

# Attempted Suicide in Western Viti Levu, Fiji

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## Abstract:

Case records were reviewed of 132 people referred to the FSEG in Lautoka from January 2004 to December 2005 following an attempt at suicide. Seventy five percent of the study group was under age 32, 90% were Indo-Fijian and 66% female; these characteristics were significantly overrepresented compared to the demography of the source population. Findings show that social stress constitutes the primary reason for attempted suicide among all ages, genders, religions and ethnicities and suggest that Fijians and Christians may also be reacting to economic factors. A control group study of non-suicidal persons under stress is needed to distinguish characteristics of suicide attempters. Our tentative findings agree with the current perception and literature on selective demographic risks for attempted suicide – young age, Indian ethnicity, female gender and social stress.

## Introduction

The early development of counseling services in Western Viti Levu by the Family Support and Education Group (FSEG) has begun to demonstrate the extent of the need for counseling by people undergoing psychological and social stress. This area of social services has not been a priority in Fiji and we, as a society, have 'lived with' high levels of social stress – and with the consequent high levels of suicide and attempted suicide. On international comparisons, Fiji has high rates of suicide and attempted suicide within sub-groups of the population<sup>1</sup>.

The literature, national statistics and public perceptions suggest that the sub-group of suicide attempters share particular demographic and social characteristics: Indian ethnicity, female gender and relationship problems. This paper is a review of 132 case notes of people referred by Lautoka Hospital to FSEG for counseling following a suicide attempt in 2004-2005.

We were interested to describe the social situation or other precursor that led to the attempted suicide and in identifying whether the characteristics associated with suicide were also associated with attempted suicide.

## Literature review

The literature for Fiji is reviewed in 2 parts to illustrate the extent of the problem and to identify particular demographic characteristics that distinguish between suicide completers and suicide attempters are identified.

The population of the Western Division was 297,184 in 1996. The census of 1996 described the population of all Fiji as: 51% Melanesian Fijian, 42% Indo-Fijian and 7% of other ethnicity; 51% male and 49% females; 63% of males and 62% of females under age 30; 57% Christian, 33% Hindu, 7% Moslem and 3% or other religions<sup>2</sup>.

## Completed suicide

Lal<sup>3</sup> in reviewing the history of the Indian indentured labourers in Fiji found that 300 Indians had committed suicide between 1884-1925, that the suicide rate for males was twice that for females, that the high rate of 78 per hundred thousand in Fiji compared to a low 5 per hundred thousand in the provinces in India from which these people had come was 'a serious moral indictment of the indentured system in Fiji'; and, that the rate was higher among Hindus than Muslims. These early associations of suicide with Indian ethnicity and Hinduism recur throughout the literature.

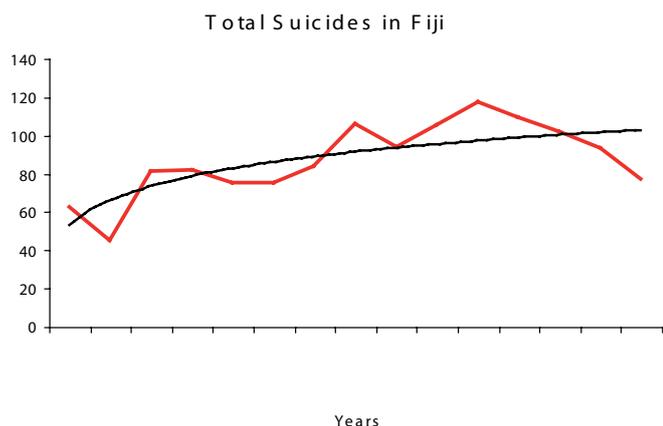
Pridmore<sup>4</sup> reviewed cases of completed suicide in Lautoka in the period 1986-1992 and estimated an average annual suicide rate of 13 per 100,000 of which 9 per 100,000 were hangings and 4 per 100,000 were poisonings. Chang, working from police records for the period 1993-98 found, for the whole of Fiji, a total of 516 (average 86 p.a.) suicides, of which 66% were

by hanging and 12% by poisoning. In addition to these, 622 attempted suicides were also recorded, (average 102 p.a.) a combined average of 188 suicide attempts per annum for this period<sup>5</sup>.

Recent Fiji Police Force statistics reveal that these high numbers have continued, while the literature shows an increasing trend from the 1960s. Ree<sup>6</sup> had shown that 308 suicides were notified in Fiji for the period 1962 to 1966, an average of 62 p.a. The 2001 police records reveal 117, by far the highest recorded figure for any year - a rate of 10.3 per 100,000. After 2001 the count of 77 deaths by suicide in 2005 shows a decline to 9.8 per 100,000.

Although the graph below shows a fall in suicide numbers, a logarithmic line drawn from the data suggests that the trend is still increasing. It will take one or two more years of data to determine whether the annual decline in numbers continues, and begins to reverse the increasing trend.

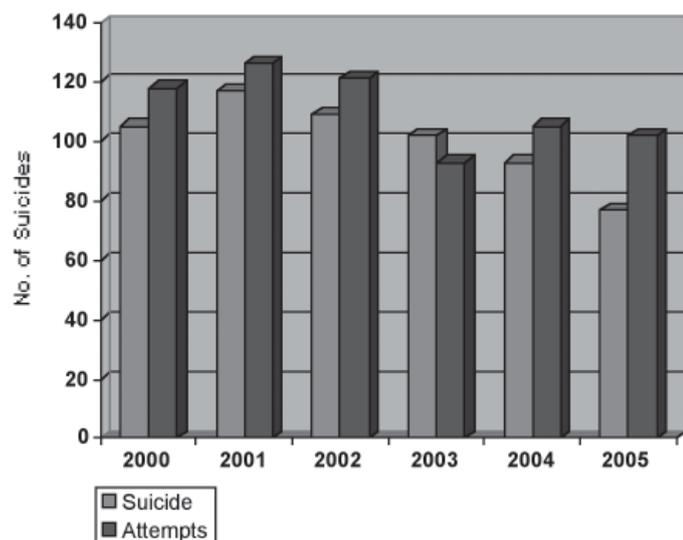
Figure 1. Suicide numbers and trend 1960's to 2005



### Attempted suicide.

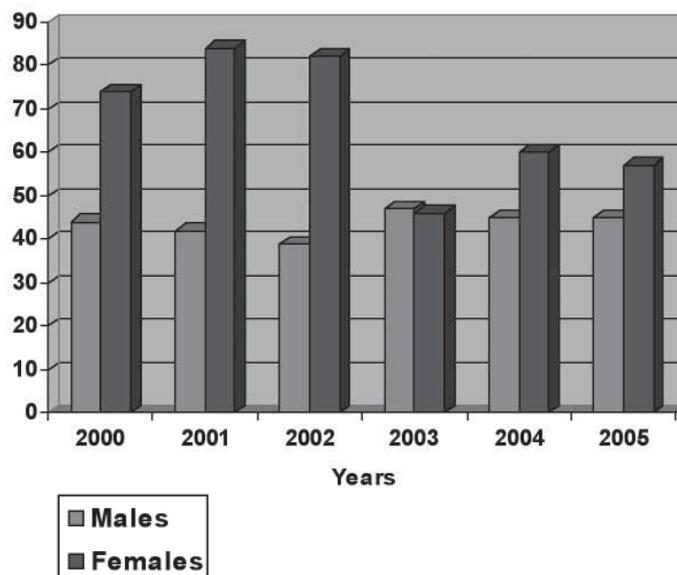
Police records on attempted suicide for Fiji for the years 2000 to 2005 (Fig. 2) show that for all years except 2003 the number of suicide attempts exceeded completed suicides. The combination of completed and attempted suicides (average n 211 p.a.) shows an increase over the 1990s. The number of attempts on record is likely to be significantly underestimated, as many never come to the attention of the police, while all completed suicides do<sup>7</sup>.

Figure 2. Number of completed and attempted suicides in Fiji 2000-2005



Police records confirm that the characteristic that distinguishes between people who complete suicides and attempt suicide is gender (Fig 3), where males predominate among the completers and females among the attempters. This finding is consistent with the international experience<sup>8</sup>.

Figure 3. Attempted Suicide by Gender in Fiji 2000-2005



Two previous studies have been conducted in Fiji on hospital patients admitted for attempted suicide. Ram & Rao<sup>9</sup> reviewed 59 cases of Paraquat poisoning in the Colonial War Memorial (CWM) Hospital in Suva for the period 1976-1981 and found the largest occurrence in the 15-24 age group (54%) and that 47 (80%) were males.

Aghanwa<sup>10</sup> reviewed cases of 39 suicide attempters admitted to CWM Hospital in Suva in the one year period from mid-January 1999 to mid-January 2000. Fifty six percent were in the age group 16-25yrs, 59% were Indo-Fijian, 62% female, 41% were students and the most commonly used methods were drugs and herbicides - Paracetamol and Paraquat being the most commonly used agents.

### Method

This study is a review of the patient characteristics of the 132 people referred to FSEG for counseling after attempted suicide and an associated hospital admission in 2004-2005. The data were summarized and coded by FSEG counselors according to an agreed coding scheme, thereby distancing the researchers from the clinical data.

### Objectives

1. To describe social situations or other common precursors that lead to attempted suicide, in particular, to identify the comparative role of social and clinical factors.
2. To identify whether demographic characteristics of gender, religion, ethnicity, educational level, marital status, type of marriage, number of children, and age group were associated with the primary reason for the attempt or with the counselor's assessment of risk of suicide as low, moderate or high made at the first counseling interview.

## Variables

Most of the variables are on nominal scales: gender (male, female), religion (Hindu, Christian, Muslim, Other), Ethnicity (Fijian, Indian, Other), educational level (primary, low-secondary, high-secondary, tertiary), marital status (single, married, de-facto, divorced, separated), type of marriage (arranged, love), reason for the attempt (crime victim, depression, domestic violence, economic, emotional abuse, family problem, marital problem, medical related, mental illness (a prior condition), other non-trauma, other trauma, relationship problem and violent abuse) and counselor’s assessment of imminent suicide risk (low, moderate, high) at the initial counseling interview. Two variables are on ratio scales: number of children and age.

An additional variable (Primary Stress) was created from the data by collapsing all of the reasons for the attempt into categories of social, clinical and other.

## Analysis Procedure

Frequency distributions were created for all variables. The Chi-Square Test for Independence/Homogeneity was used to identify statistically significant associations between the demographic variables and the variables Primary Stress, and Risk Assessment.

## Study Limitations

The data only includes cases of attempted suicide, hence the findings are only descriptive of the study group. Further comparison with a group of matched and similarly stressed people who had not attempted suicide will be necessary to determine whether the suicide attempters group possess any particular demographic or other characteristics to distinguish them from other stressed people.

## Findings

The findings are presented in 3 parts: a summary of the frequency distributions of all variables, findings of statistically significant associations of the demographic variables with Primary Stress and Assessment of Risk, and a list of potential associations that were not established but are of interest.

## Frequency Distributions

The frequency distributions show high numbers of the characteristics female, Hindu, Indian, arranged marriage, childlessness and age under 32 years; experiencing predominantly social stressors that, for most, had resolved to an assessment of low risk on initial interview. The youth of the study group is notable, with almost one third aged 20 or less and the bulk of the remainder aged less 31 or less.

**Table 1. Selected findings percentage distributions.**

| Variable           | Finding  |
|--------------------|--|
| Gender             | 87 (66%) female, 45 (34%) male   |
| Religion           | Hindu 78 (60%), Christian 29 (22%), Muslim 23 (17%), Other 1 (1%)  |
| Ethnicity          | Indian 119 (90%), Fijian 9 (7%) and ‘Others’ 4 (3%)  |
| Education Level    | Primary 22%, Junior High 35%, Senior High 34%, Tertiary 10%  |
| Marital Status     | Single 59 (45%), Married 60 (46%), Other 11 (9%)   |
| Type of Marriage   | Arranged 30 (68%), Love 14 (32%) (Total 44 married)  |
| Number of Children | 66% had no offspring   |
| Age                | Mean age males 27, females 27  |
|                    | Mean age Indo-Fijian 27  |
|                    | Mean age Fijian 24   |
| Age Group          | 42 (32%) aged 10-20, 60 (46%) aged 21-31, 17 (13%) aged 32-42, 8 (6%) aged 43-53, 3 (2%) aged 54-64, 2 (2%) aged 65-75   |
| Reason for attempt | Crime victim 1 (1%), Depression 18 (13.7%), Domestic Violence 1 (1%) Economic hardship 2 (2%), Emotional Abuse 8 (6%), Family problems 25 (19%), Marital problem 19%, Medical related 1 (1%), Mental illness 3 (2%), Other 10 (8%), Trauma 3 (2%), Relationship problems 33 (25%), Violent abuse 2 (2%). |
| Primary Stress     | Social 96 (73%), Clinical 25 (19%), other 10 (8%)  |
| Assessment of Risk | Low risk 71%, Moderate 19%, and High 10%   |

**Note.** ‘Other’ includes ill-defined or poorly recorded events.

## Tests of Independence/Homogeneity

The distribution of the full listing of reasons for the attempted at suicide did not identify any statistically significant associations with the demographic variables. However, the collapsed variable ‘Primary Stress’ showed a statistically significant association with religion, as in categories of ‘primary reason’, the ‘social’ factor (compared to ‘clinical’ and ‘other’ factors) had the highest percentage distribution among all the religious groups (Table 2) indicating the universality of social stress.

**Table 2. Primary Stress and Religion**

| Religion     | Clinical | Other | Social | TOTAL |
|--------------|----------|-------|--------|-------|
| Christian    | 4        | 7     | 18     | 29    |
| Row %        | 13.8     | 24.1  | 62.1   | 100.0 |
| Hindu        | 16       | 3     | 59     | 78    |
| Row %        | 20.5     | 3.8   | 75.6   | 100.0 |
| Muslim       | 5        | 0     | 18     | 23    |
| Row %        | 21.7     | 0.0   | 78.3   | 100.0 |
| Others       | 0        | 0     | 1      | 1     |
| Row %        | 0.0      | 0.0   | 100.0  | 100.0 |
| <b>TOTAL</b> | 25       | 10    | 96     | 131   |
| <b>Row %</b> | 19.1     | 7.6   | 73.3   | 100.0 |

Chi Square = 15.1627 df = 6, p=0.0190

Note: 1 case religion not recorded

A significant association was found between Social Stress and all categories of ethnicity and with proportionately more Fijian's among the 'other reasons' group, compared to other ethnic groups although the numbers are too small to validly confirm any association. Again it can be seen that the 'social' category of the 'Primary Stress' has the highest percentage distribution among all the ethnicities.

**Table 3. Primary Stress and Ethnicity**

| Ethnicity    | Clinical | Other | Social | TOTAL |
|--------------|----------|-------|--------|-------|
| Fijian       | 2        | 3     | 4      | 9     |
| Row %        | 22.2     | 33.3  | 44.4   | 100.0 |
| Indo Fijian  | 22       | 7     | 89     | 118   |
| Row %        | 18.6     | 5.9   | 75.4   | 100.0 |
| Others       | 1        | 0     | 3      | 4     |
| Row %        | 25.0     | 0.0   | 75.0   | 100.0 |
| <b>TOTAL</b> | 25       | 10    | 96     | 131   |
| <b>Row %</b> | 19.1     | 7.6   | 73.3   | 100.0 |

Chi square = 9.7684 df = 4 p=0.0445

Note: 1 case ethnicity not recorded

No significant associations were found with the Primary Stress for the attempt among variables of gender, age-group, education level, marital status and type of marriage and number of children. No significant associations were found with the Assessment of Risk among variables of gender, educational level, age group, religion, ethnicity, marital status and the number of children.

## Discussion

The study group was not randomly selected nor was a comparison group surveyed; hence the findings are informative but not definitive. The sample of referred patients

incorporates a range of potential selection biases arising from the referral process itself, possible ethnic or religious differences in suicidal behaviour and potential, ethnic differences in the social response to a suicide attempt, family demands and hospital procedures. The variable contribution of these factors to the outcome of a high proportion of Indian females in the study group has not been assessed.

Given the early development of counseling services in Fiji it is difficult to find a control group of persons undergoing similar levels of stress who don't resort to attempting suicide. Church groups have their own selection biases, while school counseling services may provide some opportunity for case matching, but would require the application of rigorous ethical standards. Case matching across various informal counseling scenarios may be the only option.

The important finding is the overwhelming contribution of social stress to attempted suicide in Western Viti Levu, demonstrated by its high distributions among all ethnic, religious, gender and age groups. That both Christian and Muslims combined account for 40% of the study groups is of interest given that both religions prohibit suicide.

Despite the sample selection biases in this study, this finding cautions against the fallacy of attributing too much of the phenomenon to Indo-Fijians of Hindu faith.

That almost one third of the study group was aged 20 or less and a further 46% were under age 32 may be due to various procedural selection biases, but it does raise concern about the capacity to respond to social stress among young people, given that many others never come to the attention of services. This finding alone warrants further research and the development of services to meet the needs of stressed young people.

Despite the limitations of this study the findings reveal issues of significant concern that will be pursued further as the case list expands and as the possibility of identifying a control group is explored.

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*"The greatest mistake in the treatment of diseases is that there are physicians for the body and physicians for the soul, although the two cannot be separated."*

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# ORAL HEALTH

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