Non-fatal suicidal behaviour at the Johannesburg General Hospital

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Abstract
Objective: *Non-fatal suicidal behaviour (NFSB) severely impacts on the health services and the resources of a country and should be prevented. The aim of this control study was to describe a group of patients with NFSB and to elicit, if any, the factors associated with this behaviour compared to a non-suicidal control group.* **Method:** *Interviews were conducted on patients with NFSB treated in the Johannesburg Hospital medical emergency rooms. The information was gathered by way of a questionnaire and included: patient demographics, past history of psychiatric and medical illness, family history, habits and social adjustment.* **Results:** *The study sample comprised forty-three patients with NFSB (mean age = 29.7 years) and control group of forty-five non-suicide attempters (mean age = 30.9 years). 26 (60.5%) of the patients and 33 (73.3%) of the controls were females. 10 (23.3%) of the patients had been treated for NFSB within the preceding 12 months. Patients with a past history of a psychiatric illness or of physical or sexual abuse were significantly more likely to exhibit NFSB compared to the control group ($p < 0.05$).* **Conclusions:** *Patients who threaten deliberate self-harm and who have a history of previous NFSB, past psychiatric illness and physical or sexual abuse, are at a higher risk of this behaviour as compared to the general population. If NFSB intentions are suspected in or voiced by an individual, then these risk factors should be assessed and appropriate preventative measures instituted.*

Keywords: *Non-fatal suicidal behaviour, Non-suicide attempters, Past psychiatric history, Physical abuse, Sexual abuse, Self-harm*

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Introduction

The term 'non-fatal suicidal behaviour' (NFSB) has evolved as a result of a confusion surrounding the terms 'attempted suicide' and 'parasuicide'. While the latter two terms imply some relationship with suicidal intent and death wishes, the term NFSB does not, and is therefore preferred. The assessment and prevention of NFSB should be important to all health care workers and not just to mental health professionals as it frequently leads to non-fatal repetition and sometimes to fatal suicidal behaviour.[1,2,3] Patients do not usually report their suicidal thoughts and intentions spontaneously[4] and health care workers have to be alert to any factors that might assist in predicting such behaviour.

NFSB is an important public health responsibility. The consensus of opinion of most research workers is that the previously observed high rates are increasing on an international scale. Figures from the World Health Organization show that about two million people worldwide commit suicide every year and that there is one act of NFSB every three seconds.[5] Many more persons make non-fatal attempts to take their lives or harm themselves, often seriously enough to require medical attention, incurring considerable financial and psychosocial costs.

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A previous NFSB is one of the strongest risk factors predictive of future suicidal behaviour.[6] More than 50% of people with NFSB had more than one attempt, and nearly 20% of the second attempts were within twelve months of the first attempt. Women have much higher rates of NFSB but lower rates of actual suicide than men.[7,8,9] Another strong risk factor for NFSB is a history of psychiatric disorder.[10,11,12,13] Increasing age[8,14], living alone[15] or in a low-income area[8], mental illness[14], somatic illness[7,16] and the abuse of alcohol and drugs[15] have also been identified as risk factors. Some medical illnesses, such as spinal cord injuries and multiple sclerosis[17], are associated with increased rates of NFSB, but the evidence of this association is very limited. Although initially thought to be a risk factor, infection with the human immunodeficiency virus does not, in and of itself, appear to increase the risk of NFSB.[18] Compared with the general population, NFSB more often belongs to the social categories associated with social instability and poverty.[19]

A number of factors appear to protect people against suicidal feelings or acts. They include high self-esteem and social "connectedness", especially with family and friends, having social support, being in a stable and happy marriage, and commitment to a religion.[1]

The South African National Injury Mortality and Surveillance System[20] report that a considerable proportion of all non-natural deaths are due to suicide. It would appear that health care workers have the attitude that NFSB is a low priority, despite a considerable body of published studies in South Africa. Most of the findings are similar to international studies in that strong risk factors predictive

of NFSB include: female sex[21], being single[21,22], age[22,23,24], history of NFSB[23], family history of mental disorder or previous NFSB[23], alcohol or drug abuse[23], limited schooling[23], unemployment[23], psychiatric disorder.[23,25,26] Cummins RR et al[24] report that NFSB constituted an average of 10% of the psychiatric referrals in children and adolescents. There was a peak incidence among 13-year-olds and a female: male ratio of 2:1. The frequency of NFSB among secondary school pupils was found to be lower among Blacks than among Asians and Whites.[27] Most of the patients in a group of youth (aged 15-24 years) referred to a regional hospital for NFSB were either students and/or unemployed, and the main triggers were acute social conflicts, socio-economic deprivation, AIDS phobia, academic failure, teenage pregnancy and mental illness.[28]

South Africa is a country undergoing profound transformations, and the distribution of NFSB across socio-demographic groups deserves attention. NFSB impacts on the health services and resources of our country and reducing the overall rate is a National Health strategic objectives. Unpublished statistics from the Department of Psychiatry at Johannesburg Hospital suggest that the incidence of NFSB has increased in recent years. The authors undertook this control study of a group of patients with NFSB with a view to describe the demographics of this group of patients and to elicit, if any, the factors associated with this behaviour compared to the general population. This may serve to assist health care workers in identifying and possibly preventing this behaviour.

Method

Study subjects and controls

The sample included all patients with NFSB treated for NFSB in the Johannesburg Hospital adult medical emergencies ward from August 2002 to October 2002. They were interviewed approximately 24 hours after admission or when medically stable. During the same period (on a regular basis) a control group was obtained from individuals, awaiting medication for some medical illness, in the pharmacy queues at the hospital. This group of controls was matched only with respect to age and gender with the study sample. There were no other inclusion or exclusion criteria or the controls.

Assessment

After obtaining informed consent, psychiatry registrars and psychology interns working in the unit interviewed the patients with NFSB and the controls. All the interviewers received training prior to the study so as to improve inter-rater validity and reliability. Data was obtained with a structured questionnaire designed to evaluate the presence of and the risk factors for NFSB. The questionnaire investigated subject characteristics and various risk factors for NFSB including: marital status, families, employment status, highest level of education achieved; current accommodation; past history of psychiatric and medical illness, family history, their habits and social adjustment.

All subjects gave written informed consent (from the parents in the case of patients under 18 years of age, with assent from the patient) to participate in the study, which was approved by the Committee for Research on Human Subjects, University of Witwatersrand.

Statistical analysis

Descriptive statistics were computed as mean and frequencies (count and percentages). The two-sample t-test was used to compare the continuous characteristics (age) between the groups. Chi-square test was used to determine the relation between general categorical characteristics (gender, marital status, employment, level of education, etc). All analyses were done using Statistical Package for Social Sciences 10.0 for Windows (SPSS Inc., Chicago, IL.). A value of $p < 0.05$ was considered significant.

Results

Demographics of patient and control groups

The study sample comprised 43 patients with NFSB (mean age = 29.7 years; range of 16 - 75 years) of which 26 (60.5%) were females (Table 1). The control group consisted of 45 non-suicide attempters (mean age = 30.9 years; range of 16 - 68 years) of which 33 (73.3%) were females. There was no significant difference between the two groups with respect to age ($t = 0.6413$; $p < 0.05$) and gender (χ 2= 1.65: df = 1: $p < 0.05$). Other characteristics of the patients with NFSB included: being single (79.1%); having no chil-

TABLE 1: The demographics of the study sample and the control group

VARIABLES		STUDY SAMPLE *n = 43*	*%*	CONTROL GROUP *n = 45*	*%*	
Mean age (years)		29.7		30.9		t = 0.6413 p = 0.525
Gender	Male Female	17 26	39.5 60.5	12 33	26.7 73.3	c 2=1.65: df = 1: p = 0.199
Marital status	Single Married	34 9	79.1 20.9	31 14	68.9 31.1	c 2=3.89: df = 2: p = 0.143
Children	Yes No	17 26	39.5 60.5	16 29	35.6 64.4	c 2=0.149: df = 1: p = 0.699
Highest Level of education	Primary Secondary Tertiary	7 31 5	16.5 72.1 11.4	3 33 9	6.7 73.3 20.0	c 2=5.490: df = 2: p = 0.241
Employed	Yes No	17 26	39.5 60.5	16 29	35.6 64.4	c 2=0.149: df = 1: p = 0.699
Accommodation	Inner city Suburb	22 21	51.2 48.8	16 29	35.6 64.4	c 2=7.459: df = 1: p = 0.059

dren (60.5%); a secondary level of education or better (83.5%); being unemployed (60.5%) and residing in the inner city (51.2%). There was no significant difference between the two groups ($p>0.05$) with regard these characteristics.

Factors associated with NFSB compared to control group

10 (23.3%) of these patients with NFSB had previous NFSB within the last 12 months as compared to none in the control group. Patients with a past history of psychiatric illness (χ 2=10.2: df = 1: $p < 0.05$) or a history of physical or sexual abuse (χ 2=7.1: df = 1: $p < 0.05$) were significantly more likely to attempt suicide compared to the control group (Table 2).

There was no significant difference between the two groups with regard to other factors viz. marital status, level of education, employment status, current residence, past history of medical or surgical illness, aggressive behaviour, criminal record, family history of suicide or attempted suicide, abuse of nicotine or alcohol, living alone, having children, a recent move, having unstable relationships or a recent depressed mood ($p > 0.05$).

Discussion

The risk of NFSB increases with increasing age.[8,14] The results of the current study indicate that NFSB is more common in the younger age group. Pillay et al[22] and Schlebusch[23] in South Africa obtained similar results. Studies in other countries also show an increase in NFSB among 15-24 year olds.[28,29] NFSB is a complex symptom that is markedly influenced by sociocultural factors, stressful life events and poor social adjustments. Younger members of the population may lack the necessary coping skills to deal with the increasing stressors of urbanization and often fail to perceive alternatives for solving difficulties and may narrowly focus on NFSB as their only solution.[30,31]

NFSB rates for women are higher than for men in all age groups and currently women are two to three times more likely than men to express this behaviour.[1] This gender gap has widened considerably over the past few decades and is especially true for young people. However, the rates for completed suicide are much higher for men.[10] In this study there was clearly an excess of females (60.5%) in comparison to males (39.5%). Similar findings are reported in other South African studies.[21,25,26]

The sample of patients with NFSB was reasonably well matched to the control group of non-suicide attempters with respect to age and gender. Thus further comparisons were not impaired by these variables.

Significant associations have been reported between NFSB and a history of a psychiatric illness[10,11,12,13], physical or sexual abuse and of previous NFSB.[23] In this study one out of every four patients had a history of NFSB within the preceding 12 months. Our patients with a past history of a psychiatric illness or physical / sexual abuse were also found to be more prone to NFSB as compared to the controls. An implication of these findings is the need for adequate support and aftercare to be provided to these patients to mitigate the risk of future NFSB. All threats should be taken seriously and appropriate preventative measures instituted.

Compared to other studies this study showed that other known risk factors, viz. living alone, abuse of alcohol and drugs, marital status, level of education, employment status, a past history of medical or surgical illness or a family history of suicide, were not significant associations. It is unlikely that there are differences between this population and the populations in other studies that can account for these negative findings, but rather that there may be insufficient statistical power in this study.

This study is limited in its generalizability because most of our study population were inner-city dwellers presenting to the emer-

TABLE 2: Factors associated with the suicide attempt in the study sample and the control group.

VARIABLES		STUDY SAMPLE		CONTROL GROUP	
		n=43	*%*	*n=45*	*%*
Current history	Recent depressed mood	27	62.8	21	46.7
Past history	Psychiatric illness	11[a]	25.6	1	2.2
	Suicide attempt	10	23.3	-	-
	Medical / Surgical illness	15		14	31.1
	Aggressive behaviour	8	18.6	6	13.3
	Criminal record	1	2.3	1	2.2
Family history	Psychiatric illness	11[b]	25.6	5	11.1
	Suicide / Attempted suicide	7	16.3	3	6.7
Abuse	Nicotine	14	32.6	9	20.0
	Alcohol	16	37.2	10	22.2
	Physical / Sexual	15[c]	34.9	5	11.1
Relationships	Single / divorced/separated	34	79.1	31	68.9
	Living alone	4	9.2	4	8.9
	Having children	17	39.5	16	35.6
	Unstable relationships	17	39.5	12	26.7
Education	Less than secondary	7	16.3	3	6.7
Current residence	Inner City	22	51.2	16	35.6
	Recent move	13	30.2	13	28.9

a (χ 2=10.2: df = 1: $p < 0.001$): b (χ 2=3.9: df = 1: $p = 0.078$): c (χ 2=7.1: df = 1: $p < 0.01$)

gency room of a tertiary hospital. Also, it is outside the scope of the authors' knowledge as to those suicide attempters who were treated/ attended to in the emergency room of the hospital but who were discharged home or directly to a psychiatric facility prior to inclusion into the study. The small sample size (43 patients) may have limited our ability to detect statistically meaningful differences when compared to the control group. Differences by race were not considered in this study. This aspect and others will form the basis for future studies. Finally, the cross-sectional nature of our sample does not allow us to establish cause and effect relationships. Notwithstanding these limitations the factors associated with NFSB in this study would serve as important predictors in any screening program.

Conclusion

NFSB is common and often preventable. If NFSB intentions are suspected then the risk of acting on these intentions should be carefully assessed. The assessment should include, amongst others, the socio-demographic risk factors, previous NFSB, presence of psychiatric illness and presence of physical or sexual abuse. Unless questioned, patients are not likely to reveal these problems to the clinician. Prevention strategies that address multiple factors (e.g., supportive therapy, family and peer support, and access to health services) are likely to be helpful in reducing overall NFSB.[33,34]

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