Suicide cases investigated at the state mortuary in Bloemfontein, 2003–2007

[a] **Stark K,** MBChB, MMed(Forensic Medicine) [b] **Joubert G,** BA, MSc [c] **Struwig M,** MMedSc(Med Microbiol) [d] **Pretorius M, Van der Merwe N, Botha H, Kotzé J, Krynauw D**
[a] Department of Forensic Medicine, Faculty of Health Sciences, University of the Free State, Bloemfontein
[b] Department of Biostatistics, Faculty of Health Sciences, University of the Free State, Bloemfontein
[c] Office of the Dean, Faculty of Health Sciences, University of the Free State, Bloemfontein
[d] MBChB students, Faculty of Health Sciences, University of the Free State, Bloemfontein
Correspondence to: Dr Karen Stark, e-mail: starkk.md@ufs.ac.za
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Abstract

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Background: Up to 8 000 South Africans commit suicide annually. This study aimed to investigate the profile of suicide cases in Bloemfontein and the southern Free State province.

Methods: A cross-sectional descriptive study was performed. Suicides in the Bloemfontein and southern Free State areas (Xhariep and Motheo districts) investigated at the state mortuary in Bloemfontein in 2003 to 2007 were included. Data were collected retrospectively by using a specially designed data-capturing form.

Results: A total of 469 suicide cases were included in the study. The estimated suicide rate for this part of the Free State province was 10.9/100 000 of the population per year. The majority (82.1%) of the victims were men. In total, 338 (72.1%) of the victims were black, 122 (26.0%) were white, five (1.1%) were coloured and three (0.6%) were Indian. The most common methods were hanging (262; 55.9%), shooting (99; 21.1%) and overdosing on pills (43; 9.2%). Most cases (57.8%) occurred in victims 21 to 40 years of age. Five (1.1%) victims were children younger than 11 years of age, while 12 (2.6%) were older than 65 years. More than half (267 cases; 56.9%) of the suicide victims were unemployed. The majority (43.1%) of suicides occurred in January to April of each year, with the highest incidence (67 cases; 14.3%) in January.

Conclusion: The rate of suicide and the profile of victims with regard to the variables investigated corresponded to findings reported from other studies. The information obtained could make a meaningful contribution to suicide-prevention programmes.

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Introduction

Completed suicide is defined as any fatality resulting directly or indirectly from a deed committed by the victim who believed or knew that his/her action would result in death,[1] and include all self-inflicted, intentional injuries resulting in a fatal outcome.[2] Between 6 000 and 8 000 South Africans commit suicide annually,[3] which could be calculated to approximately 16 to 22 cases per day. Children and teenagers represent 33% of patients hospitalised after suicide attempts.[3]

More men commit suicide than women,[4] and men tend to be more successful in their suicide attempts.[3] Pillay et al[5] cite Canetto and Lester, who reported in 1995 that South Africa had a suicide rate of approximately 12/100 000 among men and 2/100 000 among women, with relatively inconsequential differences regarding race or ethnic group. A gender ratio of 4.5 men to each woman who commit suicide reflects international trends. The gender ratio for non-fatal suicide attempts shows the opposite, with 2.5 female cases for each male suicide attempt.[5] For each successful suicide approximately 20 unsuccessful efforts are reported.[3]

Suicidal thoughts among young children and adolescents, and even cases of completed suicides in children as young as 10 years of age, have also escalated.[3,6] Numerous risk factors contribute to suicidal behaviour in children and adolescents. These factors include abuse or neglect, parental substance abuse and marital problems, loss of a parent, socioeconomic hardship,[6] peer pressure and failure to achieve academically.[7] Furthermore, suicide in children and young people can be attributed to a loss of social cohesion, a breakdown of traditional family structures, increasing economic instability and unemployment and an increase in the prevalence of depressive disorders.[8] According to two separate surveys, 4% of school children in 2001 and 24% in 2003 admitted to suicidal ideation, of whom 7.8% had actually attempted suicide. Nine per cent of unnatural deaths in young South Africans can be attributed to suicide.[3] According to a study conducted in

the Limpopo province,[4] 37% of adolescents indicated that they thought about committing suicide, while 17% had threatened to do it and 16% admitted that they had plans for suicide in place. Twenty-one per cent of this group had a history of attempted suicide, with 5.5% having made three or more attempts.[4]

A 2007 report by the National Injury Mortality Surveillance System (NIMSS)[2] of the Medical Research Council (MRC) did not include any data for the Free State, Mpumalanga and Limpopo provinces. In a city-level comparison of suicide in South Africa,[9] information obtained from the mortuaries of six cities (Johannesburg, Durban, Cape Town, Tshwane/Pretoria, Port Elizabeth and East London) was included in the study. According to this report, the NIMSS recorded 4 946 suicide cases in 2001 to 2003 in these cities, with the majority (54.7%) being black men and an overall male : female ratio of 4.5 : 1.[9]

Based on the lack of published information on suicide in the Bloemfontein and the southern Free State areas (collectively consisting of the Xhariep and Motheo districts), the aim of this study was to determine the profile of suicide victims and the number of cases investigated at the state mortuary in Bloemfontein over a five-year period (2003–2007).

Methods

A cross-sectional study with a descriptive component was performed. No sample selection was done as all cases of suicide investigated at the state mortuary in Bloemfontein between 1 January 2003 and 31 December 2007 were included in the study. Records of these cases were obtained from the archive at the Park Road Police Station as well as the state mortuary in Bloemfontein. Data were collected retrospectively by means of a specially designed data-capturing form and included information on each victim's method of suicide, gender, race, age, the month in which the suicide occurred and the employment status of the victim.

A pilot study, which included 20 cases that occurred in 2003, was conducted to test the data-capturing form. Based on the pilot study, the data-capturing form was slightly adapted and simplified. The data of the pilot study cases were recaptured on the modified form and included in the final results. The study was approved by the Ethics Committee of the Faculty of Health Sciences, University of the Free State (UFS). Permission was also obtained from the Head: Park Road Police Station Archives, as well as the head forensic pathology officer at the state mortuary. Data were analysed by the Department of Biostatistics, UFS, and summarised as frequencies and percentages.

Results

The estimated total population of Bloemfontein and the southern Free State is approximately 863 000, with 128 500 and 734 500 people living in the Xhariep[10] and Motheo[11] districts respectively. Between 1 January 2003 and 31 December 2007, 469 cases of suicide were recorded, which could be approximated to a suicide rate of 10.9 per 100 000 of the population per year. Of these victims, 338 (72.1%) were black, 122 (26.0%) white, five (1.1%) coloured and three (0.6%) Indian. Race was not indicated for one case. More men (385; 82.1%) committed suicide than women (83; 17.7%). In one case, gender was not indicated in the victim's record. More than half (267; 56.9%) of the individuals who committed suicide were unemployed.

The largest percentage of cases (271 cases; 57.8%) occurred in the age group 21 to 40 years. Five (1.1%) cases were children younger than 11 years of age, while 12 (2.6%) cases were older than 65 years. Results on the age distribution of suicide cases are shown in Table I, while Table II summarises the distribution of suicide among black and white cases.

Table I: The occurrence of suicide per age group

Age group (years)	Number of cases (%) (n = 469)
< 11	5 (1.1)
11–20	54 (11.5)
21–30	135 (28.8)
31–40	136 (29.0)
41–50	74 (15.8)
51–65	53 (11.3)
> 65	12 (2.6)

Overall, the most common method employed to commit suicide was hanging (262 cases; 55.9%), followed by shooting (99 cases; 21.1%) and overdosing on pills (43 cases; 9.2%) or poisoning (33 cases; 7.0%). Nineteen (4.1%) victims gassed themselves, while five (1.1%) slit their wrists and eight (1.7%) used other methods. In black men, the most common method was hanging (200 cases; 71.4%), as opposed to 32 (33.0%) white men who used this method. The most common method of suicide in white men was shooting (43 cases; 44.3%). The majority of white women committed suicide by overdosing on pills (11 cases; 45.8%), while most black women either hanged themselves (21 cases; 36.2%) or took an overdose of pills (20 cases; 34.5%).

The five children under the age of 11 years who committed suicide were all male, of whom one was white and four black. One of the black victims in this age group shot himself, while the other children committed suicide by means of hanging. Four children committed suicide in October and one in December.

The method of suicide most commonly used in the 11 to 20-year age group was hanging, used by 30 (55.6%) individuals. Most cases of suicides in adolescents/young adults occurred in January (n = 9; 16.7%), May (n = 8; 14.8%) and July (n = 7; 13.0%). The lowest occurrence of suicide in this age group was in December, with only one (1.9%) case during the five-year period.

Table II: Distribution of suicide cases with regard to gender, race, age and employment status

Gender and race	Number (%) of victims per age group (age in years)							Number (%) unemployed*
	< 11	11–20	21–30	31–40	41–50	51–65	> 65	
Male								
White (n = 97)	1 (1.0)	9 (9.3)	20 (20.6)	26 (26.8)	18 (18.6)	21 (21.7)	2 (2.1)	36 (37.1)
Black (n = 280)	4 (1.4)	26 (9.3)	93 (33.2)	83 (29.6)	46 (16.4)	21 (7.5)	7 (2.5)	184 (65.7)
Total (n = 377)#	5 (1.3)	35 (9.3)	113 (30.0)	109 (28.9)	64 (17.0)	42 (11.1)	9 (2.4)	220 (58.4)
Female								
White (n = 24)	0 (0)	5 (20.8)	4 (16.7)	5 (20.8)	4 (16.7)	6 (25.0)	0 (0)	9 (37.5)
Black (n = 58)	0 (0)	11 (19.0)	16 (27.6)	20 (34.5)	4 (6.9)	4 (6.9)	3 (5.2)	32 (55.2)
Total (n = 82)#	0 (0)	16 (19.5)	20 (24.4)	25 (30.5)	8 (9.8)	10 (12.2)	3 (3.7)	41 (50.0)

*Included all individuals.
#These totals add up to 459 as five victims were coloured and three Indian, and either race or gender was not indicated in two cases.

The overall distribution of suicide cases per month is shown in Table III. The majority of cases (43.1%) occurred in the first four months (January–April) of the year, of which more than half (24.3% of the total group) took place in January and February. The lowest number of suicides were recorded in August and September (both 6%), while an increase to 10% of cases was noted in October. Twenty-one per cent of the white victims, as opposed to 12% of the black individuals, committed suicide in January.

Table III: Distribution of suicide cases per month of the year over the five-year period 2003–2007

Month	Number of cases (%) (n = 469)
January	67 (14.3)
February	47 (10.0)
March	37 (7.9)
April	51 (10.9)
May	33 (7.1)
June	23 (4.9)
July	33 (7.0)
August	28 (6.0)
September	28 (6.0)
October	47 (10.0)
November	37 (7.9)
December	37 (7.9)

The majority of white male victims (22.7%) committed suicide in January, while January and July showed the highest percentage of suicide in white women, with 16.7% of cases each. Black women committed suicide mostly in January (20.7% of cases). The rate of suicide in black men was fairly equally distributed during the year, with February, March, April, October and December each having approximately 10% of cases.

Discussion

People commit suicide for various reasons, ranging from mental illness and psychiatric disorders to poverty, marital problems and break-up of relationships, death of a loved one, unemployment, addiction to substances, terminal disease and physical and/or emotional abuse. The study reported on here, however, did not determine the suicide victims' reasons for their acts. The findings primarily enabled the authors to compile a profile with regard to age, gender, race, method of suicide, month of the year in which the suicide occurred and the employment status of victims. The suicide victims included in this study were not distinguished with regard to rural or urban residence. A limitation of the study is that during data recording, age was recorded in categories and therefore the precise age of individual victims was not noted.

The implementation of prevention programmes, especially with the focus on high-risk groups, is strongly advocated and has been established in many countries around the world.[8] A lack of epidemiological data on the incidence of suicide in African countries is troublesome, especially when taking into consideration that suicide is increasing on a global scale. Although most research published in the academic literature originates from developed countries, suicide occurs more frequently in developing countries.[12] Consequently, information with regard to suicide in South Africa, and particularly the Free State province for which no official statistics have been published, is of fundamental importance.

In addition to the lack of information on suicide in low- and middle-income countries, the accuracy of suicide data may be further distorted due to unnatural (i.e. injury-related) fatalities of undetermined cause. Suicides most commonly misidentified as accidental or unintentional deaths are those committed by means of poisoning, jumping from buildings or other heights and railway suicides, and are more likely to occur in women and white people.[13] Burrows et al[14] report that 24.9% of unnatural deaths in the 25 to 34-year age group registered by the NIMSS in 1999 to 2000 (n = 26 354) were of undetermined cause, while the exact cause of unnatural death was unknown in 22.2% of people older than 55 years of age and 21% of people between 35 and 44 years of age.

In 2005, an incidence of suicide-related fatalities of 17.4 per 100 000 of the population was reported to the NIMSS by Pretoria-based mortuaries. The incidence of suicide (per 100 000 of the population) for the same period was 14.4 in Johannesburg, 11.9 in Durban and 11.5 in Cape Town.[2] The suicide rate of 10.9 per 100 000 of the population found in the southern Free State was slightly lower than the rates reported by these metropolitan centres.

A study conducted in Scotland over a five-year period (2000–2006) found that 16% of injury-related deaths in children 10 to 14 years of age could be attributed to suicide.[15] Our results showed that 11.5% of the total group of suicide victims were in the 11 to 20-year age group, while five of the victims (1.1%) were boys younger than 11 years of age. Since our investigation did not record the age of each individual case, it was not possible to distinguish the incidence of suicide between younger (10–14 years) and older (15–19 years) adolescents. These cases were, however, distributed equally between black and white victims (see Table II).

A relatively small proportion (12 cases; 2.6%) of the suicide victims were elderly people older than 65 years of age. Most of these cases (83.3%) involved black people, while three (25.0%) victims were women. In addition to socioeconomic and psychological explanations for suicide applicable to all age groups, the most common risk factors for suicide in elderly people are chronic, painful or terminal disease, being single, depression (especially when associated with bereavement or hopelessness) and substance abuse.[16] Wanta et al[17] report that elderly individuals who are divorced, widowed or never married have a 2.5 to nearly five-fold increased risk of committing suicide compared to married elderly couples. At the age of 65 to 74 years, men have a seven-fold increased risk of suicide compared to women of the same age, and the risk is even higher in older men. Forty per cent of elderly cases had been diagnosed with psychiatric illness, while 16% of those screened for alcohol had positive results.[17]

In the first quarter of 2009, unemployment rates of 23.5% in the South African population and 25.4% in the Free State province were reported.[18] Unemployment was noted in 56.9% of suicide cases in this study. Although the victims' reasons for committing suicide were unknown, and this complex phenomenon usually cannot be attributed to one single reason, it could be deduced from this finding that unemployment played a role in this specific group of suicide victims. It was found in a Taiwanese study that an increase of 1% in the unemployment rate was associated with a 4.9% increase in the monthly suicide rate in men 45 to 64 years of age.[19] A spokesperson of the South African Depression and Anxiety Group stated in the media (14 July 2009)[20] that a serious increase in suicide could be expected, as the organisation is receiving more calls from people in need, giving economic difficulty and fear of retrenchment as some of the major reasons for despair and hopelessness.

Reportedly, the occurrence of suicide is the highest during the Christmas season, mostly due to depression.[21] However, an increased incidence of suicide in May and November has been reported in a study conducted in the Transkei.[22] With regard to seasonal variation, the NIMSS[2] reports the highest incidence of suicide in October, November and December, with a mean of 9.5% of cases occurring in these three months. It was, however, found in our study that the majority of suicide cases occurred during the first four months of the year.

From the findings reported on here, it could be concluded that the rate of suicides reported to the Park Road Police Station and state mortuary in Bloemfontein is similar to suicide rates observed in other major centres in the country. The profile of victims with regard to the variables such as race, gender and age corresponds to findings reported from other studies. The information obtained, especially with reference to the unemployment rate in this group of victims and the high incidence of suicide in white men and black women in January, could make a meaningful contribution to suicide-prevention programmes.

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