An Analysis Of Self-Inflicting Violence In The English-Speaking Caribbean

Tazhmoye V Crawford
University of the West Indies, Department of Basic Medical Sciences, Mona, Kingston 7, Jamaica

Correspondence: crawfordtazhmoye@yahoo.co.uk
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Abstract

Injuries including those that are self-inflicted results in 12% of the world's burden of disease. In the case of attempted suicide, this attracts global disability adjusted life years lost (11%) throughout the World, while in the Caribbean, potential years of life lost represents 27%. These are manifested in the form of (i) microfracture of vertebrae; (ii) *echimosis* (from asphyxiation); (iii) long-term developmental, reproductive and systemic effects (from poisoning); *inter alia.* The aim of the study was to analyze the impact of self-inflicting violence on the well-being of individuals in the English-Speaking Caribbean. Information was obtained via field research (convenience and snowball sampling), police statistics using the Statistical Package for Social Scientists (SPSS) 17.0 to analyze the data. Self-inflicting violence in the form of attempted suicide has shown constant increase over the period 2005 (N=121) to 2006 (N=134), but a slight decline in 2007 (N=133). Attempted suicide was significantly dominant among female than male, especially those within the 10-44 age cohort. Males were more likely to fail at attempted suicide than their female counterparts were over the period 2003-2007 (male = 225, female = 38). The method of suicide most practiced in Jamaica over the period 2003-2008 was hanging, followed by shooting, poisoning and drowning. The least practiced methods were jumping and electrocution. In 2008, causes of such suicide methods were as a result of depression (19.1%), domestic matters (10.6%), mental disorder (8.5%), murder (2.1%), and unknown (59.6%). Self-inflicting violence (commonly drug overdose, cutting, hanging, poisoning, shooting) bears serious socio-medical implications and has economic impact on both individuals and states.

Keywords: Self-inflicting Violence; Caribbean; Suicide; Gender; Socio-medical.

1. Introduction

Self-inflicting violence is defined as the rendering of harm or damage to one's own self with or without suicidal intentions, thus resulting in injury. According to Alderman (2000), self-inflicting violence is an intention to harm one's self without conscious suicidal intent [1]. Self-inflicting violence and injuries is a public health concern, which is often taken lightly, except in the case of death. Such injuries result in the death of 5 million people in the World (in 2000), causing 12% of the World's burden of disease/illness [2], such as (i) *microfracture* of vertebrae, injury to lumbar spine and hip (from jumping, especially on concrete); (ii) amputation or loss of limb movement because of severed nerve (from cutting); (iii) *echimosis* from asphyxiation involving the head, brain, inner part of the mouth and throat and lungs (from partial hanging); and (iv) long-term developmental, reproductive and systemic effects (from poisoning).

Approximately 2,000 persons throughout the World seriously harm themselves via suicide each day. This is equivalent to about 80 individuals per hour and three-quarters of a million per year [3]. In the United States, for example, there are more than 80 suicide-related deaths (on average 30,000 each year) [3]. This is the 13th leading cause of death in the World [4], ranking 3rd among individuals within the age range 15-34 [5]. Approximately 116,000 patients are hospitalized from self-inflicting injury (particularly attempted suicide) and 110 are discharged alive, resulting in an average cost of US$15,000.00 per day for a 10-day period [3]. In the case of the Caribbean, injuries on a whole represent 27% over the period 2000-2004 [6].

There are medical and social explanations to self-inflicting violence. The former include (i) genetics such as family history of psychopathology [7]; (ii) linkage between the "*intronic polymorphism* in the *tryptophan hydroxylase* gene and suicide attempt behaviour and lower *serotonergic* function" [5, 8, 9]; (iii) "people with low *serotonin* activity in the prefrontal cortex — the seat of planning, judgment, and inhibition. One study found that in the brains of depressed suicidal patients, this region contained an unusually high number of receptors for *serotonin*, as though they were trying to compensate for a shortage of the neurotransmitter. Another study found that impulsively aggressive persons with personality disorders do not activate the normal inhibitory regions of

the prefrontal cortex in response to *serotonin*" [5, 8, 9]; (iv) psychiatric disorder/mental illness; (v) reduction of cholesterol levels by drugs or diet, as well as spontaneously occurring very low levels of cholesterol" thus "related to increased impulsivity" [7]; and (vi) persons with fatal illness ("pathology involving the brain and abnormality with the central nervous system carry a much higher relative risk for suicide compared with diseases of other systems") [5]. On the other hand, the social explanations comprise unemployment, poverty, drug abuse, poor health conditions, identity issues, marital problems, and very low tolerance towards crisis.

This study highlights the causes of self-inflicting violence, its gender relations, the associated direct and indirect costs of suicide and mental illness on individuals and States, psychological implications, long and short-term medical repercussions, *inter alia*. It also articulates its various ramifications from a legal and public health perspective.

2. Methods

The study uses both convenience and snow-ball sampling approaches to inform primary and secondary data. The former was collected from a sample size comprising 300 Caribbean residents (including Jamaicans), who were in Jamaica at the time of the data collection (November, 2009 – February, 2010).

Owing to the sensitive nature of the subject (self-inflicting violence), some individuals opted-out during the interview process, as they claimed to have had painful memories of their relatives who committed suicide. Of the 300 interview schedules, 212 adult respondents successfully completed the instrument; 21 partially completed and 67 refrained from participating. As a result, 88 instruments were not a part of the data analysis of this study. These data were analyzed using Statistical Package for Social Scientists (SPSS), 17.0. Manual calculation of Jamaica's suicide mortality rate (over the period 2006-2007) was also done by the researcher based on data received from the Statistical Institute of Jamaica.

With regard to obtaining secondary data, this was via the Jamaica Constabulary Force's Statistics Department (which delineated the various methods of suicide), as well as other schools of thought (as per gender, age cohort and island).

Interviews were conducted by the researcher via telephone and face-to-face; whichever was deemed more suitable and convenient for both respondents and the researcher. Some of the subjects responded to more than one of the variables. The objective of the instrument (interview schedule) was to analyze the impact of self-inflicting violence on victims' families. The literature was also extensively reviewed with a view to other country's experience and the various initiatives established by governments to curb incidences of attempted suicide and suicide. The result has carefully analyzed the matter of self-inflicting violence, taking into consideration variables such as gender, age cohort, costs, methods of suicide, mental health and psychological impact.

3. Results

Self-inflicting violence in the form of attempted suicide has shown constant increase over the period 2005 (N=121) to 2006 (N=134), but a slight decline in 2007 (N=133). Emergency Rooms at Public Hospitals in Jamaica diagnosed that attempted suicide was significantly dominant among female than male, especially those within the 10-44 age cohort (Table 1). On the other hand, males were more likely to fail at attempted suicide than their female counterparts over the period 2003-2007 (male = 225; female = 38) [11].

Table 2 indicates that the method of suicide most practiced in Jamaica over the period 2003-2008 was hanging, followed by shooting, poisoning and drowning. The least practiced methods were jumping and electrocution. In recent times (2008), however, causes of such suicide methods being practiced were as a result of depression (19.1%), domestic matters (10.6%), mental disorder (8.5%), murder (2.1%), unknown (59.6%) [11].

From a global perspective, suicide was highest among persons older than 44, especially those who were 80 years and older. This was more dominant among male than female (Table 3). Table 4 shows suicide rates in the Caribbean, as per 100,000 population during the period 2000-2005. This was reflected highest in Guyana (22.9), Trinidad and Tobago (12.8), Cuba (12.4) and least in Dominica

Republic (1.8) and Barbados (0.7). In Jamaica, suicide mortality as per 100,000 population [13] represented 1.8 in 2006 and 1.9 in both 2007 and 2008. Overall, suicide rates in the Caribbean were more prominent among male than female.

Where individuals engage in self-inflicting violence, such action psychologically affects their families, who become victims of depression (16.5%), disappointment (23.6%), anger (7.4%), shame (28.5%) high charges (medical and funeral charges) - 23.9% (Table 5). The medical charges (>US$1,000.00 on average per quarter) were in relation to hospital bills and follow-up health care, as well as, funeral expenses. Hospital bills and follow-up care usually include family members who are already ill (diabetes mellitus, hypertension, cardiovascular disease) and has been severely traumatized by their loved ones who lost their lives via suicide.

4. Discussion

Suicide attempts sometimes leave the victim worse off. Take for instance, where the intended suicide was via gunshot, the person is left with brain damage [3]; and where it is drug overdose, this could result in liver damage [3]. Global disability adjusted life years lost as a result of self-inflicting violence (especially attempted suicide) was 11% in 2000 [2]. In the Caribbean, potential years of life lost owing to injuries, suicide and other fatalities represents 27% over the period 2000-2004 [6].

Self-inflicting violence, manifested in the form of suicide, is the third leading cause of death among 10-24 year olds [14]. "The largest increase in the last 30 years has been among people between 15-24 years old", "but the highest rates are still among the elderly" [3]. Peden et al. in sharing a similar view point, put forward the evidence that the elderly (60 - ≥80 years old) are more likely to violently self-inflict themselves, especially via suicide. This is owing to "depression and *serotonergic* disturbances, resulting from fear of dependency, institutionalization and unwanted invasive care" [15].

It is imperative to note, however that "Men kill themselves at about four times the rate for women (19.8/100,000 vs 4.5/100,000 in 1994). About 3% of adults make one or more suicide attempts" [3]. Suicide among males within the 10-49 age group increases when compared to females of the said age cohort [14]. Women, however, were likely to partially self-inflict themselves than men. In other words, more women than men would fail at suicide because they use less lethal methods in the process [7]. In Europe, specifically Portugal and Ireland, the gender difference between male and female regarding self-inflicting deaths reflects a ratio of 2:1 and 11:1 respectively [16]. This is as a result of men losing their sense of manhood, should they show any form of vulnerability; for example, a cry for help [16]. In addition, "The loss of role, poor health and identity issues relating to being a man, all have a part to play in suicide especially in relation to unemployment, fathering, terminal illnesses, sexuality and imprisonment" [16].

In the case of Trinidad and Tobago, 1,845 respondents (14-20 year olds) were selected from 24 schools throughout the island and shows significance ($p<0.001$) regarding gender difference, suicidal ideation and attempts [17]. In a similar study in Trinidad and Tobago, suicide/intentional self-harm, which was mostly carried out by way of ingesting pesticides, was more prevalent among males between the ages of 25-44 (4 times more likely than their female counterparts) [18].

A major public health concern is the potential long-term medical effects obtained from self-harm. Take for example, the ingesting of poison (especially pesticide) could result in serious long-term effects on one's health (if still alive). Where the victim is a female, developmental and reproductive effects may cause miscarriage, stillbirth, and sterility, and could negatively impact the foetus (if pregnant). If the victim is a male, this would result in sterility and/or impotence. There is also the propensity for long-term systemic effects (for both gender) such as blood disorders (anaemia, inability to coagulate), nerve or brain disorders (paralysis, tumours, behavioural changes and brain damage), skin disorders (rash), lung disorders (emphysema, asthma), liver and kidney disorders (jaundice and kidney failure respectively).

The findings of this study note the various causes of suicide (including depression and mental illness). Studies have postulated that while depression is the most common causal factor, this was not the case with mental illness, as this was equal to love affairs, family conflict, social maladjustments [19] and financial challenges. Other factors include a lack of support for help-seeking behaviour, physical and sexual abuse, alcohol and drug abuse, psychosociocultural and environmental issues, poverty, poor physical illness, "low serotonin activity in the prefrontal cortex — the seat of planning, judgment, and inhibition", chronic stress, exposure to knowing someone who has committed suicide, genetic predisposition ("for *tryptophan hydroxylase* - the rate-limiting biosynthetic enzyme for *serotonin*, and the *serotonin* 5-HT_{2A} receptor gene"), religious belief and suicide pact [7].

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There are legislations in the Caribbean, which address the issue of suicide pact; for example, Jamaica Laws, 1995 (particularly, the Offence Against the Person Act, 1995), which treats such action as an offence, whereby the culprits would be liable to be imprisoned. In the case of Anguilla (according to Anguilla Laws, 2000), suicide pact is treated under the offense of manslaughter. In addition, where the commission of attempted suicide or suicide is aided, procured and abetted by another, such individual would be imprisoned for a maximum of 14 years.

Where suicide is caused by depression (in the case of Jamaica), this attracts a direct cost of J$489,017,417.22 (for treatment through major depressive disorder public facilities) and an indirect cost of J$89,661,028.78 per annum [20]. While these monetary values may or may not include the >US$1,000.00 spent by individuals for matters involving disability adjusted life years lost or potential years life lost due to attempted suicide, the cutting of one's self, burial from suicide and other self-inflicting injuries, it is imperative that direct and indirect costs include expenses of these nature; as well as loss of earnings by the injured; cost relating to the caretaker (where such individual gave up his/her job) and cost of home care (where caretaker is specially employed). This is to avoid underestimation of cost. Some scholars acknowledge that direct and indirect cost may be underestimated, while in some cases (in terms of mental illness), such cost may include working days lost, period of mental illness and the average number of depression episodes [21]. Mental illness such as schizophrenia attracts an estimated indirect cost of J$2,967,953,178; assumed direct cost of J$299,478,530 for one year in Jamaica [20] and represents age-corrected incidence rates of 2.09 per 10,000 population [20]. In Trinidad and Tobago and Barbados, the said diagnosis (at age-corrected incidence rates) represents 2.2 and 2.92 per 1,000 population respectively [22].

In many cases, where self-inflicting injuries are not deemed attempted suicide, it is not treated as a criminal offense, but mental illness, and as a result, become a public health concern. However, attempted suicide and suicide are considered both criminal offense and public health concern and the former is an offense under various legislations in the Caribbean. Take for instance, in Trinidad and Tobago, these actions come under Class I of serious crime and are treated as "indictable offences, carrying a penalty of five or more years from which prosecutions have been instituted in the high court" [23]. In Jamaica, perpetrators of attempted suicide are officially warned by the police and in some cases, charged (under Common Law). In Anguilla, attempted suicide is a serious offence and is treated as a misdemeanor under the Anguilla Criminal Code.

In an effort to reduce incidence of self-inflicting violence (including suicide), governments all over the World have taken the necessary steps. The British Government had established initiatives to reduce incidences of suicide and improve mental health. This move involved the submission of a White Paper on Public Health, which addressed "controlling pack sizes for paracetamol; developing national health scheme direct and links to specialist mental health helplines; improving follow-up for people who have attempted suicide; setting good practice guidelines; supporting people at high risk of suicide; and ensuring mental health is a key outcome of other social inclusion programmes" [24]. The aim was to reduce suicide by 20% within 10 years, thus saving 4,000 lives. [24].

In the Caribbean, governments' initiatives toward suicide reduction and prevention are exercised via strategic planning and policy development, intersectoral collaborations and partnerships, interventions, stakeholder consultations, research and evaluation, as well as monitoring and evaluation.

Among the many government initiatives, the Commonwealth Government Policy Programme through the National Youth Suicide Prevention Strategy had established the following goals in 2000s: (i) prevent premature death from suicide among young people; (ii) reduce rates of injury and self-harm; (iii) reduce the incidence and prevalence of suicidal ideation and behaviour; and (iv) enhance resilience, resourcefulness, respect and interconnectedness for young people, their families and communities [25]. Other Caribbean examples include Guyana's Ministry of Health (under the auspice of the Pan American Health Organization), which embarked upon a National Suicide Prevention Strategy in 2009; and the Governments of Suriname, as well as Trinidad and Tobago (under the World Health Organization) established suicide prevention strategies [26].

5. Conclusion

Self-inflicting violence impacts males more than females, in the sense that the former are more likely to succumb to injuries sustained, while the latter may suffer long-term or short-term medical effects. Self-inflicting violence, especially in the form of suicide affects not only the victims, but their families (in terms of socio-psychological and economical) and has direct and indirect impact on the state.

6. Competing Interests

The author declares that he has no competing interests.

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Table 1 – Attempted suicide cases at public hospitals in Jamaica.

Age	2005				2006				2007			
	Male		Female		Male		Female		Male		Female	
	N	%	N	%	N	%	N	%	N	%	N	%
10-19	7	5.8	30	24.8	6	4.5	46	34.3	6	4.5	47	35.3
20-29	10	8.3	29	23.9	8	6.0	38	28.4	13	9.8	33	24.8
30-44	5	4.1	22	18.2	9	6.7	14	10.4	11	8.3	9	6.8
45-64	6	4.9	6	4.9	4	3.0	3	2.2	1	0.8	1	0.8
65+	4	3.3	2	1.7	2	1.5	2	1.5	3	2.3	3	2.3
Unknown	0	0	0	0	1	0.7	1	0.7	1	0.8	5	3.8
Total	32	26.4	89	73.5	30	22.4	104	77.5	35	26.5	98	73.8

Source: Ministry of Health and Environment, 2007 [10].
N = number.

Table 2 – Suicide by method in Jamaica.

Methods	2003		2004		2005		2006		2007		2008	
	N	%	N	%	N	%	N	%	N	%	N	%
Hanging	46	71.9	28	66.7	41	70.7	38	79.2	43	84.3	41	87.2
Shooting	6	9.4	4	9.5	8	13.8	4	8.3	2	3.9	3	6.4
Poison	8	12.5	4	9.5	6	10.3	4	8.3	3	5.9	3	6.4
Drowning	2	3.1	2	4.8	2	3.4	1	2.1	1	2.0	0	0
Stabbing	0	0	0	0	0	0	0	0	0	0	0	0
Burning	1	1.6	2	4.8	0	0	1	2.1	1	2.0	0	0
Cut	1	1.6	1	2.4	0	0	0	0	1	2.0	0	0
Disembowel	0	0	0	0	0	0	0	0	0	0	0	0
Jump	0	0	1	2.4	0	0	0	0	0	0	0	0
Electrocution	0	0	0	0	1	1.7	0	0	0	0	0	0
Total	64	100	42	100	58	100	48	100	51	100	47	100

Source: Jamaica Constabulary Force, 2009 [11].
N = number.

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Table 3 - Global suicide mortality rate (per 100,000 population) by gender (2000).

Age group	Male	Female
All ages	19.6	21.2
5-14	1.1	1.1
15-29	14.6	22.9
30-44	19.0	23.2
45-59	28.8	25.1
60-69	52.7	39.0
70-79	89.2	61.0
≥80	112.8	84.2

Source: Peden M, McGee K, Sharma G, 2002 [2].

Table 4 - Suicide in the Caribbean per 100,000 people per year.

Year	Islands	Male	Female	Total population
2000	The Bahamas	6.0	1.3	3.6
2000	Trinidad and Tobago	20.9	4.9	12.8
2001	Barbados	1.4	0.0	0.7
2001	Dominica Republic	2.9	0.6	1.8
2001	St. Lucia	10.4	5.0	7.7
2003	St. Vincent and the Grenadines	6.8	0.0	3.4
2004	Cuba	18.6	6.2	12.4
2005	Guyana	33.8	11.6	22.9

Source: Burke AW, 1974 [12].

Table 5 – Psychological impact on families of victims of self-inflicting violence (2009).

Psychological impact on families	English-Speaking Caribbean	
	N	%
Depression	47	16.5
Disappointment	67	23.6
Anger	21	7.4
Shame	81	28.5
Medical/funeral expense (>US$1,000.00) average per quarter	68	23.9

N: number.

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