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Twenty Years (1996-2015) Trend in Suicide by Hanging in the Transkei Sub-region of South Africa

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Abstract

Background: In the Xhosa culture, suicide by hanging is viewed very negatively. However, recently hanging has been on the increase in the Transkei sub-region of South Africa. Poverty, unemployment, alcoholism and HIV may play a role in these deaths.

Objective: To study 20 years' (1996-2015) trend in suicide byhanging in the Transkei sub-region of South Africa (1996-2015).

Method: This is a retrospective descriptive study from the records of Mthatha Forensic Pathology Laboratory.

Results: Over a period of 20 years (1996-2015), 24 693 medico-legal autopsies were performed in the Transkei sub-region of South Africa. Of these, 1 555 (6.3%) deaths were recorded as being the result of hanging. The average rate of hanging is 17.3 per 100 000of the population per year. The majority (88.5%) were males. The rate of hanging has increased from 8.3 per 100 000 in 1996 to 16.7 per 100 000 of the population in 2015. The male-to-female ratio is 1:7.7 (1376/179). The highest number of hangings, 484 (5.5/100 000),was recorded among males between 21 and 30 years, while among females of 11 to 20 years, 66 (0.75/100 00) such deaths occurred over a period of 20 years.

Conclusion: The incidence of suicide by hanging has doubled in the Transkei sub-region of South Africa over a period of 20 years. It is more common among young adult males. This health crisis needs urgent attention.

Keywords: Suicide; Hanging; Self-harm; Death.

Introduction

Suicide is the second leading cause of death in the 15-25 year age group1and is the 15th leading cause of death worldwide.[1]An estimated 800 000 deaths by suicide occur worldwide every year. According to the WHO, approximately 1.53 million people will die annually from suicide by 2020 worldwide. Although the prevalence of suicide in "low and middle-income countries (LAMIC)" is lower than in high-income countries (11.2 vs. 12.7 per 100 000 people), 75.5% of deaths by suicide occur in LAMIC countries[1].Eight of the ten countries with the highest prevalence of suicide in the world are LAMICcountries.1The WHO (1999) reported that in 1990 suicide accounted for about 8% of non-natural deaths worldwide.[2]

No reliable statistics are available nationally on the suicide rate in South Africa. The only source of epidemiological mortality data is the National Injury Mortality Surveillance System (NIMSS), which is not complete as data were not taken from rural settings.[3] The national annual number of deaths resulting from injury was estimated at 68 930 in 2000,[4]although indications are that this figure has been decreasing since 1996.[5] The NIMSS figures for 2003 showed that suicide accounted for 11% of all non-natural deaths in South Africa.[6] South Africa ranked eighth internationally for its high suicide rate, but no statistics are available in support of the argument.[7] The South African

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Federation of Mental Health (SAFMH) has also disputed the ranking, as has the World Health Organisation. The SAFMH does not accept this ranking, but offers no alternative ranking or even an indication of whether the suicide rate is high or low in South Africa.

An earlier study carried out by the author in the same region, Transkei, showed that there was an increasing trend of hanging that increased from 5.2 per 100 000 (1993) to 16.2 per 100 000 over a period of ten years (1993-2003)[8]. The highest incidence was in the 20-to-29-year age group[8]. Financial hardship was the main underlying cause, identified in 87% of cases of suicide.[9] The economic recession has increased the rate of suicide and unemployment worldwide[10].

A study carried out in pregnant women in rural South Africa has shown that there is increase in HIV prevalence rate from 35.3% to 39% in between 2001 and 2013[11]. HIV/AIDS has a significant association with suicide[12]. The author strongly suggested that breaking the vicious cycle of unemployment, alcohol abuse and poor health, along with comprehensive poverty, through poverty alleviation programmes could be an important step in reducing suicides in the Transkei sub-region of South Africa[9] and indeed in other at-risk areas globally.

The aim of this study is to determine the trend of suicide by hanging in the Transkei region of South Africa, and related causative factors or triggers of suicide.

Method

This is a retrospective descriptive study from 1996 to 2015 on all unnatural deaths in the Transkei sub-region of South Africa. The former Transkei has five functioning mortuaries, situated in different local municipalities; the one serving Mount Fletcher is in Elundini, that serving Mount Frère in Mzimvubu, the one serving Bizana in Mbizana, that for Lusikiski in Ingquza and Mthatha mortuary serves four local municipalities and a district municipality.

Data were collected on a data sheet with columns for the post mortem number, date, age and gender of the deceased, as well as the cause of death. These data were transferred by a research assistant to an Excel program and then analysed. The result was displayed in the form of tables and figures. The study received ethics clearance from the Ethics Committee of University of Transkei (now it is Walter Sisulu University).

Results

Between 1996 and 2015 (20 years), 24693 forensic autopsies were carried out on deceased who had died non-natural deaths (Table 1). Of these, 1555 (6.3%) deaths were recorded as suicide by hanging. Hanging ranks in the fifth position -1376 (7.08%) -among males as a cause of unnatural death, and 10thposition-179 (3.34%) -among females in the Transkei sub-region of South Africa (Table 1).

Table 1: Rank and percentage of cause of unnatural deaths by gender in Umtata area.

Rank	Males (n=19,361)		Females (n=5,332)		Total (n=24,693)	
	Cause of death	(n) %	Cause of death	(n) %	Cause of death	(n) %
1	Stabbing	(4376) 22.5	MVA	(1631) 30.45	MVA	(5896) 23.77
2	MVA	(4265) 21.93	Gunshot	(650) 12.13	Stabbing	(4830) 19.47
3	Gunshot	(2921) 15.02	Poisoning	(530) 9.89	Gunshot	(3571) 14.40
4	Assault	(2255) 11.60	Stabbing	(454) 8.47	Assault	(2667) 10.75
5	Hanging	(1376) 7.08	Assault	(412) 7.69	Hanging	(1555) 6.27
6	Drowning	(934) 4.80	Drowning	(325) 6.07	Drowning	(1259) 5.08
7	Collapse	(1519) 7.81	Collapse	(529) 9.87	Collapse	(2048) 8.26
8	Poisoning	(609) 3.13	Burns	(266) 4.97	Poisoning	(1130) 4.59
9	Burns	(423) 2.18	Lightening	(192) 3.58	Burns	(689) 2.78
10	Fall	(357) 1.84	Hanging	(179) 3.34	Fall	(492) 1.98
11	Lightning	(273) 1.40	Fall from height	(135) 2.52	Lightening	(465) 1.87
12	Suffocation	(53) 0.27	Gas suffocation	(29) 0.54	suffocation	(82) 0.33

Table 2: Incidence of hanging in the Transkei sub-region of South Africa (1996-2015).

Year	Estimated population	Females N=179	Rate/100 000 (Females)	Males N=1376	Rate/100 000 (Males)	Total (n=1555)	Rate per 100 000
1996	350 000	6	1.7	23	6.6	29	8.3
1997	358 050	7	2.0	24	6.7	30	8.7
1998	366 285	7	1.9	41	11.2	48	13.1
1999	374 710	8	2.1	40	10.7	48	12.8
2000	383 328	8	2.1	37	9.7	45	11.7
2001	392 145	8	2.1	44	11.3	52	13.4
2002	401 164	4	1.0	47	11.7	51	12.7
2003	410 391	12	2.9	44	10.7	56	13.6
2004	419 830	8	1.9	48	11.4	56	13.3
2005	429 486	1	0.2	64	14.9	65	15.1
2006	439 364	14	3.2	75	17.2	89	20.4
2007	449 469	13	2.9	107	23.9	120	26.8
2008	459 806	9	2.0	98	21.3	107	23.3
2009	470 381	11	2.3	94	20.0	105	22.3
2010	481 199	8	1.7	110	22.9	118	24.5
2011	492 266	8	1.6	82	16.7	90	18.3
2012	503 588	12	2.4	107	21.2	119	23.6
2013	515 170	15	2.9	108	21.0	123	23.9
2014	527 018	8	1.5	105	19.9	113	21.4
2015	539 139	12	2.2	78	14.5	90	16.7
Average	438 140	7.5	2.1	37.5	15.2	77.7	17.3

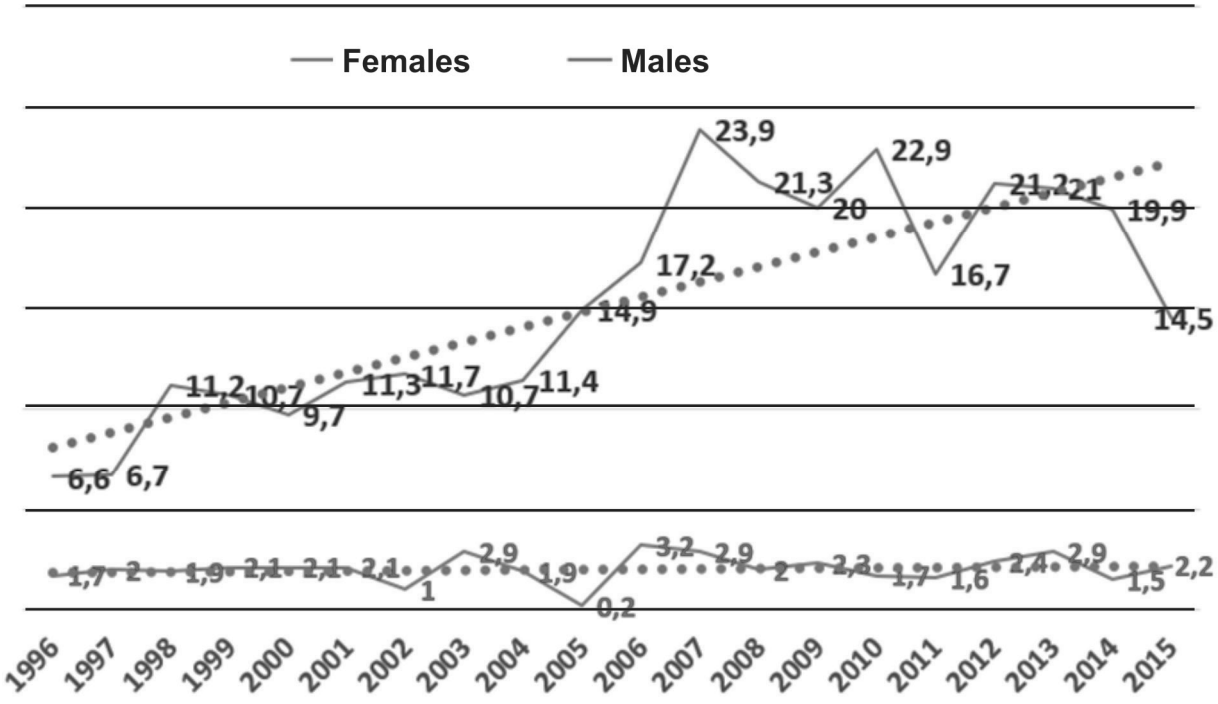

Fig. 1: Rate of hanging among both genders in Transkei sub-region of South Africa (1996-2015) (n=1555).

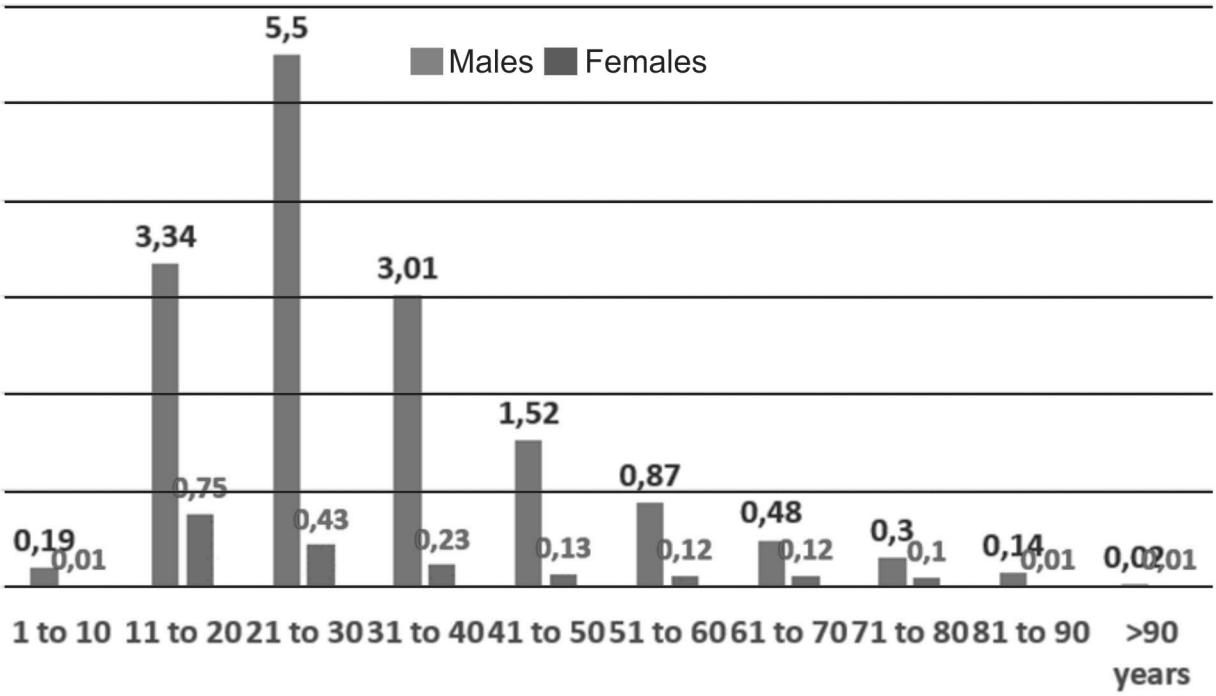

Fig. 2 Rate of hanging per 100 000 of population per year in different age groups in both genders in Transkei sub-region of South Africa (1996-2015) (n=1524).

The average number of hangings was 17.3 per 100 000 over a period of 20 years (1996-2015) of the population per year in this region (Table 2). The majority (88.5%) were males (Table 2). The rate of hanging increased from 8.3 per 100 000 of the population in 1996 to 16.7 per 100 000 in 2015 (Table 2). The highest rate of hanging was 26.8 per 100 000 in 2007 and the lowest was recorded at 8.3/100 000 in 1996 (Table 2). There was a sharp increase in hanging from 10.7 per 100 000 (2003) to 23.9 per 100 000 (2007) among males (Table 2). It decreased after that date to 14.5 per 100 000 among males in 2015 (Table 2).Among females, the incidence of hanging is almost constant but at a lower level (Figure 1). The rate of female hanging was 1.7 per 100 000 in1996 and increased to its highest level of 3.2/100 000 in2006 (Table 2). The female-to-male ratio is 1:7.7 (1376/179) (Table 2). The highest number of hangings was recorded as 484 (5.5/100 000) among males aged between 21 and 30 years, while among 11-to-20-year-old females it was 66 (0.75/100 000) in this study over a period of 20 years (Figure 2).

Discussion

Former Transkei isa low socio-economic rural area of South Africa, with a high rate of unemployment and poverty.[13] It is a disadvantaged region as few job opportunities are available as it is rural without any business activities in the area.[13] The unemployment rate is very high because of the high illiteracy rate and this has led to a high number of permanently unemployed people in this region.[13] Poverty is severe in the Transkei region and it is a partly a legacy of apartheid.[13] Seventy-three percent of the people living in the rural Eastern Cape were living on less than R300 per month in 2005/2006, and more than half them on less than R220 per month [13].

This study, spanning 20 years (1996-2015), revealed that hanging alone accounted for 1 555 (6.27%) non-natural deaths (Table 1). Hanging is the number one cause of death after homicide and accidents in this study (Table 1).It is difficult to assess that how many people committed suicide by other methods, such as shooting, self-poisoning, jumping from height, burn and railway tract injuries. Since there is stigma attached to suicide, there is a tendency to shy away from the truth. The truth is often not disclosed because of the difficulty of having claims paid by insurance companies.[14] Self-harm mortality is high in South Africa despite of the fact that all efforts were used to reduce the mortality.[15] There is no report available on poisoning deaths by the state laboratories in South Africa and specimens were remained unanalysed for years because of heavy backlog.[16] The National Injury Mortality Surveillance System (NIMSS) report showed that poisoning is not among the top

10 external causes of death in South Africa[3],however it has occurred in the Transkei sub-region of South Africa and is ranked the eight most common cause of non-natural deaths (Table 1). The local Xhosa tribe that inhibits this area believes in the use of traditional medicines to cure their illnesses.[17]

The average rate of hanging was 17.3 per 100 000 per year in this study (Table 2). The prevalence of suicide by hanging alone is one and a half times (17.3 vs. 11.2) higher in this sub-region of Transkei than in LAMIC, and a little less than one and a half times (17.3 vs. 12.7) the rate in in middle-income countries[1]. Nertshiombo et al reported in 2012 that in South Africa hanging accounted for 36.2% of non-natural deaths, followed by shooting (35%) and then by other methods (28.8%), such as poisoning, gassing and burning.[18]

It means that the overall rate of death by suicide is around 34.6 per 100 000 of the population of the Transkei sub-region per year (lower estimate), assuming the proportion of hanging, poisoning and shooting as 33% each.[19] It means the overall suicide rate in this region is at least twice higher than the international rate of suicide (the international average is 16 per 100 000 per year).[16] An earlier study published in an American journal by the author mentioned 16.2 per 100 000 of the population in 2003[8], while this study indicates the rate as 13.6 per 100 000 of the population in the same year (Table 2). This discrepancy in the rate is because of the annual increase in the population (3%) was taken into account in this study (Table 2). In this study, the population was assumed to be 410391, which is more realistic than the number used in the earlier study, and this brought down the rate of hanging from 16.2 to 13.6 per 100 000 of the population (Table 2). The denominator was consistent with a population300 000 in the earlier study published in 2003.[8] Further verification is the fact that the total number of suicides in this study was 56 in 2003, and if one should use the same denominator of 2003, i.e. 300 000, then the calculation yields the same result, 13.6/100 000 (56/300 000=13.6), in this study as well (Table 2).

Deaths as a result of firearm injuries decreased by more than half, from 27/100 000 in 1993 to 12.8/100 000 in 2015, in Transkei region of South Africa.[20] This happened after the Firearm Control Act was passed in 2002 by the South African parliament.[21] It is not clearby which percentage suicide by firearm has decreased in this region of South Africa. Too little data on suicide in rural parts of South Africa is available to make comparison with this study possible. A retrospective study on mortuary data carried out in Durban in KwaZulu-Natal indicated that the number of suicides had increased from 14.53 (2006) to 15.53 (2007) per 100 000.[22] Suicide is considered a problem of metropolitan areas, but this is not true, as the Transkei is a vastly rural area of South Africa.[22] The prevalence rates for suicidal behaviour based on apartheid-era data are considered under-representative, since research among the majority black population living in rural areas of South Africa was largely neglected.[23] The hanging rate almost doubled from 8.3 per 100 000 in 1996 to 16.7 per 100 000 in 2015 (Table 2 and Figure 1). Figures released for South Africa in the last decade have shown that hanging and shooting were the preferred methods for committing suicide, followed by self-poisoning with agents such as pesticides and overdoses of substances.[2] The number of hangings was lowest (8.7 per 100 000) in 1997 and highest (26.8 per 100 000) in 2007(Table 2 and Fig.1).

There were great expectations from the government after liberation in 1994, but it did not keep promises such as low-cost housing and employment.[13] A sharp increase in hanging occurred from 2005 (15.1 per 100 000) to 2007 (26.8 per 100 000) (Table 2 and Figure 1). Although there is no proof of why people commit suicide, financial difficulties were observed in 87% of cases as an underlying cause in the Transkei region of South Africa.[9] The Transkei is characterised by worsening poverty, where the average rural income was R255 per month in 2005/06, well below the poverty line drawn by the South African government.[13]

Hanging is a method of choice predominantly among males (Table 2 and |Figure 2). The male/female ratio in this study is 7:1 (Table 2 and Figure 2), which is more than double the international ratio of 3:1.[24] China is the exception, where the rate of female suicide is consistently higher than that of men, particularly in rural areas.[24] Malesconsequently often succumb to financial difficulties, lack of self-esteem, unemployment and excessive alcoholism, resorting to self-harm as a result.[25] Transkei is known for supplying mineworkers to South Africa. Most of the people who were formerly employed worked in mines and they resigned or were retrenched at a young age, returning to the Transkei region in a poor state of health (78.2%).[26] They knew that they would not find employment again.[25] In Xhosa culture, a man is the provider of food for his family, but once he is unemployed, he is forced to depend on his spouse, causing loss of pride that is culturally unacceptable.[25]

Alcohol consumption rates in South Africa are the highest in the world and continue to rise.[27] Research demonstrates that the population consumes in excess of 5 billion litres of alcohol annually.[28] A study conducted by Matzopolous in 2005 showed that there was considerable variation in the distribution of alcohol-related injuries in South Africa.[29] The rate of hanging varied less among females (1.7 per 100 000 in 1996 to 2.2 per 100 000 in2015) than among their male counterparts (Table 2 and Fig. 3).The highest rate of hanging (5.5/100 000) was recorded among males between 21 and 30 years in this study (Table 3 and Fig. 2).

This is similar to the rate mentioned in an earlier report by the author (2009), which showed that more than half (55%) of the hangings involved people younger than 30 years.Less than one quarter (23%) of these victims were younger than 20 years.[30] This is in contrast to statistics from developed countries, where suicide rates were, by and large, higher in older age groups[31]. It is difficult to explain the reason for young adults committing suicide by hanging. 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.[32] About 300 million people in the world are suffering from depression, which is the leading cause of suicide[33].

Conclusion

There is an increasing trend in suicide by hanging in the Transkei sub-region of South Africa. The incidence of hanging has doubled in this region over a period of 20 years. About two-thirds of suicide victims are young, from 11 to 30 years. An in-depth study is required to determine the risk factors associated with hanging in this region of Transkei in South Africa.

Ethical Issues

The author has ethical permission for collecting data and publication (approved project No. 4114/1999) from the Ethical Committee of the University of Transkei, South Africa.

Conflict of interest

The facts in this report could be submitted in demand. The references were not labelled but can be produced if necessary.

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