62%) (Table 1). This difference was highly significant ( $p < 0.001$ ). Table 2 shows among the cases the most commonly reported threatening life events were serious problems with a close friend, neighbour or relative (80%), major financial crisis (28%), became unemployed or unsuccessful in looking for job for more than one month (24%) and broke off a steady relationship (20%). On the other hand, the controls reported bereavement after close family, friend or another relative (aunt, cousin and grandparent) died (22%), became unemployed or unsuccessful looking for job for more than one month (18%) and major financial crisis as their most commonly experienced threatening life events (12%).

For the purpose of analysis the 12 threatening life events were categorized into seven categories (Table 3). In the 6-month period before parasuicide, the cases reported that they had more threatening life events in the categories of interpersonal issues (94%), financial issues (28%) and work issues (24%). In contrast, the controls experienced more life events related to family illness or bereavement (36%) and work (20%). Parasuicide cases had experienced a

significant excess of interpersonal problems ( $p < 0.001$ ) compared to the controls. However, no significant differences were observed between the cases and the controls on categorized life events related to personal illness, family illness or bereavement, work issues, financial issues, legal issues and other life events.

#### *Threatening life events one month before the study*

Table 4 illustrates monthly distribution of the number of life events six months before the study. During this period the cases experienced 107 life events while the control group had only 49 life events. Of the 107 life events, the majority (63.5% or 68/107) had happened in the last month prior to the parasuicide event. During the same period, the control group experienced only (22.4% or 11/49) life events. This finding showed that the cases had a significantly higher number of life events in the one month before the act ( $p < 0.001$ ). Additionally, we noticed an interesting phenomenon in that there was an unexpectedly high frequency of life events in the 6th month prior to parasuicide when it would be expected to be lower than the months closer to the parasuicide. This could be due to subjects' recollection bias resulting in clumping together of life events that had happened prior to the 6 months.

## DISCUSSION

The main findings in this study are: a majority of the respondents were young with the mean age of  $26.6 \pm 8.7$ . Respondents were mainly women (78%). In terms of ethnicity respondents were mainly Indians (53%) followed by Malays (40%) and Chinese (8%). A majority of the cases were either single or divorced (70% versus 46% of the controls). The parasuicide cases had significantly higher prevalence of threatening life events compared to the medically ill patients during the six-month period before their act. The results of this study also revealed that more than three-fifths of the life events that were experienced by the cases happened in the last one month before the act of parasuicide.

This finding is in agreement with the study by Beautrais<sup>[10]</sup> that found "people who attempted or committed suicide had higher rates of exposure to adverse or stressful life events in the period preceding their act." This finding is also similar with the earlier study undertaken by Paykel *et al.*<sup>[8]</sup> which concluded that parasuicides "had greater number of life events in the six months preceding their act and the frequency of occurrence increased to reach a peak in the last month before the attempt." Furthermore, our finding is almost similar to the study that investigated life events associated with parasuicide in the African context conducted at three general hospitals in Kampala, Uganda<sup>[17]</sup> which found a statistical difference between the cases and the controls on the total number of life events.

Threatening life events in the category of interpersonal difficulties (including relationship breakdowns) were significantly associated with parasuicide in this study. Among the cases the commonly reported threatening life events in this category included serious problems with a close friend, neighbour or relative, broke off a steady relationship and a separation due to marital difficulties. This finding is similar to the earlier study by Beautrais *et al.*<sup>[7]</sup> that found interpersonal difficulties as a significant contributory factor to the risk of suicide attempt. The same pattern was also reported in a case-controlled study of negative life events in Uganda where partner-related interpersonal difficulty such as being emotionally mistreated was found to be significantly associated with parasuicide.<sup>[17]</sup> Locally, a retrospective study that reviewed medical records of parasuicide cases also found life events such as interpersonal difficulty as prominent reasons for the victims to carry out the act.<sup>[12]</sup>

Another interesting finding is that the present study was unable to confirm the association between life events related to work issues and parasuicide. This finding is in contrast to the review paper by Platt *et al.*<sup>[13]</sup> where overwhelming numbers of work issues particularly unemployment was associated with the parasuicide attempt and unemployment increased the risk of parasuicide. However, the result of our study is similar to the conclusion made by the recent review of several case control studies that found unemployment and parasuicide were not significantly related after controlling all the confounding factors.<sup>[11]</sup>

In addition, this study also found no significant association between life events such as personal illness, family illness and bereavement and parasuicides. One explanation is that our sample consisted mainly of younger people (a majority of the respondents were less than 34 years old). Generally, personal and family illnesses, and bereavement occur less commonly in this age group. This was supported by the previous studies that suggested these categories of life events may change with age; interpersonal difficulties and losses being more significant precipitant factors among younger people while suicidal behaviour in the elderly was found to be related to physical health problems.<sup>[18, 19]</sup>

Contrary to the finding of Beautrais *et al.*<sup>[7]</sup> who found life events like legal difficulties and charges, and getting into trouble with police were significant class of life events that were associated with parasuicide, the present study did not find such an association. Possible explanations for the different finding of this study are the small sample size resulting in a lack of statistical power, and that our society being somewhat less litigation conscious may be experiencing less legal problems overall.

The authors acknowledge that this study could not ascertain whether life events that experienced prior to the

parasuicide were independent of or caused by other factors such as sociodemographic factors, childhood and family experiences, personality traits, and psychiatric disorder.<sup>[7]</sup>

This study provides several important findings to help clinicians and mental health professionals understand the importance of life events in fuelling suicidal behaviour. Firstly, it is important that the management of individuals presenting with parasuicide includes crisis intervention aimed at resolving the precipitating crisis. Since many parasuicides are triggered by interpersonal problems, there is an obvious necessity to offer support and treatment to family members, partners as well as the parasuicide cases themselves to lessen their emotional burden. Thus, emergency doctors and mental health personnel need to be equipped with skills in crisis interventions as well as problem solving techniques.<sup>[20]</sup>

There is also a need for increased mental health support and involvement immediately after the parasuicide episode as well as after hospital discharge. The intervention such as the use of a token (green card) which allow immediate readmission to the hospital following a suicide attempt is helpful by allowing the patient access to the service where they can communicate their distress without resort to self-harm behavior again.<sup>[21]</sup> Preventive mental health initiatives such as improving family communication and problem solving especially among patients without major depression may be warranted.<sup>[22]</sup>

In addition, suicide prevention programs directed toward the general public and school should be promoted as an effective strategy to reduce suicidal behaviour. The school intervention programs that promote prosocial norms such as social competence, decision making, family connections and school bonding have been reported to reduce suicidal thoughts and plans.<sup>[23, 24]</sup> Previous research study also found empirical support for the long term community suicide prevention programs through education that utilise multiple levels of society commitment to establish community support network was effective in reducing suicidal rates.<sup>[25]</sup>

Finally, the present finding also suggests the need for investment in educational programs to increase the awareness of the public on the importance of managing stress, conflicts and other factors that are associated with mental health problems. Promoting increased sense of wellbeing by introducing wellness programs and stress management at the work place as well as programs to minimize avoidable life events (change of jobs, relocation and buying a house) or space them to a reasonable time frame can enhance adaptive coping strategies to deal with daily life stressors as well as promote life satisfaction.

We should note several limitations in this study and our findings and conclusions should be interpreted in the light of these limitations. Firstly, this study was based on hospital data, which focuses on medically treated parasuicides. In hospital based study, the finding might be biased towards patients with history of self-poisonings and self-cuttings that require admission and may miss a substantial number of people who do not seek treatment. Secondly, being a cross-sectional study the information was obtained retrospectively. The subjects' report on life events may be influenced by their current or chronic mental state or personality traits. Future studies might need to check the validity of the occurrence of life events reported by the patients with that of significant others to address subjects' recall bias.<sup>[7]</sup> Thirdly, the modest number of subjects in this study restricts the generalization and strength of the significance of the data. Finally, this study used self-report questionnaire, which, though translated and back translated, was not validated for the population of Malaysia.

## CONCLUSION

The study seemed to indicate that prevalence of threatening life events was significantly increased in cases compared to control groups especially in the month prior to parasuicide episode with interpersonal problem has been found to be the significant category of life events that fuels the parasuicide episode. The current research findings point toward some implications for suicide prevention and intervention programs directed toward the public and schools as well as a need for emergency and mental health staff to be equipped with interventional skills to manage parasuicides at Emergency Department as well immediate post-discharge period.

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