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Original Research

Attempted suicide in Fiji

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***Abstract*:** Characteristics of hospitalized clients who were referred for counselling because of attempted suicide were compared to those of hospitalized clients who were referred for counselling for reasons other than attempted suicide in the four major hospitals in Fiji. The prevalence of warning signs in clients referred for attempted suicide was explored in order to better understand the factors associated with attempted suicide in Fiji, thus providing information to inform clinical practice in Fiji. Binary logistic regression and multivariable regression statistics were used to assess the relationships between socio-demographic characteristics and referral group. Of the 5581 hospitalized cases that were referred for general counselling 2.7% were referred for attempted suicide. Those in the attempted suicide group were more likely to be non-Indigenous Fijian race, male, younger age, unmarried and have higher education. The most predominant triggers identified by those attempting suicide were: loss, including interpersonal, identity and financial as well as family instability. Over half of the people who had attempted suicide in this sample acknowledged having low self-control, which was consist across age, race and gender. Over 10% acknowledged a previous attempt. There were significant differences in the presence of warning signs between the beginning and end of counselling. Attempted suicide is an important public health concern in Fiji. Specific demographic and clinical predictors may assist counsellors in targeting most those most at risk.

Keywords: **Suicide, Fiji, Pacific Islands, mental health**

Suicide is a significant public health issue in Fiji. Along with other Pacific nations, studies have identified Fiji as having a rising rate of suicide relative to global statistics (Booth, 1999; Pridmore, Lawler A., & Couper, 1996; Waqanivalu, 2005). One study found the standardised suicide rate for Fijian Indians to be 34 per 100,000, rising to 57 for those between 15 and 24 years old(Booth, 1999). In 2007 (the year for which the most recent population statistics compiled by the government of Fiji are available) there were 59 suicides and 109 attempts in a total population of just over 837,000(Fiji Bureau of Statistics, 2009a). In 2008 Fiji reported an increase to a total of 102 suicides and 116 attempted suicides for that year (total population statistics are not available), compared to global rates of 14.5 per 100,000 for completed suicide (Hawton & van Heeringen, 2009).

Hawton & van Heeringen (2009) found that a history of self-harm or attempting suicide was the strongest factor associated with eventual completed suicide, and occurred in at least 40% of cases. These investigators also noted that in prospective studies of individuals who presented to hospital after non-fatal self-poisoning or self-injury, as many as 6% died by suicide in the next year. Because of the high risk of completed suicide after self-harm or attempted suicide, experts have recommended that individuals who have attempted suicide, especially those with

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Table 1. Bivariate associations between demographic variables and attempted suicide

Variable	n (%)	Odds Ratio	95% CI	χ^2	df	p
Sex	5579			8.93	1	.0028
Female (reference group)	4238 (76%)					
Male	1341 (24%)	1.70	1.21 - 2.38			
Race	5581			85.52	2	<.0005
Fijian (reference)	2929 (52%)					
Indo-Fijians	2380 (43%)	5.50	3.63 - 8.33			
Other	272 (5%)	1.94	.74 - 5.06			
Religion	5578			74.12	3	<.0005
Christian (reference)	3437 (61%)					
Hindu	1665 (30%)	4.51	3.12 - 6.50			
Muslim	436 (8%)	3.59	12.07- 6.22			
Other/None	40 (7%)	2.02	.27 - .15			
Marital Status	5575			45.27	4	<.0005
Married (reference)	3511 (63%)					
Defacto	351 (6%)	1.74	.91 - 3.33			
Single	1152 (21%)	3.27	2.30 - 4.64			
Divorce/separated	211 (4%)	1.84	.83 - 4.08			
Window	230 (6%)	.78	.31 - 1.95			
Education	5575			10.65	2	.0048
Primary or less (reference)	1730 (31%)					
Secondary	2811 (50%)	1.64	1.08 - 2.50			
Tertiary	1034 (19%)	2.14	1.33 - 3.46			

characteristics indicating higher risk, such as repeated self-harm, should be targeted in prevention programmes(Hawton & van Heeringen, 2009). Only one study that we are aware of has examined suicide attempts in Fiji. This study, published in 2007, described the population as young (75% under age 32), Indian Fijian (90%) and female (66%) and identified social stress as a common precursor for attempts (Roberts, Cohen, Khan, & Irava, 2007). While this information provides a foundation for gaining a deeper understanding of those attempting suicide, recording the signs, symptoms and personal characteristics that differentiate these clients from other non-suicidal clinical groups is an essential step in developing effective interventions. Additionally, exploring whether "warning signs" (pre-cursors) which have been found to be predictive of increased risk of suicide attempt in overseas populations are associated with suicide attempts in Fiji will provide useful information for clinicians in Fiji.

The purpose of this study was to compare the demographic characteristics of clients who were referred for counselling for attempted suicide to those of hospitalized clients who were referred to counselling for reasons other than attempted suicide. A second aim is to describe the prevalence of warning signs in clients referred for attempted suicide in order to better understand the factors associated with attempted suicide in Fiji, thus providing information that will inform clinical practice in Fiji. This study is the first to our knowledge in Fiji to make use of a comparison group to explore the differences in demographic data and to describe clinical presentation. We must emphasise that the population for this study consists of people referred for counselling, and does not represent the Fijian population as a whole. This has implications for the interpretation of the results, which will be referred to in the description of the results, and in the discussion.

Method

Archived de-identified data, which was collected for clinical and program evaluation purposes by Pacific Counselling & Social Services of Fiji was reviewed. All data used in this study came from the archived interview data collected by practitioners as part of their regular intervention, and consisted of specific questions related to client's symptoms as well as subjective ratings on the part of the practitioner. As this data was archival the nature of the specific interventions is not known, however it is the stated practice of PCSS to provide "supportive counseling" for all clients. All 5581 cases referred to PCSS for hospital based counseling between January 2010 and December 2010 (4 regional hospitals in Fiji), were included in the analysis. Statistical analysis was performed with Medcalc version 11.5.1.1.0 and SPSS. Exploratory analyses were conducted with binary logistic regression to assess the bivariate relationships

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Table 2. Multivariate associations with attempted suicide

Variable	Odds Ratio	95%CI	χ^2	df	p
Sex			6.58	1	01*
male	1.63	1.12 - 2.38			
Race			19.11	2	<.0005*
Indo-Fijian	4.65	2.33 - 9.27			
Other	1.55	.58 - 4.12			
Religion			4.09	3	.252
Hindu	1.78	.95 - 3.34			
Muslim	1.36	.64 - 2.88			
Other/None	.79	.10 - 6.26			
Marital Status			21.36	4	<.0005*
Defacto	2.15	1.09 - 4.24			
Single	2.60	1.66 - 4.09			
Divorced/Separated	2.08	.92 - 4.67			
Widow	1.95	.71 - 5.38			
Education			7.78	2	.02*
Secondary	1.60	1.02 - 2.50			
Tertiary	2.05	1.23 - 3.42			

between socio-demographic characteristics and referral groups. The bivariate relationships between the demographic relationships were also investigated. These analyses were followed by multivariable analysis to determine the contribution of each variable while holding the others constant. Ethics approval was sought and obtained from the Fiji National Ethics Review Committee (FNERC), which is part of the Fijian Ministry of Health.

Results

Description of the total sample

Of the 5581 referral cases identified for analysis, 4238 (76%) were female and 1341 (24%) were male. The ages ranged from age 1 to 90, with a mean age of 36 (SD = 15) and median of 32 years of age. Most of the referrals (53%) identified as Indigenous Fijian, while 43% indicated they were Fijian Indian, with 5% identifying their race as Pacific Islanders, "mixed race" or other. The majority of referrals (63%) were married, with 21% indicating they were single/never married, 6% identified as being in defacto relationships, 6% widowed, 4% divorced or separated. Most referrals (62%) indicated they were Christian, with 30% Hindu, and 8% Muslim. Only 31% indicated they had either primary or little education, while 50% had secondary and 18.5% had tertiary education. Twenty-six percent (26%) of the referrals reported incomes below $50 per week, 47% reported weekly incomes below $100 and 76% were below $200 per week and 94% were below $300.

Bivariate associations of demographic variables with referral for attempted suicide

Of the 5581 cases referred for counselling; 153 (2.7%) were referred for attempted suicide, while the remaining 5438 were referred for reasons other then suicide attempt. Associations are detailed in Table 1. Those referred for attempted suicide were younger (Mean=28.28; SD=11.81) than those referred for other reasons (Mean =36.62; SD=15.59); (t (167) = 8.5, p<.0001 95%CI: -10.26 to -6.40). Logistic regression showed that for every years increase in age, the odds of being in the suicide group decreased by 4% (OR = .96, 95%CI: .94 to .97). Sex was associated with being in the suicide group ($\chi^2(2)$ =8.9, p =.002). Of the 4238 females referred for counselling, 100 (2.4%) were referred for suicide attempt, while 53 (4%) of the 1341 males were referred for attempted suicide. Thus the odds of a male who was referred for counselling being in the attempted suicide group are 1.7 those of females (95%CI: 1.21 to 2.38). Note: the population for this study is persons referred for counselling, not the population of Fiji as a whole.

Race was also significantly associated with being in the attempted suicide group ($\chi^2(2)$ = 85.52, p<.0001). The odds of Fijian-Indians being in the attempted suicide group was 5.5 that of Indigenous Fijians (95%CI: 3.63 to 8.33), while the odds of persons of other races was 1.9 that of Indigenous Fijians (95%CI .74 to 5.06). Marital status was significantly related to referral for attempted suicide ($\chi^2(4)$=45.27, p<.0001). The odds of a "single" person being referred for attempted suicide was 3.3

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Table 3. Percentage of clients referred for attempted suicide who endorsed specific triggers

Triggers	N=153	%
Interpersonal loss	106	69%
Family instability	55	36%
Loss of identity	45	29%
Acute health	11	7%
Financial loss	30	20%

times that of married persons (95%CI: 2.31 to 4.61). Those who were divorced/separated were 1.8 times more likely to be in the attempted suicide group (95% CI: .83 to 4.08) and those who were in defacto relationships were 1.7 times more likely to be in the attempted suicide referral group compared to those who were married (95%CI: .91 to 3.33). Religion was significantly associated with referral for attempted suicide ($\chi^2(3)=74.19$, p<.0001). The odds of persons who indicated their religion as Hindu were 4.5 times that of Christians as being referred for attempted suicide (95%CI: 3.12 to 6.51); and the odds of person indicating their religion as Muslim were 3.6 that of Christians (95% CI: 2.07 to 6.22) as being referred for the attempted suicide group. Level of education was significantly associated with referral for attempted suicide (χ^2 (2)=10.65, p=004). The odds of persons with secondary education being referred for attempted suicide was 1.6 that of those with only a primary or less education (95%CI: 1.08 to 2.50), while the odds of persons with tertiary education being referred for suicide attempt was 2.1 that of those with primary or less education (95%CI: 1.33 to 3.46).

Bivariate associations among demographic variables

Most of the demographic variables were also associated with each other. Only race and sex as well as religion and education were not significantly associated. The significant relationships can be summarised as follows:

Females in the sample were slightly more likely than males to give their religion as Christian, and slightly less likely to give their religion as Hindu (overall $\chi^2(3)$ =23.6, p<.0005).

Females were more likely than males to be married and less likely to be single (overall $\chi^2(4)$ =132.3, p<.0005).

Males were more likely than females to be in the lowest education category ($\chi^2(2)$ =93.8, p <.0005).

The majority of Indigenous Fijians were Christian and the majority of Indians were Hindu (69%) or Muslim (18%) (overall $\chi^2(6)$ =4289.6, p<.0005).

Indians were more likely than Indigenous Fijians and 'other' races to be married, and less likely to be single (overall $\chi^2(8)$ =187.6, p<.0005).

Indians were more likely than Indigenous Fijians and those in 'other' races to be in the lowest education category and less likely to be in the middle category (overall $\chi^2(4)$ =144.8, <.0005).

Hindus were more likely than Christians to be married, and less likely to be single (overall $\chi^2(15)$ =235.17, p<.0005).

Widowed participants were more likely to be in the lowest education category than those in other groups, and less likely to be in the highest education group (overall $\chi^2(10)$ =462.557, p<.0005).

Participants with lower education were older (F(2, 5572) = 648.2, p< .0005).

Males were older than females (F(1, 5577) = 111.8, p<.0005).

Widowed participants were the oldest on average, single participants were youngest, with other marital groups in between (F(4, 5570) = 699.2, p<.0005).

Indians were oldest, with a mean age of 38.6, while Fijians had a mean age of 35 (F(2, 5578) = 44.3, p<.0005).

Hindus were the oldest (39.6), while the mean age of Christians and Muslims was approximately equal at 35 ((F(3, 5574) = 33.0, p<.0005).

Given the associations between the variables a multiple logistic regression was carried out, in which variables that had been found to be related to the attempted suicide grouping (as shown in Table 1) were entered together. This allowed an assessment of the association of each variable with the criterion variable when the other variables were held constant.

Multivariable associations of demographic variables with attempted suicide

The multivariable model was significant ($\chi^2(13)$ =196.75, p<.0001). After controlling for all variables four out of the five predictor variables remained significantly associated with attempted suicide including age, gender ($\chi^2(1)=6.5$, p=.01), race ($\chi^2(2)=19.11$, p<.0005; education $\chi^2(2)$ =7.78, p=.02; and marital status $\chi^2(4)=21.36$, p<.0005. Religion was not significant $\chi^2(3)=4.09$, p=.252. OR's remained highest for Fijian-Indians race (OR=4.65, 95%CI: 2.33 to 9.27), single (OR=2.60, 95%CI: 1.66 to 4.09), defacto (OR=2.15, 95%CI: 1.09 to 4.24), divorced marital status (OR=2.08, 95%CI: .92 to 4.67) and tertiary education (OR=2.05, 95%CI: 1.23 to 3.42). See table 2 for details of this analysis.

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Table 4. Assessment of warning signs: initial and final assessment

Warning Sign	Initial assessment	Final assessment	Difference test
Level of suicidal intent	47%*	4.5%*	z=-6.66, p<.0005*
Hopelessness	45%	<1%	$\chi^2(1)=86.01$, p=<.0005*
Anxiety	30%	2%	$\chi^2(1)=38.52$, p<.0005*
Rage	34%	0	$\chi^2(1)=50.01$, p<.0005*
Agitation	35%	1.3%	$\chi^2(1)=52.01$, p<.0005*
Feeling trapped	53.6%	1.3%	$\chi^2(1)=78.01$, p<.0005*
Dramatic mood changes	29%	0	$\chi^2(1)=42.02$, p<.0005*
Feels lack of purpose	49%	<1%	$\chi^2(1)=70.11$, p<.0005*
Social withdrawal	20%	0	$\chi^2(1)=29.03$, p<.0005*

* rated 3-10 on 10 pt scale

Interactions

Because it was possible that associations between a variable (e.g., gender) and attempted suicide could differ depending on the value of another variable (e.g., age) a number of interaction terms were tested in the model. These tests revealed one significant interaction, that between sex and marital status. To explore the nature of the interaction we examined the individual interaction contrasts to see which were the source of the overall interaction effect. A very clear result was obtained: in all marital groups there was a greater proportion of males than females in the attempted suicide group, except for the single category, and here the difference was reversed, with more females than males being in the attempted suicide group. This reversal was reflected by the one significant interaction contrast, which compared the married and single groups: the odds of married males being in the attempted suicide group were 4.4 times those of married females, while the odds of single men being in the suicide group were .63 of those of single women (an overall effect reflected in the interaction contrast by an OR of 7.0, p< .0005, 95% CI 3.2 to 15.3).

Attempted suicide referral group

Those clients who were referred for attempted suicide (n = 153) underwent a clinical assessment and the data from these assessments provide further information about the group.

History and method of suicide attempts

Almost ten percent (9.8%) of those who were referred for a suicide attempt said that they had made a previous attempt. The most common method of attempted suicide was intentional self-poisoning (78.4%). An additional 10.5% of the total group attempted suicide by hanging, strangulation and suffocation. There was a significant difference between method used and religion ($\chi^2(39)=55.08$, p=.0454). There were no significant differences between males and females in terms of the type of method used ($\chi^2(13)=18.61$, p=.135) or race and type of method used ($\chi^2(26)=31.61$, p=.206).

Triggers

Clients were assessed for their perception of what precipitated the suicidal crises and encouraged to endorse as many "triggers" as they felt relevant. The percentage of clients endorsing each trigger is listed in table 3. The most commonly endorsed triggers were interpersonal loss, family loss or identity loss. On average each respondent listed two triggers (Mean =1.85) and there were no differences between males (Mean =1.84) and females (Mean =1.86) in terms of the number of responses listed. Males were somewhat more likely to endorse financial loss ($\chi^2(1)=3.88$, p=.049). There were no differences between males and females in terms of any other triggers. There were no differences between the number of triggers endorsed by Indigenous Fijians (Mean =1.82) and Fijian Indians (Mean =1.85). People of different marital status endorsed triggers differently; separated and widowed people were more likely to indicate that significant financial loss was a trigger than were married, defacto or single people ($\chi^2(4)= 15.99$, p=.003). There were no differences between people of different marital status with regard to any of the other triggers.

Self Control

Fifty-six percent (56.2%) of those referred for attempted suicide assessed themselves as having "low self-control". Independently, counselors assessed 51.6% of the clients as having low self-control and 48.4% as demonstrating reckless behavior. The agreement between client and counselor ratings of client low self-control was .greater than chance, with Cohen's kappa value of 0.62 (p < .0005) (Cohen,

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1960). There was no relationship between measures of self-control and any of the demographic variables.

Warning Signs

Counsellors assessed current warning signs, as shown in Table 5, at the beginning and end of counselling. Overall there were significant changes from the first assessment to the assessment prior to discharge. Clients were asked to rate their current intent to kill themselves at the beginning and again at the end of treatment using a 1- 10 scale. At the first assessment 47% rated themselves at a 3 or higher with 29.4% indicating their current intent was at a 10. At the final assessment 4.5% rated their intent as 3 or higher. A Wilcoxon Signed Ranks Test showed a significant difference between these two measures ($z=-6.66$, $p<.0005$).

A number of other warning signs were assessed as either being present or not present (yes/no) at the beginning and end of treatment. McNemar's test for correlated proportions showed significant decreases in all warning signs, including : hopelessness: 44% decreasing to <1% ($\chi^2(1)=86.01$, $p=<.0005$); anxiety: 30% decreasing to 2% ($\chi^2(1)=38.52$, $p<.0005$); rage: 34% decreasing to 0 ($\chi^2(1)=50.01$, $p<.0005$); agitation: 35% decreasing to 1.3% ($\chi^2(1)=52.01$, $p<.0005$); feeling trapped: 52% decreasing to 1.3% ($\chi^2(1)=78.01$, $p<.0005$); dramatic mood changes: 29% decreasing to 0 ($\chi^2(1)=42.02$, $p<.0005$); feels lack of purpose in life: 49% decreasing to <.1% ($\chi^2(1)=70.11$, $p<.0005$); social withdrawal: 20% decreasing to 0 ($\chi^2(1)=29.03$, $p<.0005$).

Discussion

Variables associated with suicide attempt in a general hospitalized sample of people who were referred for counselling include: Non-Indigenous Fijian race, male, younger age, unmarried and higher education. To the best of our knowledge this is the first study in Fiji to compare persons attempting suicide with a comparison group of hospitalized patients referred for counselling for other reasons; and to present OR's associated with a number of demographic and clinical characteristics. While some findings are similar to those from other countries and previous studies in Fiji, there are also some important differences.

As with previous findings on suicide and attempted suicide in pacific countries, younger age(Booth, 1999; Roberts, Cohen, Khan, & Irava, 2007) was associated with attempted suicide in this study as well. Minority race has been associated with increased risk in many countries (Australian Bureau of Statistics, 2008; McKenzie & Serfary, 2003) including Fiji (Booth, 1999; Roberts, Cohen, Khan, & Irava, 2007). In this study, the overall counselling referral rate for each of the two main races in Fiji (53% Indigenous Fijian, 43% Fijian Indians) roughly reflected the percentage in the total population (56% Indigenous Fijian and 37% Fijian Indians)(Fiji Bureau of Statistics, 2007), while the referral rate for attempted suicide was significantly higher for Fijian Indians (5% of all counselling referrals) compared to Indigenous Fijians(1%). These findings may have their basis in both the historical colonial treatment of Fijian Indians which included indentured servitude (Auxier, Forster, & Kuruleca, 2005), current social conditions (Asia Development Bank, 2005) and rapidly changing social expectations(Auxier, Forster, & Kuruleca, 2005). While religion has been found to be predictive of attempted suicide in previous studies (Booth, 1999; Roberts, Cohen, Khan, & Irava, 2007); in this study once the influence of race was accounted for the impact of religion was not significant. This finding suggests that race, not religion, is the driving factor with regard to attempted suicide, and that prohibition against suicide in the Christian and Muslim religions previously hypothesised to be protective may not be as relevant at this point in time in Fiji. This in itself could be a result of changing social conditions.

As with other studies in Fiji (Booth, 1999; Roberts, Cohen, Khan, & Irava, 2007) and data collected by the Fijian police force(Fiji Bureau of Statistics, 2009a), the absolute number of females referred for attempted suicide was higher than males. While almost twice as many females (n=100) were referred for attempted suicide than males (n=53); the most recent population data available for Fiji (2007) reports a relatively equal number of males and females in the total population; with n=427176 (51%) males to n=410095 (49%) females (Fiji Bureau of Statistics, 2009b), suggesting a higher overall rate of attempted suicide for females.

The inclusion of a comparison group also enabled us to examine the proportion of 'total counselling referrals' of each gender referred for attempted suicide, which interestingly revealed a significantly higher proportion of males who were referred for attempted suicide. This comparison takes into account the likely higher percentage of hospitalized females, which in turn may have been the reason for an overall higher proportion of females referred for counselling for any reason. Studies in other countries have found that hospital utilizations are higher for females primarily because of maternity (Cylus, Hartman, Washington, Andrews, & Catlin, 2010), which is also likely in general hospitals in Fiji. It is important to note that the sample is made up of only those were referred for counselling, while compliance with hospital procedure would see most if not all of those who attempted suicide referred for counselling, referrals of those who did not attempt

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suicide would have been influenced by a range of factors, most importantly the biases of the referring physicians and nurses. Counselling is a relatively new service in Fiji (Auxier, Forster, & Kuruleca, 2005). It was only introduced in the hospitals in 2005 as part of an antenatal HIV pre-test counselling process. Given the limited training nurses and physicians in Fiji have in terms of identifying emotional distress, those patients who do not express overt symptoms may be less likely to be referred. This could be disproportionately affect the number of males, who may be less likely to express overt emotional distress, and thus be referred for "other reasons". Males may also be seen to have less interest in counselling and therefore be less likely to be referred for other reasons.

The interaction found between marital status and gender suggests that marriage is protective for females but not males. The finding that females in a defacto relationship were also at higher risk compared to those who are married suggests that the presence of a relationship, while helpful, is not as protective as actual marriage for females. This may be related to expectations for marriage and family for females in both the traditional Fijian Indian and Indigenous Fijian populations, thus creating a higher risk for those females who for whatever reason are not married. Surprisingly marital status was not important for males in this sample. Divorce is frequently considered a risk factor for males and other studies have found relationships between and higher rates of completed suicide for unmarried males (Balaratnasingam; Joiner, Walker, Rudd, & Jobes, 1999; McKenzie & Serfary, 2003). However, at least in this sample, that does not appear to be the case for men in Fiji. This may point to the importance of other bonds for men in Fiji. Examining the presence of family or other relationships would be a fruitful exploration in an effort to determine the importance of creating or accentuating supportive relationships for males as a protective factor.

While higher education has typically been associated with lower risk of suicide (WHO, 2006), the opposite was true with this sample. It is possible that persons with higher education who do not experience subsequent changes in standard of living experience hopelessness, which has been associated with increased risk for suicide(WHO, 2006). Hopelessness and a sense of loss was proposed as a mediating factor between higher education and suicidally for persons with psychotic disorders (Carlborg, 2010). And was also seen as partially mediating the relationship found between debt and suicidal behaviour in another study (Meltzer et al. 2010).

Clinical characteristics of those that were referred for suicide attempts are broadly consistent with findings in other studies(Bryan & Rudd, 2006; WHO, 2006). The most common method of attempted suicide was intentional self-poisoning which is likely associated with the readily available supply of poisonous substances, including pesticides, various medications and organic solvents. Strategies to reduce accessibility of these substances as well as education related to storage may be helpful.

Loss, including interpersonal, identity and financial as well as family instability, were the most predominant triggers identified by those attempting suicide, a finding which is similar to those in other countries (Bryan & Rudd, 2006; Joiner, Walker, Rudd, & Jobes, 1999; Meltzer et al.). That males were more likely to endorse financial loss is in keeping with traditional gender roles (males as main financial providers) for both of the main races in Fiji. It is important to note that clients endorsed on average two triggers, suggesting that those who attempted suicide were coping with more than one acute life stressor as well as any longstanding difficulties such as poverty. While the use of available archival data in this study preclude such analysis, it would be useful to compare the experience of acute and chronic life stressors of suicide attempters to those who had not attempted suicide.

Nearly 10% of those who were referred for suicide attempt acknowledged a previous attempt. Joiner and colleagues have suggested that people who have attempted suicide more than once should be considered to have a higher and more chronic risk of suicide(Joiner, Walker, Rudd, & Jobes, 1999). In the context of relatively limited options for support available in Fiji, those referrals who have previously attempted suicide would likely benefit from more intensive follow up, particularly those who have experienced a recent significant loss as well or report lower levels of self-control. As in previous studies (Joiner, Walker, Rudd, & Jobes, 1999), over half of the people who had attempted suicide in this sample acknowledged having low self-control, which was consist across age, race and gender. This finding is consistent with findings in other developing countries (Hawton & van Heeringen, 2009) and suggests that intervention focused on enhancing self-control may benefit those most at risk of repeated attempts.

Experts have suggested that risk factors such as age, gender, race and even previous attempts have limited usefulness in terms of immediate intervention, but the constellation of warning signs (signs/symptoms that appear hours to days before the emergence of a suicidal crisis) is likely to be more helpful to clinicians and clients(Rudd, Berman, Joiner Jr, & Nock, 2006). Warning signs which have been associated with near term (days/hours) of suicide attempts in other countries are also being used by clinicians in Fiji to predict suicide re-attempt. The high number of people exhibiting these signs/symptoms at the initial assessment, and the reductions at the end of counseling, demonstrates at

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least a temporal association with active suicide attempts, which is consistent with findings in other countries and suggests that these same signs/symptoms may be relevant for predicting suicide attempt in Fiji. Future studies that measure these same signs/symptoms in people referred for other reasons or in the general population would shed light on the relative importance of these signs/symptoms for predicting suicide attempt in Fiji.

Conclusions

The present analysis shows that suicide is an important public health concern in Fiji, with 2.7% hospitalised people who were referred for general counselling being referred for attempted suicide. It is particularly concerning that younger people and those will higher education were found to be at greater risk. Moreover the finding that 5% of Indian Fijians referred for general counselling were referred for attempted suicide (5.5 times the odds of Indigenous Fijians) and that single women had 2.6 times the odds of being referred for attempted suicide compared to married women, suggests a higher vulnerability for this group of people, and warrants additional attention. The finding that those attempting suicide in Fiji appear to be experiencing many clinical symptoms (warning signs) similar to those in other countries is encouraging, because it suggests that the adaption of assessments and interventions developed overseas might also be helpful for people in Fiji. Nevertheless, it is important to keep in mind that Fiji does have its own unique culture/s, and additional research is needed to better understand the associations in Fiji. Moreover, evaluation of current assessment and counselling interventions used in Fiji in the light of these recent findings would help inform clinical practice and assist clinicians to better adapt research and treatment protocols from overseas to suit local clinical needs.

This study has a number of limitations. While being the first to use a comparison group for examining attempted suicide; comparisons to non-clinical samples would also be helpful to better understand attempted suicide in this broader context. Similarly, this sample was drawn from the four general hospitals in Fiji and probably under-represents people from remote parts of Fiji including the interior and smaller islands. The data used in this study were archival and thus collected for clinical rather than research purposes, which may have resulted in unknown biases and which did not allow for further analyses which would have helped in the interpretation of the results.

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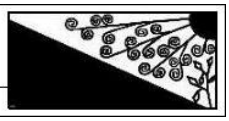

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