

The prevalence of suicidal behaviour and associated risk factors in grade 8 learners in Durban

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Abstract

Objectives: Most of the research on suicidal behaviour in youth focuses on developed countries. Less is known about the prevalence of suicidal behaviour and associated risk factors in community samples of youth who do not present for mental health care in developing countries. This study investigated the prevalence of suicidal behaviour and associated risk factors in grade 8 learners in Durban.

Setting and subjects: Grade 8 learners in a government-run, co-educational school were approached to participate in the study after parental consent and child assent were obtained. A descriptive, cross-sectional method was used to gather quantitative data. The grade 8 learners were asked to complete demographic questionnaires and various psychometric assessment scales.

Design: The gathered data were divided into two groups, i.e. those who reported personal suicidal behaviour and those who did not. The various variables in these two groups were compared using bivariate and multivariate statistical analyses.

Results: The study established that 22 participants (33.8%, $n = 75$) reported suicidal behaviour (thoughts, plans or attempts in this regard). They also had higher levels of depression, perceived stress, hopelessness and anger (p -value < 0.01) than those who did not report any suicidal behaviour. The same participants had lower scores on scales that assessed self-esteem and perceived social support from family (p -value < 0.01), compared to those who did not report any suicidal behaviour. Logistic regression analysis that was undertaken indicated that a friend's suicidal thoughts [odds ratio (OR) 4.27, p -value < 0.01], alcohol use (OR 3.08, p -value < 0.01), perceived stress (OR 1.05, p -value < 0.01) and depression (OR 1.04, p -value < 0.01), were strong predictors of personal suicidal behaviour in this sample.

Conclusion: There is a high prevalence of suicidal behaviour in grade 8 learners in Durban. The identified risk factors were similar to those found in developed countries. Healthcare providers and other professionals, such as school counsellors, should consider the identified risk factors when assessing suicidality and planning interventions for youth.

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Introduction

Suicidal behaviour (suicidal thoughts, plans and attempts) in youth has become an increasingly serious public health problem worldwide,¹ and places a significant burden on health care. Most of the research on suicidal behaviour in youth focuses on developed countries.¹ Less is known about the epidemiology of suicidal behaviour and associated factors in developing countries, which are already overburdened by communicable and noncommunicable diseases, and which are also experiencing periods of increasing globalisation, industrialisation and transition.¹⁻³ Identification of the risk factors in youth in developing countries would assist in

the development of screening, prevention and intervention programmes.

South African suicide statistics

The only source of epidemiological suicide mortality data that are currently available in South Africa, the National Injury Mortality Surveillance System (NIMSS), indicates that nationally, there were 3 125 suicides in 2008 (current available figures)⁴. This report indicates that nearly 70% of the suicide victims were mainly young adults. Two hundred and forty-five were aged 10-19 years.⁴

The prevalence of suicidal behaviour in South Africa

Various researchers have identified the downward trend in the age of patients who present with suicidal attempts at government-funded hospitals in South Africa. Up to one third of nonfatal suicidal behaviour involves children and adolescents.^{5,6} Non-hospital-based studies on children and adolescents in South Africa have reported figures ranging from 4-47% for suicidal ideation.⁷⁻⁹ Suicide plans were reported by between 16% and 18% of scholars,^{8,9} while between 7% and 21% reported having made suicidal attempts.⁸⁻¹⁰ However, the majority of these studies considered the prevalence of suicidal behaviour in their samples, but did not identify associated risk factors, which this study addressed.

Risk factors

The literature indicates that teen suicide and attempts may have a serious impact on their peers, and that there may be a contagion or imitation effect.^{11,12} Adolescent suicidal ideation and behaviour relate to the suicidality of their closest friends. An individual adolescent's suicidal behaviour leads to an increase in suicidal ideation and attempts in his or her peers.¹³ South African studies⁷⁻¹⁰ have not explored this area. The international literature identifies youth exposed to peer suicidal behaviour as being more likely to have their own suicidal ideation and to carry out attempts, as well as engaging in high-risk behaviour, such as smoking cigarettes and marijuana, binge drinking and being involved in serious physical fights.¹¹ Other risk factors for youth suicidal ideation and attempts have been identified and include mood disorders (depression in particular), alcohol and drug use,¹⁴⁻¹⁷ hopelessness,^{12,18,19} low self-esteem,^{12,15,20,21} and high levels of anger, hostility and an interpersonal stressful life. Such events play a role in suicidal youth, compared to their nonsuicidal counterparts.^{18,22}

Protective factors

The perception of social support by an individual has been identified as a strong inhibitor of suicidal ideas in high school populations. Peer and family support reduce risky behaviour.^{18,20} The literature also indicates that lack of perceived parental support or lower levels of family support distinguish those attempting suicide from those reporting suicidal ideation.^{12,23} This study was conceptualised keeping these factors in mind.

Aim

This study was carried out to investigate the prevalence of suicidal behaviour in grade 8 learners and to establish associated risk factors in Durban.

Method

This study was undertaken over a two-week period in a government-run, co-educational middle school, which tutors grades 8-12, in a low socio-economic area in Durban. Various schools were approached to participate. The first school to respond was accepted as the study site. The school serves members of previously disadvantaged ethnic groups, i.e. Indian and black ethnic groups, with a few coloured learners. There were no white learners. Grade 8 learners in the school were approached to participate in the study after parental consent and child assent were obtained.

Ethical approval was obtained from the Research Ethics Committee of the University of KwaZulu-Natal and the Institutional Review Board of the University of California Los Angeles, USA. Learners who agreed to participate were approached in small groups and asked to fill in a demographic questionnaire and several self-reported psychometric questionnaires anonymously and confidentially. Mechanisms were put in place to ensure that if a learner reported any suicidal behaviour, it would be identified by the investigator and the student could discuss it with the investigator or the student counsellor. Family members and caregivers were informed that they would be contacted and/or arrangements made for the learner to be sent to the nearest government hospital, where trained health professionals would see him or her free of charge. The school counsellor would also see the learner to provide ongoing monitoring and support in the school environment.

Quantitative methods were used to gather the data. A demographic questionnaire that covered age, gender, school failures, a history of substance use, personal suicidal behaviour and knowledge of a peer's suicidal behaviour (ideas, plans, attempts and completed suicide) was completed by the learners. The participants were also asked to complete the following psychometric instruments: the Beck's Depression Inventory (BDI),²⁴ a 21-item self-report inventory that measures depressive symptomatology; The Beck's Hopelessness Scale (BHS), a 20-item, true-false, self-report scale that assesses feelings about the future and loss of motivation and expectations;²⁵ and the Perceived Stress Scale, a 10-item measure used to determine the degree to which life situations are appraised as being stressful. The latter scale was also viewed as an outcome measure that examined the experienced level of stress as a function of objective stressful events, coping processes and personality factors.²⁶ Other scales used were the Aggression Scale, a 29-item scale utilised to assess multiple aspects of aggression, including physical and verbal aggression, and anger and hostility;²⁷ the Mastery Scale, a seven-item scale employed to determine personal control or mastery;²⁸ and the Self-Esteem Scale, a 10-item scale used as a measure of self-esteem.²⁹ The Perceived Support Social Scales for

Table I: Socio-demographic characteristics, use of substances, involvement in fights, involvement with police, participants own suicidal behaviour and exposure to peers' suicidal behaviour

Socio-demographic characteristics	Variable	Percentage (n)
Sample size	Total sample	100 (n = 222)
Gender	Males	51.8 (n = 115)
	Females	48.2 (n = 107)
Grades repeated or failures		6.3 (n = 14)
Living arrangements	With both parents	83.9 (n = 187)
	With one parent	12.1 (n = 27)
	With others	4 (n = 9)
Parental employment	Parents employed	80.5 (n = 165)
Substance use	Alcohol	23.2 (n = 52)
	Cigarettes	23 (n = 53)
	Other drugs ("sugars", marijuana, "tik", ecstasy, heroin, cocaine and rat poison)	8.9 (n = 20)
Involvement with	Police	4.5 (n = 10)
	Physical fights	33.2 (n = 74)
Personal suicidal behaviour	Suicidal thoughts	22.5 (n = 50)
	Suicidal plans	5.9 (n = 13)
	Suicide attempts	5.4 (n = 12)
Suicidal behaviour of friends	Suicidal thoughts	26.4 (n = 58)
	Suicidal plans	8.7 (n = 19)
	Suicide attempts	23.9 (n = 52)
	Completed suicide of peer	63.4 (n = 135)
Reported being affected by the suicide of a friend or peer		23.7 (n = 53)

family (20 items) and friends (20 items)³⁰ were also utilised as measures of social support. Higher scores reflected greater social support.

Once the questionnaires were completed by the participants, the gathered data were divided into two groups, i.e. those who reported personal suicidal behaviour, and those who did not. The psychometric scales data were scored and

interpreted by the researcher, and analysed with the help of a biostatistician using the Statistical Package for Social Sciences®. The various variables within the two groups were compared. Bivariate cross-tabular and multivariate statistical analysis, including logistical regression, was used to compare the two groups.

Results

The total sample consisted of 222 grade 8 learners. Some data were missing. The mean age of the participants was 13.3 years [standard deviation (SD) 0.57]. The ages ranged from 13-15 years. A description of the sample is provided in Table I.

Prevalence of personal suicidal behaviour

Of the total sample, 22.5% reported suicidal ideation, 5.9% suicidal plans and 5.4% suicidal attempts. Of those who had made an attempt, only 2.8% reported seeking help or being taken for medical help following the suicide attempt.

Reports of peers' suicidal behaviour

26.4% reported having friends who had expressed suicidal ideation, 8.7% friends who had made a plan and 23.9% a friend who had made an attempt. 63.4% reported knowing a friend or peer who had committed suicide.

Use of substances, and involvement in fights and with the police

Alcohol use was high, as was cigarette use. Furthermore, 33.2% of participants reported being involved in physical fights. A further 4.5% of the sample reported involvement with the police.

Bivariate analysis

Table II presents the results of the bivariate cross-tabular analysis (two-tailed tests). This indicates that there were differences in the various psychometric measures between those who self-reported suicidal behaviour (reported ideation or made a plan or attempt), and those who had not.

The scores of the group who reported suicidal behaviour indicated higher levels of depression (mean 14.1, SD 10.31,

Table II: Differences between learners who reported personal suicidal behaviour and those who did not according to psychometric scales

Psychometric findings	No. reported suicidal behaviour		Reported suicidal behaviour		p-value
	Mean	Standard deviation	Mean	Standard deviation	
Depression	7.41	8.03	14.1	10.31*	< 0.01
Perceived stress	12.96	5.69	17.92	7.01*	< 0.01
Hopelessness	2.65	2.64	4.27	3.72*	< 0.01
Anger	66.18	21.97	77.98	16.89*	< 0.01
Self-esteem	22.43	4.55	19.45	5.42*	< 0.01
Perceived family support	13.35	4.64	11.12	5.03*	< 0.01

*: p-value < 0.01

Table III: Risk factors associated with personal suicidal behaviour

Risk factors	Odds ratio	95% confidence interval	p-value
Friends with thoughts of suicide	4.2 [*]	2.01-9.07	< 0.01
Alcohol use	3 [*]	1.39-6.79	< 0.01
Depression	1 ^{**}	1-1.09	< 0.05
Perceived stress	1 ^{**}	0.99-1.11	< 0.05

*: p-value < 0.01, **: p-value < 0.05

p-value < 0.01), perceived stress (mean 17.92, SD 7.01, p-value < 0.01), hopelessness (mean 4.27, SD 3.72, p-value < 0.01) and anger (mean 77.98, SD 16.89, p-value < 0.01) than those who did not. Those with suicidal behaviour also reported lower self-esteem (mean 19.45, SD 5.42, p-value < 0.01) and lower levels of perceived support from family (mean 11.12, SD 5.03, p-value < 0.01), than who did not report suicidal behaviour.

Multivariate analysis

Table III indicates that participants who reported personal suicidal behaviour were more likely to have a friend who had reported suicidal ideation [OR 4.27, 95% confidence interval (CI): 2.01-9.07], and were more likely to use alcohol (OR 3.08, 95% CI: 1.39-6.79). This group also self-reported greater levels of depression (OR 1.04, 95% CI: 1-1.09) and higher levels of perceived stress (OR 1.05, 95% CI: 0.99-1.11) than those who did not report suicidal behaviour. The findings are presented in Table III.

Discussion

This study explored the prevalence of suicidal behaviour in a community sample of grade 8 learners and the associated risk factors. The findings indicate that the prevalence rates for the various types of personal suicidal behaviour [suicidal ideation (22.5%), suicidal plans (5.9%) and suicidal attempts (23.9%)] in this sample were at the higher end of the ranges identified in other studies in similar age groups.^{17,31,32} As identified in Table III, alcohol use, depression, perceived stress and friends' suicidal thoughts or ideation emerged as risk factors for suicidal thoughts, plans and attempts in this sample. These risk factors have been well documented in the literature, and the findings of this study support those discussed in the literature. The various risk factors are discussed in greater detail.

Risk factors

Alcohol use

While late childhood and early adolescence is the developmental period in which substance experimentation

frequently occurs, alcohol use may also trigger suicidal behaviour by leading to developmental failure, such as school difficulties, expulsion or problematic interaction with peers.¹⁶ In turn, this may exacerbate existing stressors. Alcohol may also be used as self-medication or as a coping mechanism for stressors that are experienced, particularly as this sample reported significant levels of perceived stress, as well as anger. Additionally, alcohol use may also lead to impaired judgement and decreased inhibition, and may thus facilitate suicidal behaviour.^{1,16} Associations between suicidal behaviour and hopelessness, anger and low self-esteem, as established in this sample, have been well documented in the literature.^{12,18,33}

Mood disorders

Depression emerged as a key finding in this sample and supports the findings of other studies that indicate that it makes a significant and large contribution to suicidal thoughts and behaviour, even when a substantial number and a varied range of factors are controlled.³⁴ The relationship between depression and suicidal behaviour has been clarified, in that the most common predictive depressive symptom for suicidal ideation with regard to depression is hopelessness. Significant levels of hopelessness were reported in this sample. Depressive symptoms are common in youth. However, many young people with depression are not identified for various reasons, (e.g. the symptoms may be atypical, may be attributed to developmental changes, the parents may not wish to identify their children as being unhappy, and health professionals may feel that they are "stigmatising" or "labelling" children), and hence they may remain undiagnosed and untreated.¹ Early identification and treatment of depression can assist in the prevention of suicide attempts, especially given the knowledge that a depressed mood is the factor that most strongly relates to future suicidal ideation and attempts.³⁵

The role of perceived stress

Perceived stress, both acute and chronic, has been identified as a critical co-morbid aetiological consideration in suicidal behaviour, and particularly in African societies.³ High rates of violence and trauma, unrealised personal outcome expectations following transformation and liberation from oppression, acculturation, and socio-economic difficulties, including high unemployment in South Africa, all combine to produce a breeding ground for further suicidality.³ Stressful life events have also been identified in the literature as risk factors for the onset and escalation of substance abuse.¹⁶ Stress or worry about the family's economic situation may have relevance to suicidal phenomena in youth.³⁴ High rates of unemployment and decreased family income may lead to increases in stress-related conditions, somatic and mental health problems and suicide.³⁶ In this study, a significant percentage of the participants' (19.5%) parents

were unemployed, while 12.1% came from single-parent homes. The socio-economic difficulties experienced in these households may have contributed to facilitating suicidal behaviour in this sample, given the high rates of unemployment currently experienced in South Africa. Furthermore, the group who reported suicidal behaviour indicated that they had perceived lower social support from family, possibly indicating the unavailability of parents because of their own socio-economic concerns. It is concerning that such young participants identified stress in their lives as a risk factor for suicidal behaviour.

Peers' suicidal ideation

Peers' or friends' suicidal ideation emerged as a significant risk factor for personal suicidal behaviour in this sample. A high percentage reported being affected by a peer's death. This supports the literature which indicates that adolescents' suicidal ideation and suicidal behaviour relates to the suicidality of their friends or peers, or to exposure to others' suicidal behaviour.^{11,13} One possible explanation for this finding is that adolescents are likely to associate with peers with similar levels of depressive symptoms, which may lead to an increased negative impact over time.^{13,17,34} A large percentage of this sample (63.4%) were exposed to the suicide of a friend. The literature indicates that suicidal behaviour in South Africa is not an unusual phenomena. A national survey found significant lifetime prevalence rates.³⁷ Hence, suicidal behaviour may not be seen as taboo by this group and may be viewed as an acceptable method of problem-solving behaviour, or coping with depression and perceived life stress.

Limitations

This study had certain limitations. While it was conducted on a non-white sample, there was no breakdown in terms of the different ethnic groups, such as Indians, coloureds and blacks. It is important to establish if there are any differences in the various ethnic groups as this could impact on interventional plans. Furthermore, the study was conducted in the Durban area and the findings may not be generalisable nationally. It was not possible to undertake a longitudinal study of this sample for reasons of confidentiality and anonymity. Such studies are important as they provide information on the long-term outcome in developing countries where such studies are limited.

Conclusion

This study found that there was a high prevalence of suicidal behaviour in a community sample of youth. Key risk factors were associated with suicidal behaviour in this sample. These multiple factors, perhaps interactional in nature, may render youth vulnerable to suicidal behaviour. When a suicidal youth presents, it is important for healthcare providers and

school counsellors to explore his or her friends' or peers' suicidal behaviour. Programmes that target and incorporate the prevention or moderation of alcohol use, and the early identification and treatment of depression in youth, may reduce suicidal behaviour. Stress management techniques and methods to deal with anger and hostility may also assist in reducing feelings of depression, hopelessness and perceived stress, and hence suicidal behaviour.

Declaration

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