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Short Report

Suicide in the Dar es Salaam region, Tanzania, 2005

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Abstract

Suicide surveillance was launched at the Muhimbili National Hospital mortuary in Dar es Salaam Region, Tanzania from 1st January to 31st December, 2005 to determine its magnitude and characteristics. Following the WHO guidelines with minor modifications, information on sex, dates of birth and death, places of residence and death, occupation, reasons and means of suicide were collected. There were 65 (2.3 per 100,000 population) suicides recorded in 2005. The suicide rate for males was 3.4/100,000 and for females was 1.2/100,000 which maybe some of the lowest rates ever reported in the world. The mean age at suicide was 32.9 (SD = 13.1) years. Males were about three times more likely to commit suicide as females. The main motive behind suicide was recorded for 26 (40%) victims as family-related and for 11 (17%) as health related. Although there was a wide range of ages at which people committed suicide, the average age seems to be very low. Since reasons for suicide are coated with family problems, strategies to improve awareness of psychological and mental health services and to provide alternative economic and social support networks are advocated.

Keywords: Africa; Dar es Salaam; Suicide; Surveillance; Tanzania

1. Introduction

Suicide is one of the leading causes of death worldwide and an important public health problem.[1,2] Deaths from suicide are only a part of this problem; in addition to those who die, there are many more attempted suicides some of whom require hospitalization and can have life-long sequelae. The economic cost associated with self-inflicted deaths and injuries is estimated to be billions of dollars per year.[3] Suicide is stigmatized and condemned for religious and cultural reasons. Suicide has usually been a secretive act surrounded by taboo, and at times unrecognized, misclassified or deliberately hidden in official records of death.

Suicide rates vary geographically and by age and sex. The average rate world-wide for all suicides was estimated to be 14.5/100,000 in the year 2000.[3] The highest suicide rates were reported in the low and middle income countries of Europe. The suicide rate for males was reported to be 46.8/100,000 in which 0–4 years age group has a nil rate of suicide, steadily increasing to 79.9/100,000 in those 45–59 years old. The highest rates for women were reported from the low and middle income countries of the Western Pacific region; where the adult suicide rate remained steady around 23/100,000 through the adult years until the rate shot up to 60.9 in those greater than 60 years. The lowest rates reported for men were in the high income countries of the Easter Mediterranean (4.1/100,000) and for women were in the high income countries of the Eastern Mediterranean (2.1/100,000) and also the low and middle income countries of the Americas (2.7/100,000).[3–7] In Tanzania, like many other developing countries, lack of population based studies has made estimation of suicide rate difficult.[8]

Factors that place individuals at increased risk for suicide are complex and many interact with one another. These include psychiatric, biological, social and environmental factors as well as factors related to an individual's life history.[9–13] Examples of such factors include psychiatric illnesses, alcohol abuse, interpersonal conflicts or broken or disturbed relationships, legal- or work-related

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problems and economic hardships. The main objectives of this study were to quantify and describe suicides in Dar es Salaam Region, Tanzania in 2005.

2. Materials and methods

All medico-legal autopsies in Dar es Salaam Region are conducted at the mortuary of Muhimbili National Hospital (MNH) which is the largest consultant hospital and serves the main University teaching facility. In 2005, there were 1500 autopsies carried out, of which 1420 (95%) were medico-legal. All other mortuaries in Dar es Salaam were monitored for possible cases. In Tanzania, by law, all homicide, suicide and accidental deaths must be certified by a pathologist, police officers and when known, witnessed by close kin in-attendance with the deceased before a burial certificate can be obtained.

From 1st January 2005 to 31st December 2005 a surveillance of suicidal deaths from Dar es Salaam Region was carried out. The Region includes three districts: two urban, Ilala and Kinondoni and a third, Temeke, which is semi-urban and partly rural. Following WHO injury surveillance guidelines,[14] with some minor modifications, information on sex, dates of birth and death, places of residence and death, occupation, causes of injury and death, reasons and methods of suicide were collected. Surveillance protocol was approved by the Research and Publications Committee of Muhimbili University College of Health Sciences and permission to conduct the surveillance was granted from the Tanzania Commission for Science and Technology and National Institute of Medical research. Informed consent was obtained from concerned legal heirs and they were assured of confidentiality. Whenever possible, a verbal explanation of the event was also obtained from close relatives.

Respondents were adult family members, neighbours or close friends of the deceased. The interviews were conducted by the last two authors who are nurses (one of them being the Mortuary manager), in a veranda close to the mortuary. Dar es Salaam population estimates of 1.43 million males and 1.40 million females were projected from the latest 2002 Tanzania Census.[15]

3. Results

3.1. Magnitude of suicide in Dar es Salaam

During the surveillance period, 65 suicide cases (2.3 per 100,000 population) were recorded at the Muhimbili National Hospital (MNH) mortuary. The suicide rate for males was approximately 3.36/100,000 and for females 1.21/100,000. The suicide rate was not significantly different between the Dar es Salaam region's three districts: Kinondoni 26 (2.1/100,000 population), Temeke, 20 (2.3/100,000) and Ilala, 19 (2.6/100,000).

3.2. Characteristics of suicides

The overall mean age at which people committed suicide was 32.9 (SD = 13.1) years, ranging from 11 to 70 years. The mean age for the 48 males who committed suicide was 33.5 (SD = 11.8) years which was not significantly different from that of the 17 females, 31.0 (SD = 16.5) years. Independent of sex, suicide rate was highest among people aged between 45 and 59 years (Fig. 1). Males were almost three times more likely to commit suicide than females (Odds ratio = 2.8; 95% CI = 1.6, 4.8). With regard to occupation, 13 (20.0%) owned small or petty business, 10 (15.4%) were peasant, 9 (13.8%) large business, 7 (10.8%) were unemployed and 6 (9.2%) were students. Eight (12.3%) suicide victims were casual labourers and owned small business. The occupational status of 12 (18.5%) suicide victims was not known (Fig. 2).

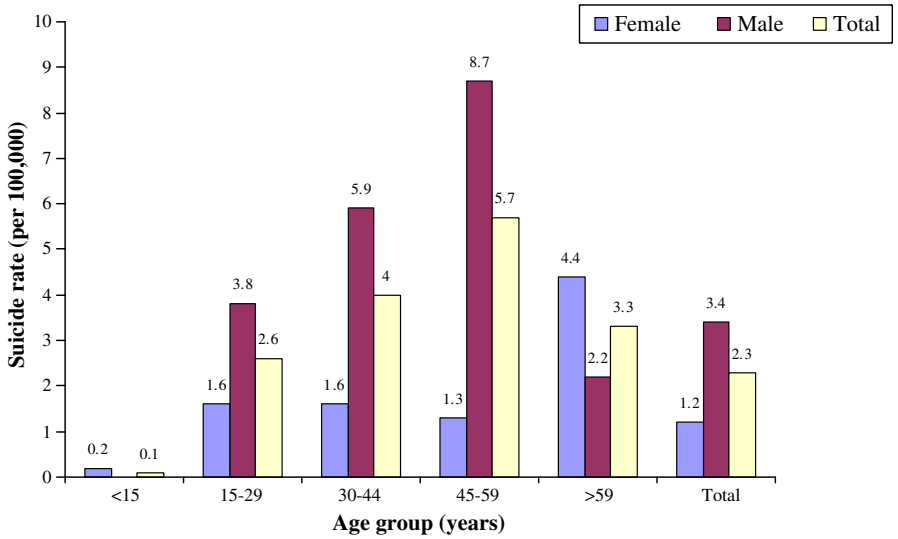

Fig. 1. Distribution of suicide rate by age and sex, Dar es Salaam, Tanzania.

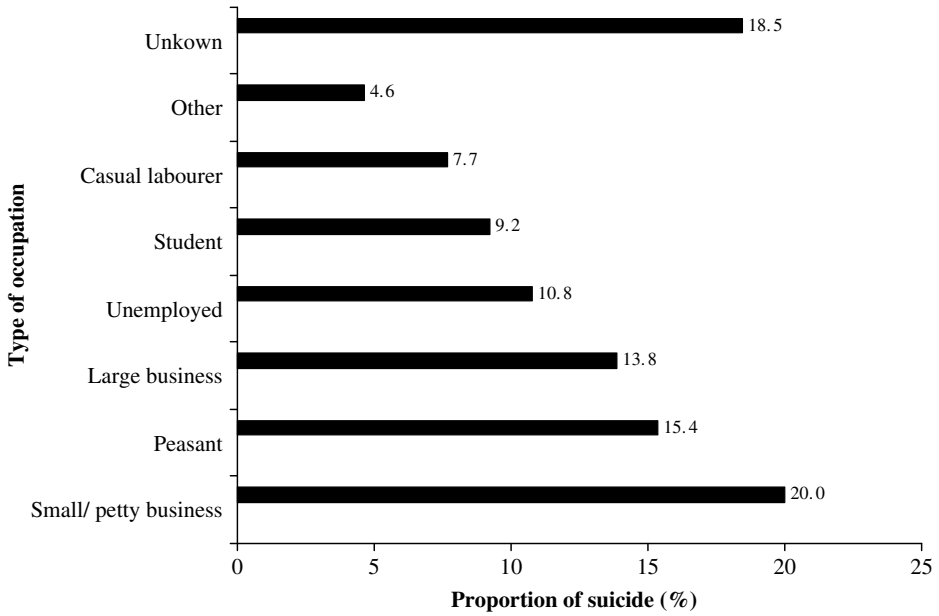

Fig. 2. Distribution of suicides by reported occupation, Dar es Salaam, Tanzania.

3.3. Reasons and ways of committing suicide

Only 6 (9.2%) of suicide victims left a note behind to indicating reasons for committing suicide. Examples of reasons include unbearable debts, chronic medical conditions (HIV) and unwanted pregnancies. Precipitating factors for suicide are complex and were known in 44 (67.7%) of suicide cases. They included, family problems 26 (40.0%), physical illness 11 (16.9%), financial problems 4 (6.2%) and alcohol/drug abuse 3 (4.6%) (Fig. 3).

The main method of suicide was by hanging 50 (76.9%) and was usually done in the house with a variety of materials such as clothes, ropes, belts, and sheets. Of the suicide victims who hung themselves, 42 were men. Poisoning was the second most common method and was noted among 11 (16.9%) of all suicide victims. The only pharmaceutical used was the malaria medication, Chloroquine. All other poisonings were by ingesting pesticides. Only three males used poison to commit suicide. Common methods of suicide are shown in Fig. 4. One physically incapacitated elderly female set herself on fire after pouring kerosene on her body and one male shot himself following the collapse of his business and ending with debts.

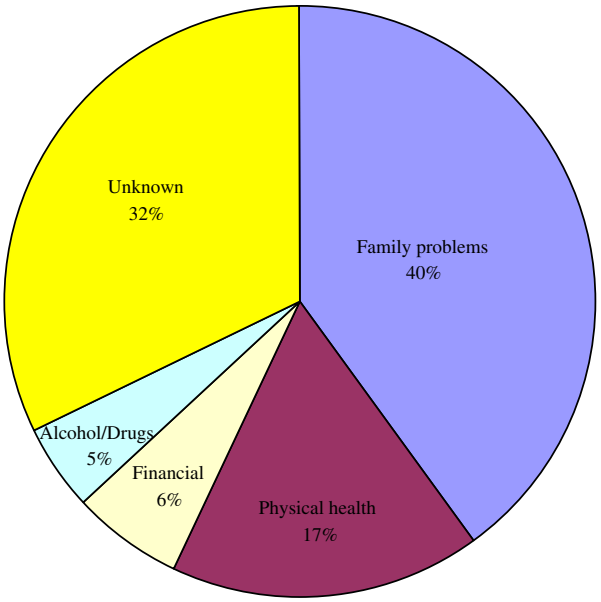

Fig. 3. Precipitating factors for committing suicide, Dar es Salaam, Tanzania.

4. Discussion

4.1. Main findings

There is a paucity of comparative suicide studies across the Sub-Saharan Africa region. Nevertheless, this study shows a low suicide rate relative to previously reported rates from other sub-Saharan countries,[16,17] and much lower than a rate reported in India.[18] Furthermore, in this study, male suicide rates significantly exceeded that of females, a similar experience that was also reported in Malawi, South Africa[16,17] and in all regions of the world.[3] Tanzania is considered one of the poorest nations in the world[19] and more than half of those who committed suicide were unemployed or had unstable employment such as small or petty businesses. The most common methods of committing suicide were by hanging and poisoning.

4.2. Age and sex differences

In this study, suicide was basically an adult phenomenon. The age group with the highest suicide rate was 45–59 years. However, the rate of suicide was consistently

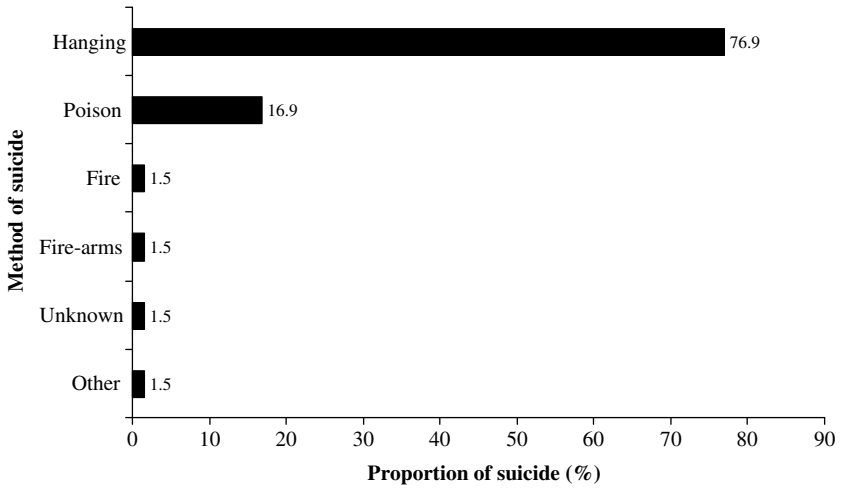

Fig. 4. Common methods used to commit suicide, Dar es Salaam, Tanzania.

higher among males than females for all age groups between 15 and 59 years, a phenomenon that has been reported elsewhere.[16–18,20] Factors that contribute to female suicide in this age group are mainly family related problems including unwanted pregnancy, prostitution, and family conflicts. Male suicide was most often precipitated by family and health problems. Selectivity of suicide rate by sex may be partly due to elevated economic difficulties and social responsibilities among men.[21] Other factors associated with suicide in this study were alcoholism and drug abuse and have been reported previously.[1,22,23]

4.3. Methods used for suicide

Methods of committing suicide vary from place to place depending on various factors. More than three quarters of the cases in Dar es Salaam in 2005 study committed suicide by hanging. Hanging as a common method for suicide has been recently documented from South Africa and India.[13,18] However, recent research findings from Malawi indicate that poisoning is the commonest method for suicide among both males and females.[17]

4.4. Limitations of the study

Findings reported here are based on only 1 year surveillance in one region of Tanzania. Therefore, it is not possible to know how representative the data are. Evaluation of the underlying reasons for committing suicide was difficult because there were often multiple layers of problems. Furthermore, the study relied on data collected from close relatives and such reports may be wrong or inaccurate. In addition, poisoning testing was not done so it was not possible to know which pesticides were ingested.

4.5. Conclusion and implications

Suicide, especially in sub-Saharan Africa, may be linked with several socio-cultural environments and economic determinants. Determining causes of suicide may be a difficult endeavour. One of the best guides would be to use the suicide notes to confirm the causes of suicide and act as a guide to set up possible preventive mechanism. However, these notes are never formative and were not available in more than 90% of our study cases. A study design that may use cases of attempted suicide and evaluates the reasons behind their behaviours may contribute greatly to the understanding of underlying causes of suicide in sub-Saharan Africa. Although the observed suicide rate from this study may be perceived as low, there is need to improve awareness of psychological and mental health services and to provide alternative economic and social support networks.

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