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Research Article

Poverty and suicide in Transkei region of South Africa

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ABSTRACT

Background: Poverty leads to many social ills including suicide. Hanging is the method of choice for a poor person in committing suicide. Transkei is one of the poor regions of the Eastern Cape in South Africa.

Objective: To study the trend of suicides in Transkei region and to follow the link between suicide and poverty.

Method: This is a retrospective study from 1996 to 2006, carried out at Mthatha (Umtata) Hospital Complex mortuary. More than 1000 medico-legal autopsies are conducted annually, catering to a population of 400 000 of former Transkei region.

Results: Ten thousand one hundred and thirty-eight medico-legal autopsies were conducted between 1996 and 2006. Of this 552 (5.4%) were hangings. The average of hangings is 13.3 per 100 000 population annually. The number has increased from 6.7 per 100 000 population in 1996 to 21.7 in 2006 (p=0.05,X2=17). Males outnumbered females 5.9:1. The highest percentage (33.9%) of deaths were between 21 and 30 years. There is circumstantial evidence that growing financial difficulties along with HIV/AIDS have been contributory to these deaths.

Conclusion: There is an increasing incidence of suicides in Transkei region of South Africa. Poverty appears to be contributory to these deaths.

MeSh Headings/ Keywords: Self-harm, hanging, poisoning, firearm, poverty and financial constraints.

Introduction

Every year, almost one million people die from suicides; a global mortality rate of 16 per 100 000, or one death every 40 seconds. In the last 45 years suicide rates have increased by 60% worldwide. Suicide is among the three leading causes of death in those aged 15-44 years in some countries, and the second leading cause of death in the 10-24 years age group. These figures do not include suicide attempts which are up to 20 times more frequent than completed suicide [1]. Suicides worldwide were estimated to represent 1.8% of the total global burden of disease in 1998. It is expected to rise to 2.4% in countries of former socialist economies in 2020 [1]. Although traditionally suicide rates have been highest among the male elderly, rates among young people have been increasing to such an extent that they are now the group at highest risk in both developed and developing countries [1].

Suicide is the third highest cause of death in South Africa [2]. A research project at the Nelson Mandela School of Medicine in Durban indicates that suicide is on the rise in the country and that child as young as 10 years are committing suicide [3]. Studies show that more South Africans are taking their own lives than ever before. This could be because of the fact that they failed to meet the expectations of free South Africa in terms of housing, employment and food especially among black South Africans. Suicide rates among blacks hit new highs. A changing South Africa exacted a heavy toll on black South Africans. The expectation has increased especially among young ones after getting independence. Transkei was a black homeland in South Africa before 1994. Historically, it is well known for spearheading the freedom fight against apartheid in South Africa because most leaders of the African National Congress (ANC) hail from this region. Transkei is characterized by lack of infrastructure and hence a high rate of unemployment. A majority of inhabitants are dependent on income from migrant mineworkers or subsistence farming at home [4].

Suicide is an unnatural and the biggest human tragedy and is also associated with poverty. Transkei is one of the impoverished regions of South Africa. A decade after the fall of apartheid, widespread poverty in South Africa remains one of the key concerns of the government. It is now common knowledge that the poverty is deepest in rural areas. The past decade has seen a 48% increase in suicides among black people as more South Africans than ever before take their own lives to escape their problems [5]. Suicides in Transkei region have also increased. Hangings have increased from 5.2 per 100 000 (1993) to 16.2 per 100 000 (2003) in all age groups [6]. In 2001, 2500 suicides were reported by National Injury and Mortality Surveillance System (NIMSS) in South Africa. In 1990, the overall suicide rate in South Africa was 17.2 per 100 000, which is slightly higher than that in the WHO report [7]. Hanging was the method in 42.3%, firearms in 29.4% and poisoning in the rest of the cases among all age groups [8]. Based on these data, one can assume that the total suicides in this region should be 13 per 100 000 (1993) and 41 per 100 000 (2003) respectively in all age groups. This is almost two and a half times higher than the WHO figure and also South African average (17 per 100 000) [6].

Increasing levels of absolute poverty have been recorded in the Eastern Cape. Seventy four percent of the people of the Eastern Cape live below poverty line of R800 or less per month.

Poverty levels vary according to district but in Alfred Nzo 82.3% of the population live below poverty line which is much higher than the provincial norm [9].

To break this vicious cycle of unemployment, alcohol abuse, and poor health, a comprehensive poverty alleviation program along with community education could be an important step towards reducing suicides in the Transkei sub-region of South Africa [10]. It is no longer under debate that HIV/AIDS represents a fundamental crisis in South Africa. It is the single largest contributor to South Africa's burden of disease including suicide [11].

The purpose of this report is to highlight the problem of poverty and suicide in this region of South Africa.

Methods

The Mthatha (Umtata) Hospital Complex (MHC) mortuary deals with about 1,000 medico legal autopsies (unnatural deaths) a year from Mthatha and Nqgeleni magisterial areas, which has a combined population of about 400,000. It is the teaching hospital of the Walter Sisulu University Medical School. This is a record review of deaths due to hanging during the period January 1996 and December 2006. All medico-legal autopsies were recorded in a register at the mortuary. The mortuary is in the hospital premises. All deaths from unnatural causes in the region are notifiable to the police, who then request medico-legal autopsies. A medico-legal autopsy is conducted, usually at the request of police, after an unnatural death for which foul play is suspected. The word 'suicide' has been used synomously with hanging. There were no homicidal hangings reported during this period. Hence, all cases were considered suicides. The names, addresses, age, and causes of deaths have been recorded in the register. The total suicide was calculated using the multiple factor 2.5 (low estimate) and 3 (high estimate). This postulation is based on the assumption that suicides contributed equally: 1/3 by hanging, 1/3 by firearm injuries, and 1/3 by poisoning. Hanging is clearly known to us as suicide, but the other two methods are difficult to determine. Therefore, remaining two-third of suicides is estimated by mathematical calculations. All autopsy records were reviewed and analyzed manually. The results were compiled and analyzed by SPSS computer program.

Results

Ten thousand one hundred and thirty-eight (10,138) medico-legal autopsies were conducted between 1996 and 2006. Of this 552 (6%) were hangings (Figure 1). The average hangings per year is 13.3 per 100 000 population (Table 1). The number has increased from 6.7 per 100 000 population in 1996 to 21.7 in 2006 (Table 1 & Figure2). Males outnumbered females 5.9:1, and the ratio is the highest (8.38/1) between the age group of 21 and 30 years (Table 2 & Figure 3). The highest percentage (33.9%) of deaths was also between 21 and 30 years, and least (3.4%) was above the age of 61 years (Table 2, Figure 4 & 5). Based on these observations, one could predict a 6-fold increase in hangings by 2020 in comparison to 1996 (Table 3 & Figure 6). The suicides will be 15-times (low estimate), and 18-times (higher estimate) higher (Table 3 & Figure 7). There

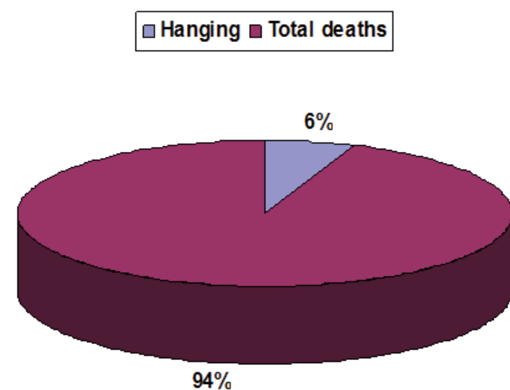

Figure 1: Proportion of hanging and medico-legal autopsies in the Transkei region of South Africa (n=10 138).

Table 1: Hanging in Transkei region of South Africa (n=582).

Year	Males (hanging per 100000)	Females (hanging per 100000)	Total (hanging per 100000)
1996	22(5.5)	5(1.2)	27(6.7)
1997	23(5.7)	6(1.5)	29(7.2)
1998	40(10)	6(1.5)	46(11.5)
1999	39(9.7)	7(1.8)	46(11.5)
2000	36(9)	7(1.8)	43(10.8)
2001	43(10.8)	7(1.8)	50(12.6)
2002	46(11.5)	3(0.7)	49(12.2)
2003	53(13.2)	13(3.2)	66(16.4)
2004	52(13)	7(1.8)	59(14.8)
2005	67(16.8)	13(3.2)	80(20)
2006	77(19.2)	10(2.5)	87(21.7)
Average	54.3(11.3)	8.5(2.2)	53(13.3)

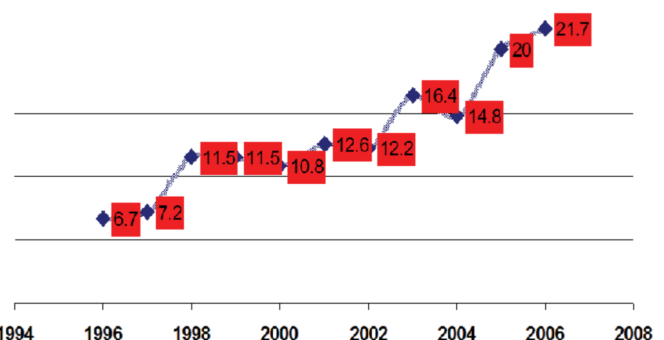

Figure 2: Incidence of hanging in Transkei region of South Africa (n=582).

Table 2: Hanging in different age groups in the Transkei region of South African (n=582).

Age group	Males (%)	Females	Total
1 to 10	8(1.3)	0(0)	8(1.3)
11 to 20	127(21.9)	26(4.3)	153(26.3)
21 to 30	176(30.4)	21(3.4)	197(33.9)
31 to 40	88(15.2)	13(2.2)	101(17.4)
41 to 50	38(6.5)	7(1.3)	45(7.8)
51 to 60	33(5.6)	5(0.9)	38(6.5)
61 to 70	13(2.2)	7(1.3)	20(3.4)
71 and above	14(2.4)	6(1.1)	20(3.4)
Total	497(85.5)	85(14.5)	582(100)

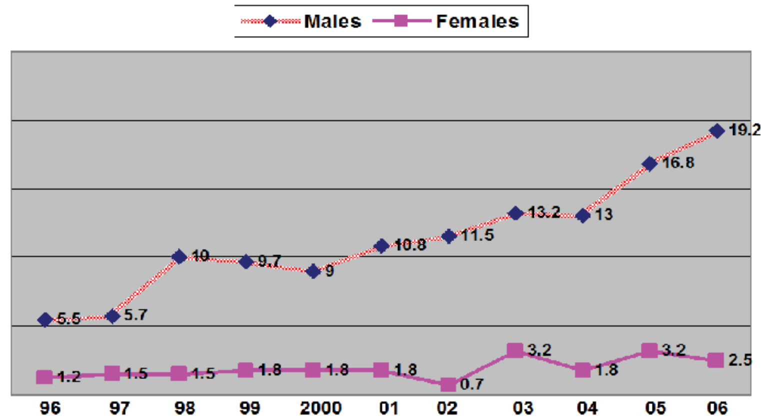

Figure 3: Incidence of hanging among males and females in Transkei region of South Africa (n=582).

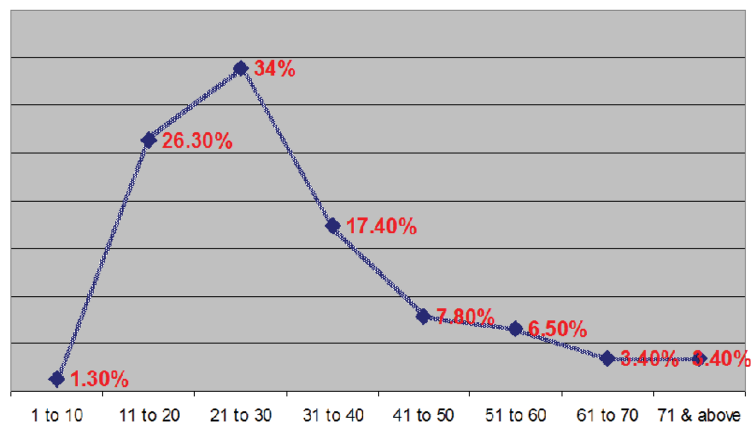

Figure 4: Hanging in different age groups (n-582).

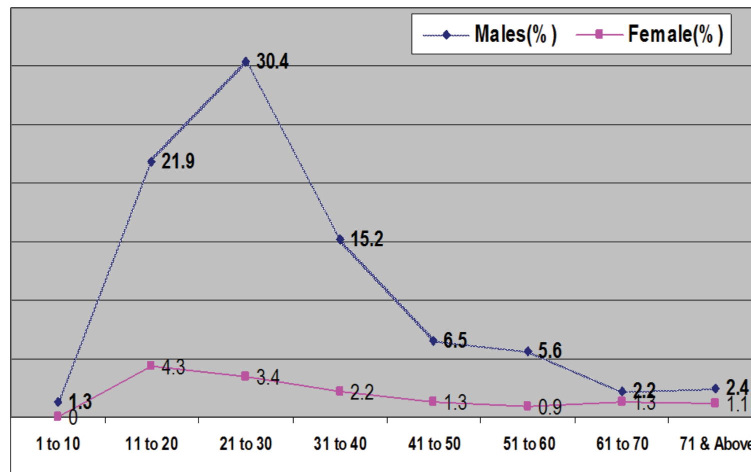

Figure 5: Hanging among males and females in different age groups in the Transkei region of South Africa (n=582).

are circumstantial evidences that growing financial difficulties along with HIV/AIDS have been contributory to these deaths.

Discussion

Poverty is associated in different and complex ways to human-beings. It is considered as a main underlying cause of problems in a family such as malnutrition, diseases, and development. Some of them are obviously visible and others are obscure. There are few studies on suicide in rural areas despite 60% of black South Africans live in rural areas [12]. Most of the work has been focused in urban, and therefore, suicide has been labeled as a problem of metropolitan cities. A recent urban based study conducted by Donson (2007) on a profile of fatal injuries in South Africa showed that out of 33 484 non-natural death recorded 3422 (10.2%) were suicides, and 1878 (5.6%) were hangings. Hanging is a leading cause of suicides [13] and is also common this area. Ten thousand one hundred and thirty-eight medico-legal autopsies were conducted between 1996 and 2006. Of this 582 (6%) were hangings (Figure 1).

The poor and weaker are at a high risk for injury because they face with hazardous situations on a daily basis [9]. There is a common belief that although rural people are exposed to

Table 3: Projections of Suicide in Transkei region of South Africa.

Year	Hanging/100 000	Suicide/ 100 000(low)	Suicide/100 000(upper)
1996	6.7	16.75	20.1
1998	11.5	28.75	34.5
2000	10.8	27	32.4
2002	12.2	30.5	36.6
2004	14.8	37	44.4
2006	21.7	54.25	65.1
2008	26.5	66.25	79.5
2010	25.8	64.5	77.4
2012	27.2	68	81.6
2014	29.8	74.5	89.4
2016	36.7	91.75	110.1
2018	41.5	103.75	124.5
2020	40.8	102	122.4

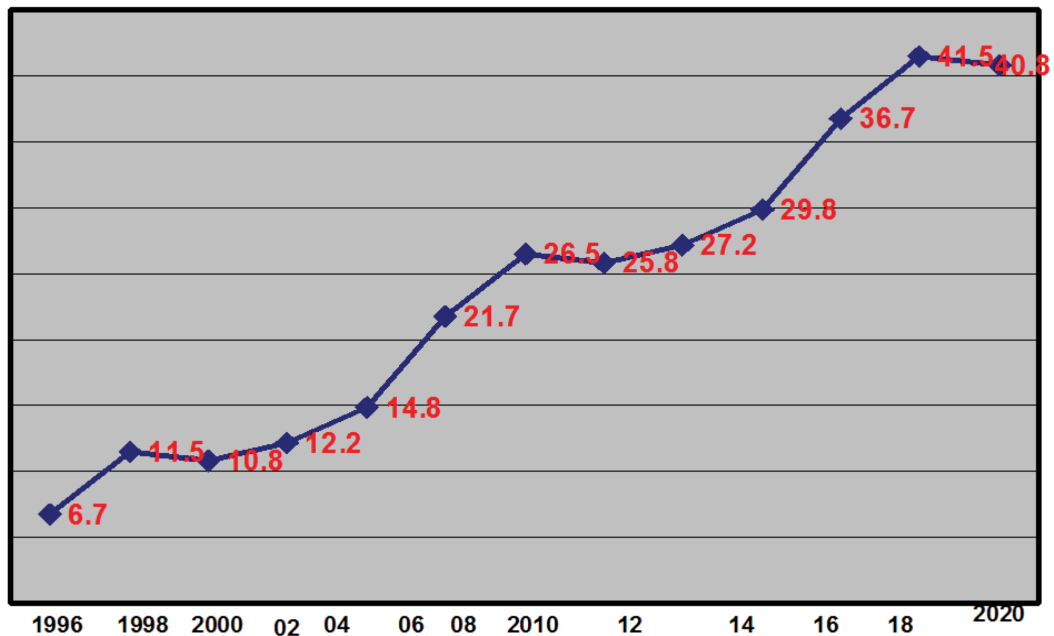

Figure 6: Projection of hanging for 2020.

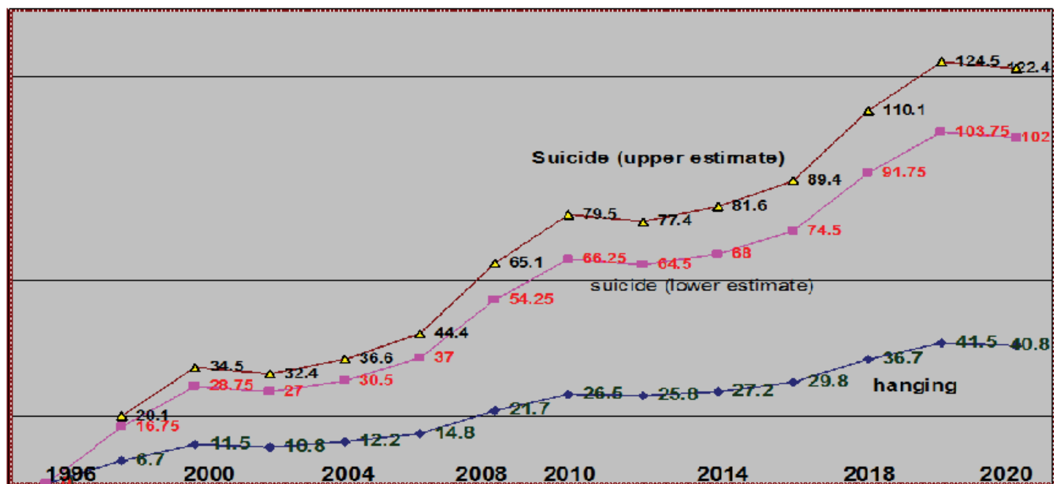

Figure 7: Projection of Suicides in the Transkei region of South Africa in 2020.

difficulties in their day to day life, they are more resilient to self-harm. This is not true for suicide in this area. A study carried out by the author has showed that rural people (>90%) were much more likely to commit suicide than urban dwellers (<10%) [9].

This poverty stricken former black homeland of Transkei is now a part of Eastern Cape Province. Poverty and unemployment are probably the factors to be considered as the cause of high unnatural deaths including suicide [9]. Majority of the people are dependent upon the income of migrant mineworkers. Suicide is higher among the unemployed [14]. Most returning mineworkers were in a poor state of health (78.2%) and as a result found it difficult to get work [15]. The relationship of physical health and illness is an important contributing factor in 11% to 51% of suicides [14].

Hangings accounted for 58%, poisoning 17% and firearms 15% of the 3422 suicides (NIMSS, 2007). There are no statistics available for poisoning and firearm related suicides in this region. However, it is difficult to find out the intention of the deceased in majority of cases without a reliable history. The average of hangings is 13.3 per 100000 population annually (Table 1). The total number of suicides is underestimated. Presumably, it is at least two-and-half to three times higher than hanging in this region. Suicides have increased more than three times 6.7 to 21.7 over the period 12 years (1996-2006) (Figure 2). Although this rising trend has observed in females, but it is predominantly observed in males (Figure 3) this could be because of unemployment which has increased from 36% in 1996 to 39% in 2001, and poverty from 34% to 39% during the same period, in Eastern Cape [16]. In Xhosa culture, man is the provider of the family. He is the one the wife and children look to for money and other necessities. Eastern Cape has a population of 7 million, of which nearly 4 million inhabit in the Transkei region. Close to three quarters (74%) of the province's population earn less than R1500 per month, and 41% of households have a monthly income under R500 per month. The Eastern Cape has the country's second-highest proportion of poor (44.5%)-with the equivalent figure in Transkei no less than 92% [17]. Pride of Xhosa man is hurt because of lack of money. Many of them do not want to be dependent on the wife because of his sickness. The children who should have been asking him for monetary and material support instead go to the mother. It frustrates them as a weak member in the family.

Historically, Xhosa women are known for their struggle during apartheid time, where they used to send their husbands to fight in the freedom struggle, and looked after the children themselves. There are about 6 male suicides for every female in this study (Table 2 & Figure 3). It is interesting that ratio is higher (8.4:1) among 21 to 30-year age group (Table 2 & Figure 3). This highlights the problem of suicides among young among both genders (Figure 4 & 5). In England and Wales, the ratio is 3:1. Similar sex differences are reported from many countries (except China) in the developing and developed world [18]. High dropout rates raise questions of retention and poverty in both schooling and higher education. Feeding, poverty, HIV/AIDS, cultural and sociological alienation of learners, suicide rates and teenage pregnancy are issues of concern in the Eastern Cape [19].

Infant mortality is a very strong indicator of poverty in this region as it speaks about the poverty of the people and their services. One in 10 infants in the Transkei dies during the first 12 months of life, mainly from starvation, according to a study carried out earlier this year by the Health Systems [20]. There is an enormous amount of literature on suicide, but few published studies relate with poverty, despite the fact that it is the root cause of suicides. Most South Africans believe that poverty is the cause of escalating crime levels in the country. Three quarters of the 2000 adults from seven major metropolitan areas of South African cities agreed that crime was mainly caused by poverty. Suicide is also a crime [21]. Although suicide is complex with psychological, social, biological, cultural and environmental factors involved [1].

Tsotsi means 'thug' or 'gangster', a commonly used word in South Africa. Tsotsi (film) is set amidst the widespread poverty and crushing violence that is visited on the inhabitants of post-apartheid South African townships. In the late 1980's, racial and class oppression were increasingly viewed as inextricably linked. Thus, the slogan, Apartheid and capitalism are two sides of the same bloody coin. Apartheid may now be a thing of past, but capitalism has, of course, proved more resilient. And its effects are evident. Consequently, despite 12years of ANC Government, South Africa still struggles with endemic levels of poverty and crime [22].

More than 70% of South Africans are classified as poor, i.e. earning less than R301 a month. This translates into 31 million people officially designated poor. Africans form 95% of these 31 million poor people. Some 75% of the poor live in the rural areas in former ethnic 'homelands' [23]. The new estimate of poverty that proportion of people living in poverty in South Africa has not changed significantly between 1996 and 2001. However, those households living in poverty have sunk deeper into poverty and the gap between rich and poor has widened. Limpopo and the Eastern Cape had the highest proportion of poor with 77% and 72% of their population living below income line, respectively. The poverty gap has grown faster than the economy indicating that poor households have not shared in the benefits of economic growth. In 1996 the total poverty gap was equivalent to 6.7% of gross domestic product (GDP); by 2001 it had risen to 8.3% [24].

Suicide among individuals in society was dependent on the person's level of social integration.5 Poor the community, less integration, and more vulnerable for self-harm. HIV is an alarming illness. It is known to have a significant association to suicide. Early studies suggested suicide risk 20 to 36 times higher than in the general population, but more recent trends in America show a decline. This is not the case in Africa, including the Eastern Cape Province [25]. Suicidal behavior among Transkeins is on the increase in parallel with the rise in mortality due to HIV/AIDS [26]. HIV infection and psychiatric disorders have a complex relationship. HIV infection could lead to psychiatric disorders and psychiatric patients are more vulnerable to HIV infection [27]. Mental disorders (particularly depression and alcohol use) are a major risk factor for suicide in Europe and North America; however, in Asian countries impulsiveness plays an important role [1]. High crime rate and violence played a role in suicides in South Africa but were not entirely to blame [2]. Most suicides were committed by people

between the ages of 21 and 30 (Table 2 & Figure 3). Child rape was one reason for it [2].

Based on the existing trends of suicides from last 12 years (1996-2006), one can presume that all the risk factors remain same such as unemployment, poverty, HIV/AIDS, alcohol consumption and crime in this region the rate of suicide by hanging will have a 6-fold increase by 2020 if the same trend continues. A circumstantial study conducted by the author (1996-2000) showed that there has been an almost two-fold increase in mortality at Umtata (Mthatha) Hospital Complex; one and half times increase in suicidal deaths (e.g. by hanging), and in deaths from gunshot injuries (which may or may not be suicidal). Fatal poisoning, possibly suicidal, has increased five-fold. The natural deaths have doubled at Umtata Hospital Complex and at the same time there has been a two-fold increase in HIV/AIDS prevalence [26]. There is an insidious increase in hanging from 6.7 to 40.8 per 100 000 per year (Table 3 & Figure 6). Other methods of suicide such as poisoning and firearm injuries are ambiguous as it is difficult to account for their manner of deaths. Presuming that they also have an equal share in causation of suicides, the suicide rate has increased from 2.5 times (lower estimate) to 3 times (higher estimate) (Table 3 & Figure 7). It will be 102 per 100 000 to 122.4 per 100 000 per year (Table 3 & Figure7). Sometimes there are extraordinary or temporary circumstances that lead to a high suicide rate. In Sri Lanka in 1990's, during the civil war, had an unusually high rate. Greenland (127 per 100 000 in 1987) has the highest rate in the world [28].

In South Africa, the levels of unemployment and poverty are extremely high and these are South Africa's most pressing problems [29]. Unemployment has been rising steadily over the years. The level of unemployment was 7% in 1980, 18% in 1991, and 28% in 2003 [30]. A study conducted by Jin, et al. in Canada showed that there was a positive association between national employment rates and rates of overall morbidity and mortality due to suicide [31]. Comparison of suicide rates among employed and unemployed revealed an excess of suicide among the latter with an overall relative risk of 3 [4]. Unemployed women were more likely to commit suicide than their employed counterparts, although overall risk was low. Among men, the employment rate was positively correlated over time with the suicide rate [32]. According to South African Institute of Race Relations (SAIRR) severe poverty levels in South Africa have doubled in the last 10 years. A survey conducted by SAIRR showed that poverty in the country increased "dramatically" between 1996 and 2005. Using the globally accepted measure of poverty, of people living on less than one US dollar per day, poverty has increased in South Africa, both in absolute numbers and proportionally. In 1996, some 1, 9 million South Africans survived on less than one US dollar per day. This had increased to 4,2 million by 2005 [21].

Worldwide, the prevention of suicide has not been adequately addressed due to basically a lack of awareness of suicide as a major problem and the taboo in many societies to discuss openly about it.1 In fact, only a few countries have included prevention of suicide among their priorities [1]. It is clear that suicide prevention requires intervention also from outside the health sector and calls for an innovative, comprehensive multi-sectoral approach, including health and non-health sectors, e.g. education, labour, police, justice, religion, law, politics, the media [1].

Limitations

There are several limitations to this study. The assumption of calculating total number of suicides contributed equally (1/3 by hanging, 1/3 by firearm injuries, and 1/3 by poisoning) is the major limitation in this study. The link between poverty and suicide is mainly circumstantial, and it is another major limitation.

Conclusion

Suicide is substantial and an increasing public health problem especially among young adults in the Transkei region of South Africa. The major risk factors are unemployment, alcoholism, and HIV/AIDS. All of this is compounded by the underlying poverty. The poverty alleviation is tool to prevent these deaths.

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