Suicide among Adolescents in Jamaica: What Do We Know?

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ABSTRACT

Suicide is increasingly acknowledged as a global problem. Yet little is known worldwide about suicide rates among adolescents. Several social factors that exist in Jamaica present as stressors and may predispose to suicide. Ascertaining prevailing patterns and associated factors is important for crafting interventions. This paper establishes adolescent suicide rates for the years 2007–2010 in Jamaica and provides related epidemiological data.

Method: *Data pertaining to suicides were extracted from standardized data collected by the police. Information regarding the number of suicides among adolescents, 9–19 years of age, was reviewed for the years 2007–2010. Sociodemographic characteristics of cases: gender, location and occupation along with related variables were also examined. Variation of rates over time was ascertained. Statistically significant associations were determined by reference to* p*-values and confidence intervals.*

Results: *The incidence for suicide in adolescents was 1.1 per 100 000. Rates for males were significantly higher than females. Most suicide cases were students and the majority of cases was from rural areas (65%). Hanging was the main method used to commit suicide (96.2%). Items of clothing were commonly used for this purpose.*

Conclusion: *Male adolescent suicide rates showed an upward trend in contrast to the downward trend for females in the four-year period studied. Continued surveillance is needed for greater understanding of adolescent suicides. Collaboration among health services, parents, schools and communities is integral in prevention efforts. Recent media coverage of suicides provides a window of opportunity to galvanize support for research and the development of intervention strategies.*

Keywords: Adolescents, Jamaica, suicide

El Suicidio entre los Adolescentes de Jamaica: ¿Qué Sabemos?

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RESUMEN

Objetivo: *El suicidio se reconoce cada vez más como un problema mundial. Sin embargo, poco se sabe sobre las tasas de suicidio entre los adolescentes. Varios factores sociales en Jamaica constituyen factores estresantes que pueden predisponer al suicidio. Determinar los patrones prevalecientes y los factores asociados, resulta importante a la hora de diseñar las intervenciones. El presente trabajo establece tasas de suicidio entre adolescentes en los años 2007–2010 en Jamaica, y proporciona datos epidemiológicos relacionados.*

Método: *Se extrajeron datos en relación con los suicidios a partir de los datos estandarizados recopilados por la policía. Se examinó la información sobre el número de suicidios entre los adolescentes de 9–19 años de edad, durante los años 2007–2010. También se examinaron las características sociodemográficas de los casos – género, lugar, y ocupación – junto con otras variables relacionadas. Se estableció la variación de las tasas a través del tiempo. Se determinaron las asociaciones estadísticamente significativas mediante nm la referencia a los valores p y los intervalos de confianza.*

Resultados: *La incidencia de suicidios en adolescentes fue 1.1 por 100 000. Las tasas para los varones fueron significativamente más altas que para las hembras. La mayoría de los casos de suicidios se trató de estudiantes, y la mayor parte de los suicidios tuvo lugar en áreas rurales (65%). El ahorcamiento*

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fue el método principal usado para cometer suicidio (96.2%). Artículos de vestir fueron comúnmente usados para este propósito.

Conclusión: *Las tasas de suicidio entre adolescentes varones mostraron una tendencia creciente, en contraste con la tendencia descendente para las hembras en el periodo de cuatro años bajo estudio. Se necesita una vigilancia permanente a fin de lograr una mayor comprensión del suicidio entre adolescentes. La colaboración entre los servicios de salud, los padres, la escuela, y la comunidad, son fundamentales para lograr esfuerzos integrados para prevenir los casos de suicidio. La cobertura reciente de los medios de difusión sobre los casos de suicidio abre una ventana que impulsa el apoyo a la investigación y al desarrollo de estrategias de intervención.*

Palabras claves: Adolescentes, Jamaica, suicidio

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INTRODUCTION

The landmark study, the Global Burden of Disease, revealed that suicide accounts for 1.4% of the disease burden globally (1); it is among the top 20 leading causes of death globally for all ages (2). Moreover, it is projected that by the year 2020, approximately 1.53 million people will die from suicide and 10–20 times more persons will attempt suicide worldwide (3).

Suicide has become a major public health problem among children and adolescents. Over the past five decades, there has been an increase in suicide in adolescents, particularly in developing countries. Cross-national data revealed that about 25% of all suicides occurring globally are in the 15–24-year age group (4–6).

An analysis of the global rate of suicide among persons age 15 to 19 years, revealed that suicide was the fourth leading cause of death among young males and the third for young females. Estimates place the mean suicide rate for this age group at approximately 7.4 per 100 000 (5). Adolescence represents a turbulent developmental phase as young people make the transition into adulthood. It is a vulnerable phase that is characterized by exposure to a myriad of stressors that expose young people to suicide risks (7). Suicide is a complex issue involving psychological, social and biological factors as well as exposure to stressful events, cultural and environmental influences (8–10). The literature consistently cites depression as the leading cause of suicide (11, 12). In addition, substance and alcohol use disorders, abuse, violence, loss and family background represent major risk factors for suicide (13, 14).

Research also reveals that adolescents who internalized their anger were more likely to attempt suicide compared to those who made external expressions of their anger (15). The availability and easy access to lethal means such as firearms, other weapons and poisons are correlated with increased suicide risk (16, 17).

Gender differentials have been reported. The rate of attempted suicide is higher in females and the rate of suicide is higher among males with the latter group showing the greatest and most sustained increase in suicide rates globally (18, 19). Geographical variations in suicide patterns have also been widely reported in the literature with increased gap between rural and urban suicide rates demonstrated (20, 21).

Suicide among adolescents in Jamaica

Jamaica is a developing country in the Caribbean with a population of 2.7 million people. Like many countries in the Caribbean, Jamaica is making the demographic transition and adolescents account for 22% of the population with a 1:1 ratio of male to female. In Jamaica, Abel *et al* found that Jamaica's suicide rate is among the lowest in the world averaging at 2.26 per 100 000 with the 5–14-year age group recording the lowest suicide rate [0.3 per 100 000] (22).

Has the rate changed in the succeeding years and more specifically, what patterns currently prevail among Jamaican adolescents? Who are the ones opting for suicide and what methods are being used in this regard?

In reference to these questions and arising out of an interdisciplinary consultation, this paper examines the suicide data in Jamaica, for the period 2007–2010. Additionally, the distribution of adolescent suicides, gender, age and suicide methods are identified. These are discussed in light of other international literature on the subject and assessed in the context of the implications for health-planning and mental health services.

SUBJECTS AND METHODS

In Jamaica, the information formally and routinely collected by the police includes reports of suicides. Suicides for persons five years old and over have been recorded since the late 1990s from these records; information pertaining to the number of suicides among adolescents 9–19 years of age was extracted for the years 2007–2010. Sociodemographic characteristics of cases including gender, location and occupation along with related variables were also examined. Variation of rates over time was ascertained.

The Statistical Package for the Social Sciences (version 17.0) was utilized for data coding, entry and cleaning. Yearly suicide rates by gender were computed to elucidate trends over time. The 2001 Jamaica census data (23) furnished the

population denominators for the relevant 9–19 years age group. Numerical summaries of the data were presented as means and proportions and graphical summaries illustrated through tables and charts. Descriptions of circumstances surrounding each suicide were recorded and analysed thematically to further unearth information on methods used to end life and associated issues.

RESULTS

Sociodemographic characteristics

There were 26 adolescents aged 9–19 years who died by suicide between 2007 and 2010, representing 14% of all suicide cases in the island during the period. They were distributed across 10 parishes with Kingston and St Andrew accounting for the largest proportion and St Mary and Westmoreland having the least. The mean age of the victims was 16 years with a standard deviation of ± 3.01. Most (76.9%) were males, most (65%) were students while the others had mainly elementary occupations (such as 'labourer' and 'higgler').

Temporal trends

Figure 1 shows the variation in suicide rate over the 2007–2010 period. Rates for males showed an upward trend, rising from 0.7 cases per 100 000 to 2.4 per 100 000 adolescent population. The trend for females was downward from 0.7 per 100 000 to 0.3 per 100 000 adolescent population. The overall mean suicide rate for the four-year period was 1.1 suicide per 100 000 adolescent population.

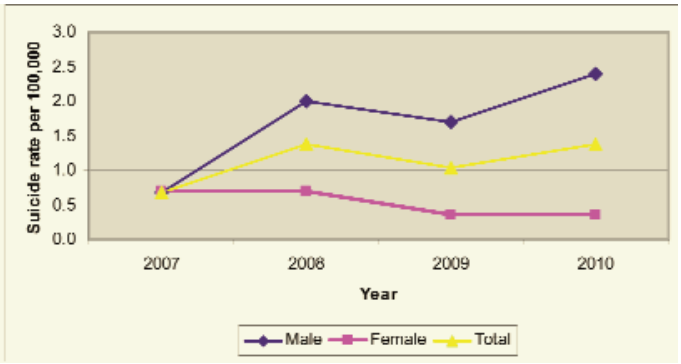

Fig. 1: Adolescent suicide rate by gender and year, Jamaica (2007–2010).

Time period of suicide events and urban/rural distribution

Most suicides occurred during the periods June to August and December to February. Table 2 shows the distribution of adolescent suicides by time period (organized in sequential three-month periods of the academic year) and urban/rural locations. The majority (65% CI (44.2%, 82.8%)) of adolescents committing suicide was domiciled in rural areas.

Table 1: Unadjusted suicide rates per 100 000 population for Caribbean countries at different points in the 1980s and 90s

Country	Year 19..	Male	Female
Antigua and Barbuda	95	0.0	0.0
Bahamas	95	2.2	0.0
Barbados	95	9.6	3.7
Cuba	96	24.5	12.0
Dominican Republic	94	0.0	0.0
Guyana	94	14.6	6.5
Jamaica	85	0.5	0.2
Saint Kitts and Nevis	95	0.0	0.0
Saint Lucia	88	9.3	5.8
Saint Vincent and The Grenadines	86	0.0	0.0
Trinidad and Tobago	94	17.4	5.0

Source: WHO at http://www.who.int/mental_health/prevention/suicide/suiciderates/en/

Table 2: Distribution of adolescent suicides by time period and urban/ rural location (n = 26)

Variable		Frequency % (n)
Location		
	Rural	65.4 (17)
	Urban	34.6 (9)
Time period		
	Sept–Nov	10.5 (3)
	Dec–Feb	38.5 (10)
	Mar–May	11.5 (3)
	Jun–Aug	38.4 (10)

Method used in suicide cases

Hanging was the most common method used to commit suicide (96.2%). Only one person (3.8%) utilized a firearm and for the period no reports of poisoning, wrist cutting, immolation or jumping from buildings or bridges were recorded. When hanging was the method of suicide, clothing items such as belts, neck ties and shoe laces were used in almost half the number of cases. Ropes and electrical cords featured in 33.3% and 19.0%, respectively of adolescent suicides (Fig. 2).

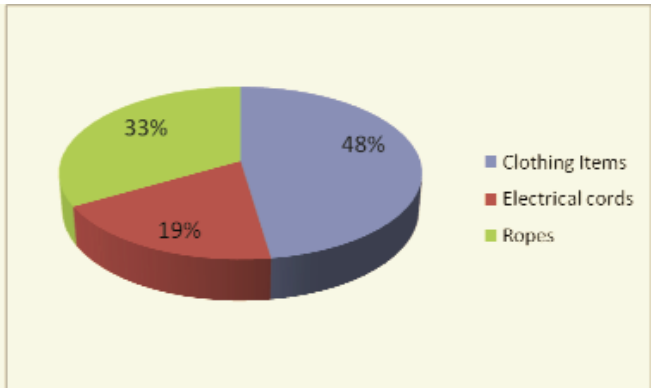

Fig. 2: Percentage of distribution of materials used for suspension in adolescent suicides, Jamaica (2007–2010).

Among females, clothing items and rope were equally (50%) used to commit suicide by hanging. No female used electrical cords. In contrast, among males, electrical cords were utilized in 23.4% of cases while almost 30% used ropes and 47% used clothing items. In both rural and urban areas use of clothing items to commit suicide (40–50%) was common, but in rural areas electrical cords were documented as being used more often than in urban areas (28.6% *versus* 0%). There were no observed statistically significant differences (Exact test: $p = 1.0$) in the pattern of articles used in hanging when the under 16-year age group was compared with that of their older counterparts (age 16–19 years).

Precipitating factors

For half of the 26 adolescent suicides, no trigger or precipitating factor was recorded. Among the 13 for which such information was documented, 46.1% (6) had depression/mental disorder and 53.9% had domestic strife/disputes as trigger factors.

DISCUSSION

This study found that adolescents 9–19-years accounted for 14% of all suicide cases in Jamaica over the four-year period and that the mean suicide was 1.1 per 100 000.

The overall temporal patterns in adolescent suicide rates for the four-year period are trending upward; similar findings have been reported elsewhere (4–6). However, the trends by gender are divergent with males moving upward and females shifting downward. The overall upward trends for all adolescents reflect the relative weight of male suicides which constitute more than 75% of all adolescent suicides.

The findings are consistent with studies that show that boys are far more likely to commit suicide than girls (24, 25). Possible explanations for the trends observed locally include greater attention and watchfulness over girls and increased detection of problems before they escalate into suicide. Boys on the other hand may be overlooked, left to fend for themselves and solve their own problems as part of their acculturation into manhood (26). Arguably, poor academic performance and repeated failures in school is a putative contributory factor to teenage suicide (27). Figueroa attests to male academic underperformance in Jamaica at all levels of the educational system and additionally suggests that patterns of gender socialization leave boys deficient in skills required to survive the educational system (26). These skills, which include self-discipline and sense of process, arguably temper some diathetic correlates of suicide such as impulsivity and aggression (28). Such skills when disproportionately absent among males potentially increase suicide rates for males relative to females. Another possible contributor to observed differences in gender rates is the frequently documented phenomenon that suicidal ideation and attempts are more common among girls while boys are likely to succeed in the act because they often use more lethal means (24).

About 50.03% of the population aged 9–19 years is rural (23). With 65% of suicides in that age group being rural, one might suspect that location may be a risk factor, however, the wide confidence interval (44%–82%) associated with the parameter estimate indicates that this is not so. This may reflect the relatively small sample size that constitutes the dataset. Noteworthy, a growing, rural preponderance of suicides has been documented, partially attributed to increased access to means of committing suicide such as firearms and pesticides (20, 21). Therefore, follow-up studies for longer time periods with larger datasets will help better determine whether rural location is associated with suicide in Jamaica.

The present study found that the peak periods for adolescent suicides were June to September and December to February. It is not known exactly why this is so. Possible explanations include stressors related to taking examinations in the early part of that period or receiving unexpected examination results towards the end of August when such results customarily arrive. Increased isolation during the long summer holidays when schools are on break as well a loss of usual support from peers and friends may contribute to adolescent suicides and the observed pattern. With respect to the December to February period, this is also associated with exam-related stressors. These potential explanations need to be further explored and hypotheses generated tested.

It should be noted that hanging was the most common method used to commit suicide given the ease with which hanging can be executed. Common, accessible materials such as articles of clothing and rope were used. Various studies suggest an association between the method chosen and ease of access to materials or technical means for carrying out acts of suicide (29–31). Additionally, contextual factors and culture may also play a role in the choice of method used (32, 33).

The reported predisposing and precipitating factors of depression/mental disorder and domestic strife/disputes found in this study resonate with many that have been commonly reported in the literature. A history of psychiatric disorders, sexual abuse, previous history of attempted suicide, exposure to violence, family history of suicide and mood disorders have been documented as risk factors for adolescent suicide (34). The identification of some of these factors in our study points to areas for intervention and opportunities for suicide risk reduction such as depression screening among adolescents as advocated by Lowe and Gibson (35).

This study has a number of limitations. We were unable to generate meaningful age specific rates due to the small numbers in subcategories over a relatively short period. They would likely yield unstable or unreliable subcategory rates prone to wide chance variations. Longer term surveillance and observation is recommended. This will also more authoritatively establish pattern and trends.

There was also a paucity of information pertaining to the circumstances and the precipitating factors related to the

suicides. Furthermore, it is not clear who made the report and the extent to which they were knowledgeable about the pre-suicide circumstances. Special surveys involving verbal autopsies can help to bridge such information gaps. Most of the analysis in this study is based on quantitative data; qualitative data and analysis can augment future studies. Notwithstanding these limitations, this study represents an important addition to the emerging body of literature on suicide among adolescents in Jamaica. It highlights important directions for future research and the need for more coordinated suicide prevention programmes.

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