



FINAL REPORT

RISK FACTORS ASSOCIATED WITH YOUTH SUICIDALITY IN JAMAICA

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EXECUTIVE SUMMARY

Background

Suicidality is a major global public health concern as suicide is among the leading causes of deaths worldwide. Although several researches into suicide have been conducted in Jamaica, no single research project has examined the spectrum of suicidal behaviours and completed suicides across a period of time. The present study captured psychosocial risk factors of youth suicidal behaviour as well as the characteristics of youth suicide attempters who presented at hospital; it also included psychological autopsies of youth who completed suicide over the period January 1, 2012- December 31, 2012.

Methodology

The study utilized three distinctive study methodologies. The first section which looked at youth suicidal behaviours was done in collaboration National Council on Drug Abuse (NCDA) as a part of their wider drug prevalence survey and questions related to suicidal behaviour were added to their survey instrument. The study achieved a representative sample of secondary school students in 38 schools across the island. Schools and students were randomly selected from a complete list of Secondary schools (both public and private). Students were sampled from grades 8, 10, 11 & 12. Schools, parents and students gave consent to participate in this study. Data was collected over a several weeks. Data was entered and cleaned by trained data entry clerks and a number of descriptive and inferential statistics were performed on the data.

The second section of the study examined cases of attempted suicide that presented to hospital. It was a retrospective cross-sectional study which utilized a data extraction sheet. The study involved a review of all the dockets of persons who presented to any of the seven hospitals identified for attempted suicide over the period January 1, 2012 to December 31, 2012. The hospitals involved in the study were Kingston Public Hospital, University Hospital of the West Indies, Cornwall Regional Hospital, St. Ann's Bay Hospital, Mandeville Regional Hospital, Savanna La Mar Hospital and Spanish Town Hospital.

Permission was granted from the Senior Medical Officer in each hospital for the study to be conducted. Cases of attempted suicide were identified by the Medical Records Department or after review of the Accident & Emergency admission books. Once identified, the Medical Records department pulled the docketts and information was captured on the data extraction sheets and entered and analyzed.

The third section of the study utilized a psychological autopsy methodology to capture data. This is a retrospective qualitative research methodology which is aimed at understanding the state of mind of a person before committing suicide. It involved secondary data collection from family members or close friends of the victim as well as a review of official Police reports regarding the circumstances of the victims' life prior to the suicide and crucial information about the actual suicide. The period under review was January 1, 2012 to December 31, 2012. Semi-structured interviews were conducted with family members and close friends of the victims. This information was then categorized, quantified and entered into the Statistical Package for the Social Sciences (SPSS).

Results

Youth Suicidal behaviour

Data from 3,471 students across 38 schools were used in the analysis. Of this amount 57.5% were female and 41.9% were males. The age range of students was between 11-25 years old. Most students were from a public school (97.8%) and only 2.1% attended a private school. The large majority of students attended a Coed school (83.6%). In terms of grade or form in school, all grades were well represented except 12th grade.

In total, 688 students were identified as being at risk for suicide. This indicates a suicide risk prevalence of 19.8% among this population. A significant number of students 1075(35.5%) admitted to suicidal ideation in their lifetime, also among this group 69.9% admitted to experiencing these thoughts in the past year with 25% reporting that they think about suicide 'often' or 'very often'. A smaller numbers of students admitted to past suicide attempt (182 students, 6%).

Although more girls than boys were found to be at risk of suicide, bivariate analysis revealed that this difference was not significant. However significantly, more females than males reported lifetime occurrence of suicidal ideation and suicide attempt ($p < 0.05$ respectively). Furthermore, there were no significant differences or relationships noted between any socio-demographic factors and suicide risk except age and type of student. For age, a weak negative correlation was found ($F = -0.081$), where as age increased suicide risk decreased. Additionally, ANOVA analysis revealed a significant difference between type of student and suicide risk ($p = 0.000$, $p < 0.001$) where students from Co-educational institutions were found to be most at risk of suicide (72.5%).

Also, generally there were no significant relationships found between parental involvement and suicide risk except for parents' level of attention to school work and suicide risk which were found to be significantly related. There was also no significant relationship between students' relationship with parent (s) and suicide risk, attitude towards school and suicide risk, drug use and suicide risk or reported school performance and suicide risk. However there was a significant relationship between repeating a grade and suicide risk.

Characteristics of suicide attempters who presented at hospital

In all 228 cases of attempted suicide that were identified across the hospitals of this amount 137 cases were youth (24 years or under). Importantly, 60.6% who attempted suicide were under the age of 25 years compared to 39.4% who were 25 years or more, this difference was statistically significant ($p < 0.05$). The study revealed that more females 113(82.5%) than males 24(17.5%) presented to hospital due to suicide attempt, this difference was statistically significant ($p < 0.05$). Most of those who attempted suicide were between the ages of 17-24 years (59.9%), followed by 15-16 years (24.1). The mean age of youth suicide attempters 17.7 years (s.d. +/-3.379). Drug overdose was the most common method of suicide attempt (55.1%) with interpersonal conflict being the most common reason for the suicide attempt (49.2%).

The most common presenting symptom was depressed mood (22.8%). Also information regarding past psychiatric history was available for 28 persons of whom 17 (60.7%) persons had a past psychiatric history. Schizophrenia was the most common past psychiatric

diagnosis (35.3% of cases). Also noteworthy is the finding that most persons upon presentation to hospital received a provisional diagnosis of Attempted Suicide as well as an additional provisional psychiatric diagnosis (62.3%). The most common additional provisional diagnosis was Major Depressive Disorder (43.2%).

Psychological autopsy of reported cases of completed suicide in Jamaica

Results from the study revealed that there were 53 cases of suicide reported to the Police over the period. Of this amount there were 14 cases of youth suicide. Interviews were conducted for 12 of the 14 cases due to inability to locate the families of the other two cases.

Most of those who completed suicide were males (66.7%). Also, the age range for completed youth suicides spanned 11-24 years. Looking at the complete number of cases (53), it is clear that most of those who committed suicide were over 25 years old (69.2%).

The most common method of suicide was by hanging (91.7%). Also 3 of the 12 cases were reported as homicide/suicides (23%). There was only one case of a known psychiatric illness which was considered to be persistent and present up to the time of death of the victim (8.3%). Prior to the suicide, a number of stressors were identified as being present in the life of the victims. The most common stressor was 'intimate relationship problems' (33.3%).

Additionally, many of the family members and friends of these victims expressed grief and self blame associated with the death of their loved one; a few also demonstrated symptoms of Post Traumatic Stress Disorder (PTSD) related to the incidents.

Conclusion

This holistic examination of suicidality revealed several important areas of similarity and differences to finding of international and previous local research. Overall the findings indicate the need for the development of a comprehensive suicide prevention and intervention strategy which would involve building social awareness of suicide, engagement of schools and communities as well as practitioners at all levels of the health sector. Such an initiative would need to be spearheaded by the Mental Health Unit of the Ministry of Health.

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BACKGROUND

Statement of Problem

Globally, suicide has become recognized as a serious public health concern as an estimated 1 million persons commit suicide per year¹. Suicide has been listed among the top twenty causes of death around the world². Regionally research has also indicated that suicide rates have been on the rise within Latin America and the Caribbean³.

Extensive research has emphasized that the phenomena of suicide is complex and spans across a spectrum ranging from suicidal behaviours to attempted suicide and culminating in completed suicide. Nonetheless, this is not always a stepwise progression to completed suicide as persons exhibit suicidal behaviours for various reasons. In many cases persons exhibiting suicidal tendencies do not wish to die⁴.

Suicidal behaviour manifests in various ways and includes suicidal ideations, suicide planning and expression of intent to commit suicide and suicide attempts. Researchers have noted that most types of suicidal behaviour are rare before adolescence⁵. However once adolescence begins there are clear increases in all types of suicidal behaviour⁵. This trend is particularly alarming among the world's youth population as multi-national studies highlight that an estimated 25% of suicides globally occur among young people between the ages of 15-24 years⁵⁻⁷.

Additionally, studies coming out of the United States have highlighted a marked increase in suicidal behaviour over the past decade among adolescence. A recent study revealed that nearly 15% of all US high school students have seriously considered attempting suicide; more than 11% have made a plan for suicide; and almost 7% have attempted suicide in the past year⁶.

In Jamaica, Abel et al.⁷ (2012) in a school survey of adolescent students found a suicide ideation prevalence of 9.7%. This prevalence they reported was found to be consistent with other reports of suicide in Jamaica⁸⁻⁹.

Some psychosocial risk factors which have been identified as prominent in suicide research include gender, age, family factors, previous suicide attempt, depression, anxiety, family history of suicide, exposure to violent behaviour, substance use and abuse, sexual or physical abuse and struggles with sexual orientation.

In terms of suicidal behaviours, numerous local and international studies have found that females are more likely to express suicidal behaviour and make suicide attempts whereas males are more likely to complete suicide⁵⁻⁹. Suicidal behaviour has also been found to be most prevalent among young people between 15-24 years²⁻⁴. Family factors such as parental involvement, relationship with parents, and family disorganization have also been found to be related to adolescent suicidal behaviour¹⁰.

Having a previous psychiatric disorder including depression, anxiety substance abuse disorders, eating disorders, anxiety disorders, and antisocial disorders have also been linked to suicidal behaviour and completed suicide among adolescents¹¹⁻¹³. Also adolescents who have been exposed to violent behaviour, who have been sexually or physically abused and those who struggle with issues related to sexual orientation are more likely to commit suicide⁵.

Additionally, adolescents who have had a previous suicide attempt are significantly more likely to attempt suicide again⁵. One study pointed out that between one quarter and one third of adolescents who attempt suicide will go on to try again, with the greatest risk for recurrence falling between 6 months and 1 year after their first attempt⁸.

Among all age groups, attempted suicide has been noted to be one of the major predictors of completing suicides as numerous studies have shown that those who have made an attempt at suicide in the past are more likely to attempt suicide again and are significantly more likely to complete suicide than those who have never made a suicide attempt before⁹.

Generally, attempted suicide is more common among adolescents or young adults, females, the unemployed, persons with lower levels of education and from a lower socioeconomic class¹⁰⁻¹². Also persons who have a psychiatric disorder such as mood disorder, psychotic disorder anxiety disorder, and substance use disorder are more likely to attempt suicide^{9, 13-15}.

Studies conducted locally have also supported these international findings. For example, Williams-Johnson et al.¹⁶ (2013) found in their study on suicide attempt by self-poisoning conducted at the University Hospital of the West Indies that significantly more females than males attempted suicide by this means and that 70.8% of those who attempted suicide by self poisoning were between the ages of 16-30 years.

Furthermore, the psychological autopsy methodology has been utilized to better understand the state of mind and life circumstances of those who commit suicide. The method involves collecting all available information on the deceased via structured interviews of family members, relatives or friends as well as other medical, or police records which may be available on the persons¹⁷.

Research in this area has discovered that suicidal risk factors fit into two categories personal and social factors, the interaction of these factors unmanaged can lead a person to suicide². Personal factors include physiological and genetic vulnerabilities (family history of

suicide) and psychological problems (depression, severe anxiety, substance abuse, poor interpersonal relationships) while social factors include socio-economic or familial factors, such as divorce, unemployment, and stressful life events^{18,19}.

Isometsa (2001) pointed out that research done using this methodology has made many useful and substantial findings. He further highlighted that early psychological autopsy research has established that that more than 90% of completed suicides have suffered from usually co-morbid mental disorders- most of them being mood disorders and/or substance use disorders¹⁷. These studies have also revealed the remarkable under treatment of these mental disorders, often despite contact with psychiatric or other health care services¹⁷. The findings span across both Eastern and Western cultures, with the predominant type of mental disorder noted being a depressive illness or alcoholism²⁰⁻²³.

These results were similar to those of Irons-Morgan et al (1999) who conducted a psychological autopsy of reported cases of suicide in Kingston, St. Andrew and St. Catherine in Jamaica. The study results also revealed that 90% of those who committed suicide had a mental health problem¹⁰. In addition, the study revealed that family conflict, personality problems and substance abuse issues were core features in many of the cases²⁴.

Furthermore, Cavanagh et al (2003), in their review of twenty two case controlled psychological autopsies, was able to identify clear patterns of risk factors associated with suicide. The major risk factors in most samples were psychiatric disorders (86-97%), particularly depression (23-95%). Additionally, social isolation (22-68%), physical illnesses (29-48%), living alone (22-68%), stressful life events in the past year (29-93%), communication of intent (24-85%),

and history of suicidal behaviour (16-68%) also increased amongst suicide deceased compared to the control subjects²⁵.

Despite the fact that several notable studies have been conducted in Jamaica which has highlighted specific sociodemographic and clinical features of expressed suicidal behaviour, made suicide attempts or completed suicides, most of these studies have had significant limitations which affected their generalizability to the population. That is, they either focused on a specific geographical area or had a small sample size or did not capture the range of suicide behaviours.

Thus, the present research sought to capture to investigate the whole phenomena of suicide and consisted of three sections. The first section examined suicidal behaviour and risk of completing suicide among Secondary School students across the island. The second section involved a review of cases of attempted suicide presenting at seven of the major hospitals around the island and the third section conducted psychological autopsies on all the discovered cases of completed suicide over a specific period.

OBJECTIVES

A. Risk Factors associated with suicidal behaviour among Secondary School students in Jamaica

The objectives of this section were:

1. To ascertain the prevalence of suicidal behaviour among adolescents in secondary schools across the island
2. To determine risk factors associated with adolescent suicidal behaviour
3. To make recommendations for the development of prevention and intervention programmes for adolescents at risk of suicidal behaviour

B. The Characteristics of Suicide Attempters who present to Hospital

4. To ascertain the number of persons presenting to the Accident and Emergency Department of seven hospitals across the island with attempted suicide over a one year period.
5. To determine the sociodemographic characteristics of the persons presenting with attempted suicide.
6. To determine the clinical characteristics of persons presenting with attempted suicide.

C. Psychological Autopsy of reported cases of completed suicide in Jamaica

The objectives of this section were:

7. To ascertain the rate of reported cases of completed suicides among youths and adults
8. To identify the personal and social characteristics of those who complete suicide

METHODOLOGY

The overall study consisted of three sections which involved different methodologies. Each methodology is described under the section heading.

A. RISK FACTORS ASSOCIATED WITH SUICIDAL BEHAVIOUR AMONG SECONDARY SCHOOL STUDENTS IN JAMAICA

Study Design

This was a cross sectional study which utilized a survey to capture data related to the suicidal behaviours of secondary school students in Jamaica. This was a part of a wider drug prevalence survey carried out by the National Council on Drug Abuse (NCDA).

The sample frame for the study was randomly selected and assigned based on the secondary school population in Jamaica. A list of all the secondary schools and the number of students enrolled within these schools throughout Jamaica was provided by the Ministry of Education and the Private School Association of Jamaica. Based on these lists a random sample of schools and classes were selected to participate in the study.

The sample frame was divided into two groups; private schools and public schools. Because private schools usually represent a very small percentage of the school population, this group was oversampled so that a reasonable number of students could be interviewed. Both groups are stratified by grade (form level) and then the sample was taken proportional to the total number of students at each grade or form level. The final sample of classes was taken using systematic random sampling. The final sample size represents about 3% of the school population in the targeted grades.

Thirty-nine schools (39) were chosen to be included in the study; however during the implementation process it was discovered that one school did not belong on the list and was subsequently removed. This left a total of thirty-eight school (38) selected, which represented a target sample of 3,949 students to participate in the study (Appendix 1).

The sample was designed to gather information from students at the lower, middle and upper levels of the school system representing ages 13, 15 and 17 years. Thus, the grades/forms which have been chosen for participation are those that would capture these and other ages. As such, students participating in the study were taken from 2nd, 4th 5th, and 6th forms at their various schools.

Instrument

The primary instrument utilized in this study was the Suicidal Behaviour Questionnaire revised (SBQ-R). This is a four item instrument which examines suicidal ideation and attempt, frequency of suicidal ideation, threats of suicide attempt and self-reportedly likelihood of future suicidal behaviour¹⁴.

The scale has an in-built scoring system and has been validated in clinical and non-clinical adult and adolescent groups. The score ranges from 3-18 points, a score ≥ 7 indicates persistent suicide behaviour risk in non-clinical populations and this risk is considered to heighten as score draw nearer to the ceiling score of 18 points. Other information was also gathered relating to socio-demographic characteristics of students, relationship with parents, parental involvement, academic performance, relationship with teachers and level of interest in school (Appendix 2). However, no personally identifiable information was collected on the questionnaire.

Procedure

Approval to undertake the study was granted through the Ministry of Health and Ministry of Education. Prior to the commencement of data collections, The NCD team wrote letters and disbursed them to the targeted schools to notify them of the study. The team also visited the schools to issue out informed consent forms and assent forms to the classes which had been identified to participate in the study (Appendix 3-5). A one week time span was allowed for the return of informed consent forms.

Research teams were assembled to allow for simultaneous data collection throughout the island. Data collection occurred over the period October 7-18, 2013. At the beginning of each data collection activity, students whose parents declined their participation will be asked to leave the classroom. Persons not wishing to participate in the study were also asked to leave the room and were facilitated in another class until data collection was completed.

The facilitator then introduced the instrument and issued them for students to complete. The facilitators remained present in the room to answer any questions the students may have as well as to give clarification and explanations as needed. In situations where the reading ability of students was poor, the facilitator would read out the questionnaire and ask them to indicate their answers in the relevant areas. Students were assured of confidentiality and anonymity and reminded not to include any personally identifiable information on the questionnaire.

Although the questionnaire was considered minimum harm, students were provided with a list of mental health professionals associated with the project whom they could contact free of charge in the advent that they experience any distress after completing the survey (Appendix 6).

Data Analysis

The data for students was entered and cleaned in the Statistical Package for the Social Sciences (SPSS) version 17. Descriptive and inferential statistics were performed on key variables to determine suicidal behaviour patterns as well as to determine risk and protective factors associated with suicidal behaviour. The level of confidence utilized was $p \leq 0.05$.

B. THE CHARACTERISTICS OF SUICIDE ATTEMPTERS WHO PRESENT TO HOSPITAL

Study Design

This was a retrospective cross sectional study which involved an audit of medical records. The medical records used included all cases of suicide attempt presenting to the Accident and Emergency Department of the seven hospitals specified below. The period under review was January 1, 2012 to December 31, 2012. Cases of youth suicide were of particular interest as such this aspect of the study considered youth to be all persons between 0-24 years of age.

Instrument

A data extraction sheet was utilized to collect data from the docketts of persons who presented with suicide attempts over the specified period. The extraction sheet required information related to sociodemographic characteristics, method of suicide attempt, reasons for attempt, past psychiatric history, provisional diagnosis, treatment and referral made by physician (Appendix 1). No personally identifiable information was captured on the sheet.

Procedure

Seven hospitals were identified for participation in this study, namely Spanish Town Hospital (STH), Kingston Public Hospital (KPH), and University Hospital of the West Indies (UHWI),

Mandeville Regional Hospital (MRH), St. Ann's Bay Hospital (SABH), Savanna La Mar Hospital (SVGH), and Cornwall Regional Hospital (CRH).

Letters requesting permission to collect data for the study were sent out the Senior Medical Officers (SMOs) of each hospital. Permission was granted by all hospitals identified for participation. Mental Health Officers (MHO) were enlisted and trained on how to use the data extraction sheet. Contact was then made to the Medical Records department of the hospitals for them to pull docket with a diagnosis of Parasuicide or Suicide Attempt. Most hospitals encountered challenges with this method of identifying cases of Parasuicide as these cases were under recorded in the Medical Records databases.

This resulted in the research team reviewing the log or admission books of the Accident and Emergency Department of the hospitals for the period of interest. Once cases were identified, a list with the docket or admission number was provided to the Medical Records department for them to pull the files.

Once pulled docket were reviewed using the data extraction sheets and submitted in batches to the research assistant. Data was collected over a period of three months by the research team.

Ethical approval for the study was granted by the Ministry of Health and University of the West Indies Ethics Review Committees. This aspect of the study was considered no risk as there was no direct contact made with persons who attempted suicide.

Data Analysis

The data was entered and cleaned in the Statistical Package for the Social Sciences (SPSS) version 17. Descriptive and inferential statistics were performed determine patterns, relationships and differences associated with attempted suicide. The level of confidence utilized was $p \leq 0.05$.

C. PSYCHOLOGICAL AUTOPSY OF REPORTED CASES OF COMPLETED SUICIDE IN JAMAICA

Study Design

This research utilized a psychological autopsy. This is a qualitative research methodology which is aimed at understanding the state of mind of a person before committing suicide. It involves secondary data collection and is considered to be retrospective as the person would have successfully completed the act of suicide. The individual's close family, friends and associates are the ones who offer reports of the person's mental state prior to the act as well as official police reports were reviewed. The data was captured in a semi-structured interview. Cases of youth suicide were of particular interest as such this aspect of the study considered youth to be all persons between 0-24 years of age.

Participants

The participants in the study were family members or close friends of persons who completed suicide and whose case was reported to the Jamaica Constabulary Force (JCF).

Instrument

The data was captured in a semi-structured interview. An interview sheet was developed to ensure that most important information was recorded. The interview sheet included information pertinent to the demographics, developmental history, school history, social history, employment history, psychosexual history, medical and psychiatric history, drug

history, personality and stressors at the time of suicide and information about the suicide (Appendix). The interview sheet in this study was modeled from that previously used by Irons-Morgan et al. (1999)¹⁰.

Procedure

A letter requesting the collaboration of the Jamaica Constabulary Force (JCF) on this suicide project was sent to the Police Commissioner. Once approval was granted contact was made with the Criminal Investigation Department to ascertain the list and descriptions of all reported cases of suicide reported over the period January 1st, 2012 to December 31, 2012. This listing included details of the case along with the address of the person prior to death.

Once this list was provided, Mental Health professionals, who were trained as to the nature of the project and how to conduct psychological autopsy interviews, visited these addresses and set interview appointments with family members or close friends of the deceased.

The Mental Health professionals then met with these individuals in their homes or a place convenient and suitable for the respondent to conduct the interview. Informed consent forms were issued to respondents at the time of the interview (Appendix 2). Interviews were conducted with one or two individuals for each reported case.

Data Storage & Data Analysis

Data was transcribed by the various interviewers and provided to the research assistant who organized the information into quantitative categories so that analysis could be done using the Statistical Package for the Social Sciences (SPSS) version 17. The data was then entered cleaned and descriptive and inferential statistics were performed on key variables. The level of confidence

utilized was $p \leq 0.05$. Thematic approach to analysis was also utilized to highlight key findings from the data.

Rough copies of the interview were sent for storage to the Mental Health Unit of the Ministry of Health and the Mental Health professionals were asked to delete their records once submitted.

Special Ethical Considerations

This segment of the study was considered to be of medium or high risk to respondents as it involves the rehashing of psychologically painful experiences, some of whom may be angry or still grieving. The interviewers were aware of the highly sensitive nature of this segment of the research and assure the participants of confidentiality as well as provided the necessary encouragement and support as stories are being told. In the advent that the interviewers observe signs of clear distress they were advised to refer the participant to a psychiatrist associated with the project for further intervention where psychiatric services to the participants would be offered free of cost (Appendix 3).

FINDINGS

The results from each section of the overall study are presented here separately under the related section heading.

A. RISK FACTORS ASSOCIATED WITH SUICIDAL BEHAVIOUR AMONG SECONDARY SCHOOL STUDENTS IN JAMAICA

Students from all thirty-eight (38) schools selected for the study were sampled. There was an overall response rate of 87.7% with data from 3,471 students included in the analyses.

Sociodemographic Characteristics

After data cleaning information from 3, 471 students were included in this study. Of this amount 57.5% were female and 41.9% were males. Table 1 highlight that the age range of students was between 11-25 years old. The mean age of participants was 15.8 years (s.d. +/- 8.63).

Table 1. Age distribution of participants

Age	<i>f</i>	Percent %
11	13	.4
12	215	6.5
13	653	19.8
14	311	9.4
15	733	22.3
16	741	22.5
17	417	12.7
18	180	5.5
19	26	.8
20	1	.0
22	1	.0
25	1	.0
Total	3292	100.0
Missing	179	

Most students were from a public school (97.8%) and only 2.1% attended a private school. The large majority of students attended a Coed school (83.6%). In terms of grade or form in school, all grades were well represented except 12th grade or 6th form in the study (Table 2).

Table 2. Distribution of students across grade/form levels

Grade/Form	f	Percent
8 th /2 nd form	1066	30.7
10 th /4 th form	1128	32.5
11 th /5 th form	918	26.4
12 th /6 th form	344	9.9
Missing/No info	15	0.4

There was a mixture of parental marital statuses reported by students (Figure 1). However for the most part the parents of students were either single (31.2%), married (27.7%) or separated (17.1%).

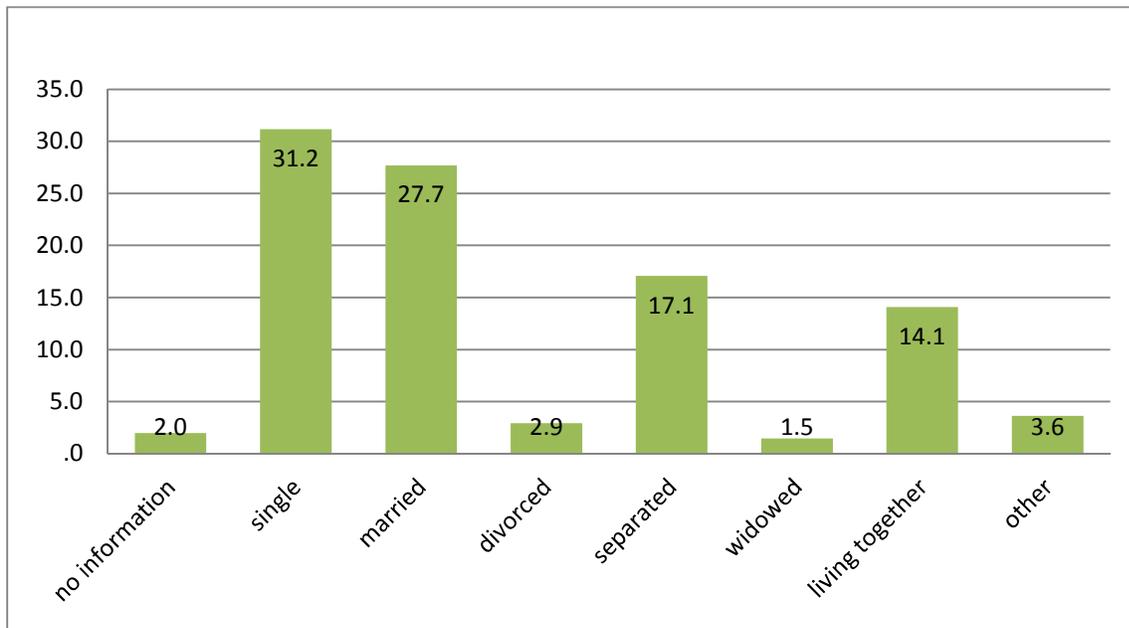


Figure 1. Marital status of parent(s) in percentage

Students reported that their parents' highest level of education was varied with the most reported education levels being secondary/high school level (42.2%) and college/university/tertiary (25.3%). See figure 2 below.

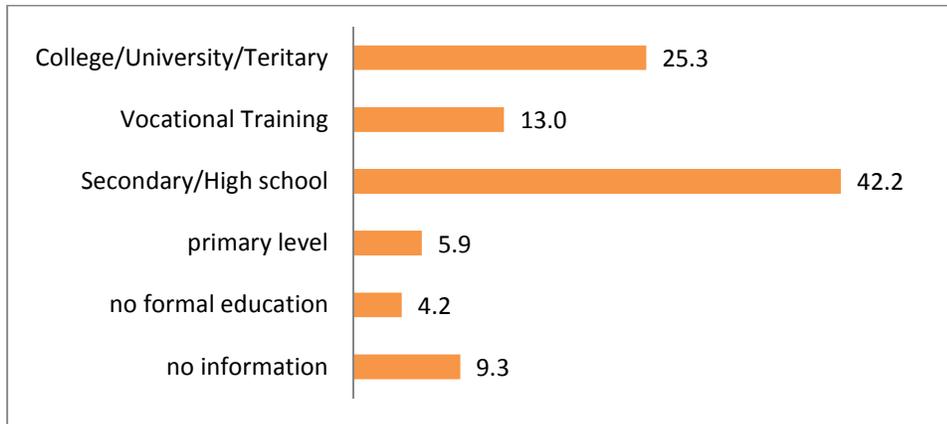


Figure 2. Education level of students' parents in percentage

Most students reported living with their mothers (74.5%), followed by brother/sister (47.4%) and father (36.5%), while 28.3% lived with both parents (Figure 3).

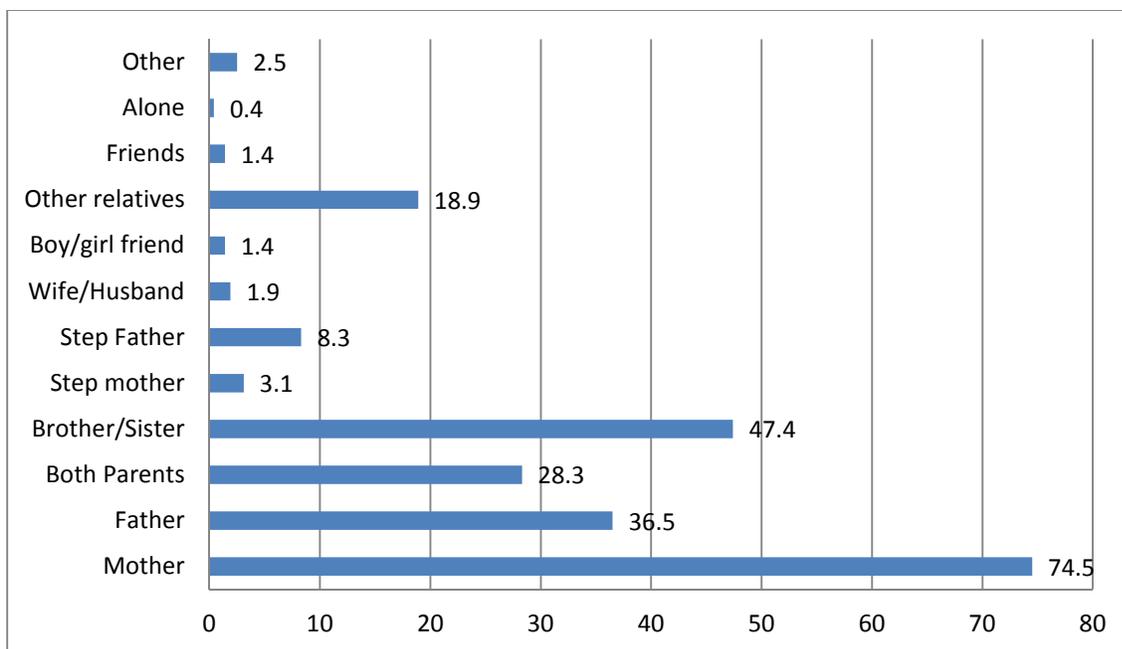


Figure 3. Living arrangements of students in percentage

Suicidal Risk & Behaviour

Of the 1191 students who completed all of the SBQ-R scale (688) 57.8% were found to be at risk of suicide (Figure 4).

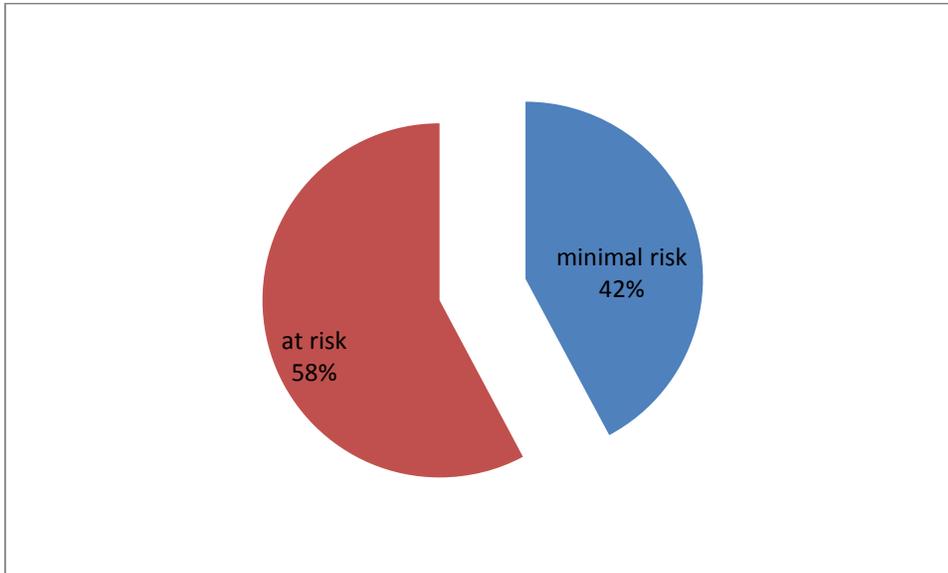


Figure 4. At risk of suicide in percentage

In total, 688 students were identified as being at risk for suicide. This indicates a prevalence of 19.8% for students who are at risk of suicide within this sample, giving a ratio of approximately 1:5 students being at risk for suicide.

Additionally, close analysis of the item by item responses of students to these suicide questions indicate some interesting findings (Table 3).

Table 3. Distribution of responses to individual suicide questions

Suicidal Behaviour Measured	<i>f</i>	Percent %
<i>Lifetime suicidal ideation/attempt (N=3032)</i>		
never	1957	64.5
brief passing thought	408	13.5
had a plan once but did not try it	369	12.2
Had a plan at least once and really wanted to die	116	3.8
attempted suicide and did not want to die	129	4.3
I have attempted suicide and really hoped to die	53	1.7
 <i>Frequency of suicidal ideation over past 12 months (N=1393)</i>		
never	410	30.1
rarely	329	24.1
sometimes	283	20.8
often	145	10.6
very often	196	14.4
 <i>Threat of suicide attempt (N=3124)</i>		
No	2269	72.6
yes at one time but did not really want to die	549	17.6
yes at want time and really wanted to die	134	4.3
yes more than once but did not really want to die	117	3.7
yes more than once and really wanted to die	55	1.8
 <i>Likelihood of future suicidal behaviour (N=3100)</i>		
Never	2300	74.2
no chance at all	287	9.3
rather unlikely	141	4.5
unlikely	105	3.4
likely	136	4.4
rather likely	39	1.2
very likely	92	3.0

A significant number of students 1075 (35.5%) admitted to suicidal ideation their lifetime.

While for past year suicide ideation, 1393 students responded of which 69.9% admitted to experiencing these thoughts in the past year with 25% reporting that they think about suicide 'often' or 'very often'.

In terms of suicide threat, the majority of respondents denied threatening suicide to another person (72.6%), however a significant amount has threatened (27.4%) with a small number (1.8%) expressing that they have threatened suicide more than once and really want to die (Table 3).

Responses to the question regarding intention to attempt suicide in the future revealed that the vast majority students did not have that intention (91.4%), however a small amount of students did express that suicide attempt was a possibility for them in the future (8.6%).

Profile of At Risk Students

In total, 688 students from the sample were found to be at risk of suicide. Table 4 below outlines the profile of these students who have been identified as at risk.

Within the at risk group more females (64.3%) than males (35.7) were identified as being at risk of suicide. Also more than half (51.7%) of the at risk group were between the ages of 14-16 years (Table 4).

Table 4. Profile of Students found to be At Risk of Suicide

	Characteristics	Frequency (<i>f</i>)	Percent %
Gender	Male	245	35.7
	Female	442	64.3
Age	11-13 years	177	27.1
	14-16 years	338	51.7
	17-19 years	136	20.8
	20 & above	3	0.5
Grade	8th grade	200	29.1
	10th grade	218	31.7
	11th grade	192	27.9
	12th grade	75	10.9
	no information	3	0.4
School type	Public	679	98.7
	Private	8	1.2
	Other	1	0.1
Student type	All male	20	2.9
	All female	160	23.3
	Co-education	499	72.5
	No information	9	1.3

There was some consistency across grade levels for at risk students; however 12th grade recorded the smallest number of at risk students (10.9%) while 10th grade recorded the highest number (31.7%).

The vast majorities of at risk students attended Public school (98.7%) and were from co-educational (male & female) secondary schools (72.5%).

Psychosocial Risk Factors

In addition to examining the associations between socio-demographic factors and suicide risk, the study also examined other psychosocial risk factors such as parental involvement, relationship with parents, school performance, attitude towards school work and teachers, drug use and behavioural problems at school.

A number of bivariate and multivariate analyses were performed to determine differences and associations between suicide risk and these variables.

Sociodemographic characteristics & Suicide Risk

More females (64.3%) than males (35.7%) were found to be at risk of suicide. However, t-test analysis revealed that this difference was not statistically significant ($p > 0.05$). Still, there was a significant difference noted between gender (62.8% females and 37.2% of males) and lifetime suicidal ideation as well as gender (70.9% of females and 29.1% of males) and lifetime suicide attempt ($p = 0.001$, $p < 0.01$ respectively). T- test analysis also revealed that there were no significant differences between living arrangement and suicide risk and suicide risk ($p > 0.05$ respectively).

Importantly, a significant difference was found between geographical area and suicidal ideation. More students who went to school in urban areas (58%) reported suicidal ideation than those who went to school in rural parishes (42%), ($p = 0.046$, $p < 0.05$).

A significant relationship was found between age and students being identified as at risk for suicide ($p = 0.006$, $p < 0.01$). This was found to be a weak negative correlation ($F = -0.081$), where as age increased suicide risk decreased.

ANOVA analysis revealed a significant difference between type of student and suicide risk ($p=0.000$, $p<0.001$) where students from Co-educational institutions were found to be most at risk of suicide (72.5%). However, no significant differences were found between current grade in school or parent marital status and suicide risk nor were there any correlation between parent level of education and suicide risk ($p>0.05$, respectively)

Parental Involvement & Suicide Risk

Most students reported that their parents were involved in some way in their daily lives (Table 5). T-test analysis and Spearman rho correlation analysis were performed on the parental involvement data to determine differences and relationships to suicide risk among the sample.

Table 5. Student report of Parental Involvement

Parental Involvement	Frequency	Percent
<i>Parent know where you are (N=2217)</i>		
almost never know	55	2.5
sometimes they don't know	444	20.0
they always/almost always know	1718	77.5
<i>Parent know tv programs you watch (N=2221)</i>		
yes	1481	42.7
no	740	21.3
<i>Parent pay attention to school work (N=2296)</i>		
very closely	1020	44.4
closely	841	36.6
somewhat closely	342	14.9
not at all	93	4.1

Spearman rho correlation revealed a significant relationship between parent attention to school work and suicide risk ($p=0.039$, $p<0.05$). However there was no significant relationship

between parents ‘knowing where child is after school or on weekends’ and suicide risk ($p>0.05$). Also t-test analysis revealed no significant differences between parental awareness of TV shows and suicide risk (t-test, $p=0.611$ $p>0.05$).

Also most students reported that their parents did have meals with them, controlled the time they came home and expected to know where they were going (Table 6).

Table 6. Student report of Parental Involvement (continued)

Parental Involvement	Frequency	Percent
<i>parent has meals with you (N=2299)</i>		
Never	520	22.6
one single day	215	9.4
two days	164	7.1
three days	134	5.8
four days	100	4.3
five days	71	3.1
six days	58	2.5
Everyday	1037	45.1
<i>parent control time come home (N=2855)</i>		
Yes	2138	74.9
No	294	10.3
Rarely	379	13.3
Never	44	1.5
<i>parent expect to know where you are(N=2984)</i>		
Yes	2672	89.5
No	90	3.0
Rarely	202	6.8
Never	20	.7
<i>parent know close friends (N=3325)</i>		
very well	1483	44.6
more or less	570	17.1
Slightly	823	24.8
not at all	449	13.5

Spearman rho correlation analysis revealed no significant relationship between meals together with parents, controlled the time they came home and expected to know where they were going or knowing close friends and suicide risk ($p>0.05$ respectively).

Relationship with Parents & Suicide Risk

Most students reported having a good or very good relationship with their parent (s) or guardian (Table 7). Spearman correlation found no significant relationships between relationship with mother, father or guardian and suicide risk among students ($p>0.05$).

Table 7. Students’ reported relationship with Parents

Parent Relationship	Frequency	Percent
<i>Relationship with mother (N=3129)</i>		
very good	1185	37.9
Good	1269	40.6
Bad	378	12.1
very bad	297	9.5
<i>Relationship with father (N=3270)</i>		
very good	2089	63.9
Good	938	28.7
Bad	158	4.8
very bad	85	2.6
<i>Relationship with guardian (N=3225)</i>		
very good	958	29.7
Good	1314	40.7
Bad	547	17.0
very bad	406	12.6

Attitude towards school & Suicide Risk

Several variables were utilized to access student’s attitude towards school. Spearman correlation revealed no significant relationship between ‘feeling happy when you go to school’,

sense of belonging at school, number of times student skipped school, frequency of absence from school, behavioural/discipline problems at school or relationship with teacher and suicide risk ($p>0.05$ respectively).

School Performance & Suicide Risk

Spearman’s correlation also found a significant relationship between repeating grades in school and suicide risk ($p=0.039$, $p<0.05$). Thought, there was no significant relationships found between student reported school performance, expectation of completing secondary school, likelihood of attending University and suicide risk ($p>0.05$ respectively).

Drug Use & Suicide Risk

Some students admitted to past year and past month drug use, alcohol was the most common drug used among students (Table 8). Roughly 39% of students admitted to drinking alcohol in the last year and 21.7% admitted to use in the past month.

Table 8. Drug use by past year and past month

Drug Use	Frequency	Past year %	Past Month	
			Frequency	%
Cigarette	209	6	107	3.1
Alcohol	1365	39.3	752	21.7
Marijuana	248	7.1	193	5.6

Despite this, Pearson’s correlation analysis revealed no significant relationship between cigarette, alcohol or marijuana use and suicide risk among students in this sample ($p>0.05$ respectively).

B. THE CHARACTERISTICS OF SUICIDE ATTEMPTERS WHO PRESENT TO HOSPITAL

Information was captured for a total of 228 cases of suicide across seven hospitals of this amount 137 cases were youth. Significantly more persons ≤ 24 years attempted suicide than those ≥ 25 years ($p < 0.05$). Importantly, some information was not captured due to log/admission books being missing and dockets being on the wards or missing during the data collection period.

Nonetheless, Table 10 highlights that University Hospital of the West Indies (21.9%) followed by Cornwall Regional Hospital had the most cases (19%). It is important to note that, admission books, two months for 2012 could not be located at UHWI. It is likely that the cases at this hospital were greater than that was reported there. Similarly 11 dockets at Spanish Town hospital could not be located during the data collection period.

Table 10. Cases of attempted suicide that presented to seven hospitals

Hospital	Frequency	Percent
Kingston Public	24	17.5
University Hospital	30	21.9
Cornwall Regional	26	19.0
St Ann's Bay	13	9.5
Mandeville Regional	14	10.2
Savanna la mar	18	13.1
Spanish Town	12	8.8

Sociodemographic Characteristics

There were a total of 113 (82.5%) females and 24 (17.5%) males who presented to hospital for suicide attempt over the period. Significantly more females than males attempted suicide ($p < 0.05$). The mean age of youth suicide attempters 17.7 years (s.d. +/-3.379).

Most of those who attempted suicide were between the ages of 17-24 years (59.9%), followed by 15-16 years (Figure 5).

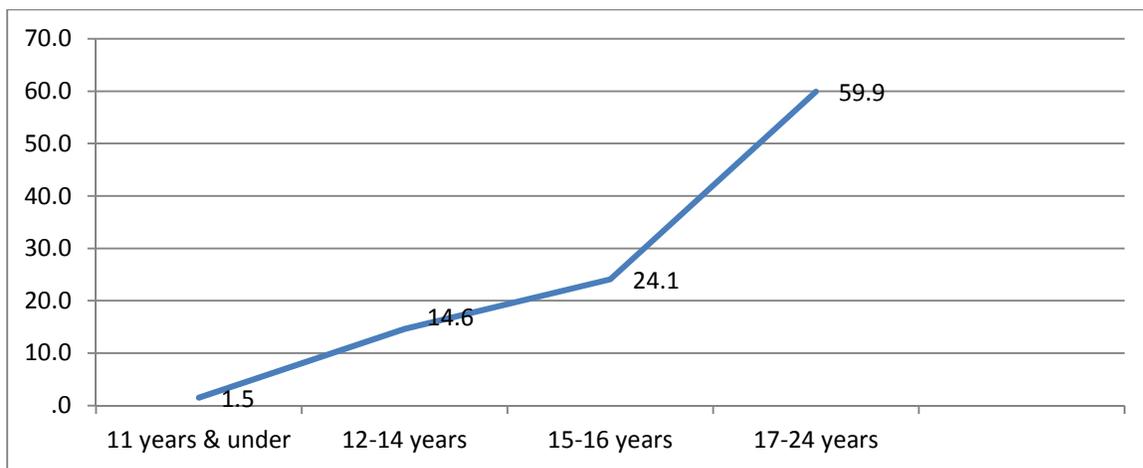


Figure 5. Age group of suicide attempters by percentage

Also most suicide attempters were single representing 94.4%, followed by those who reported being in a visiting relationship (2.4%), married (1.6%) and common law (1.6%).

In terms of education level, majority of persons reported having up to secondary school education (78.8%), other levels of education were reported in lower frequencies (Figure 6).

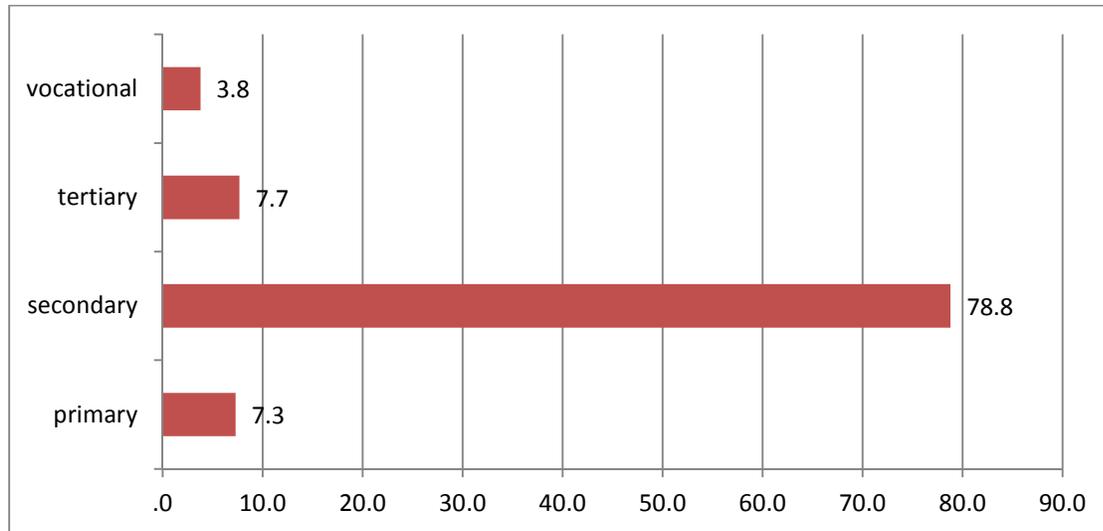


Figure 6. Education level of suicide attempters

Also, majority of persons reported being unemployed (88.1%). A significant number of persons reported that they lived with their parent(s) (63.6%), other relatives (16.1%) or other (Figure 7).

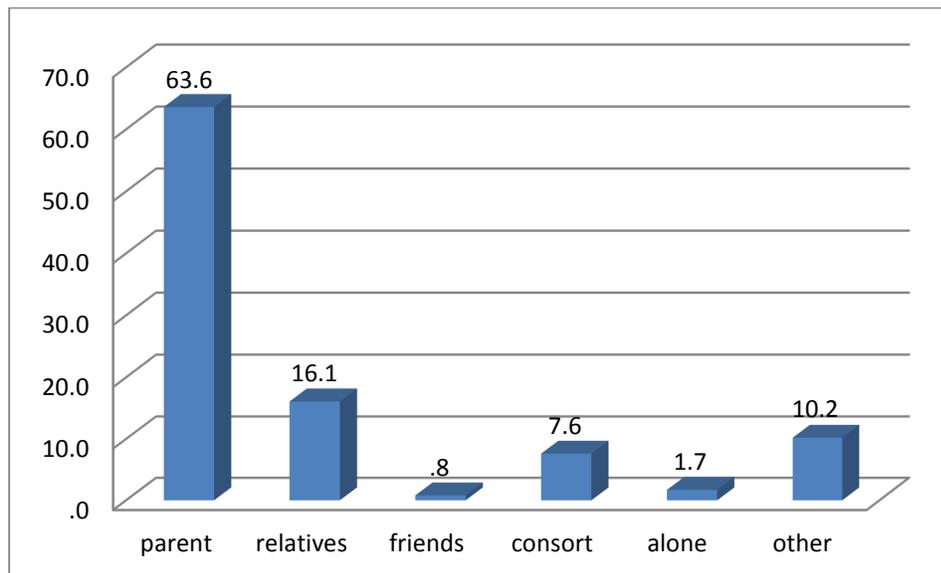


Figure 7. Living arrangements of suicide attempters

In cases where other was reported, most persons were noted to be wards of the state (10 cases) and in the remainder of cases the 'other' explanation was not recorded (2 cases).

Suicide Attempt Characteristics

Method of Attempt

The main method of suicide attempt of youth who presented to hospital was overdose of medication (55.1%) followed by hanging (16.2%) and self inflicted wounds (Figure 8).

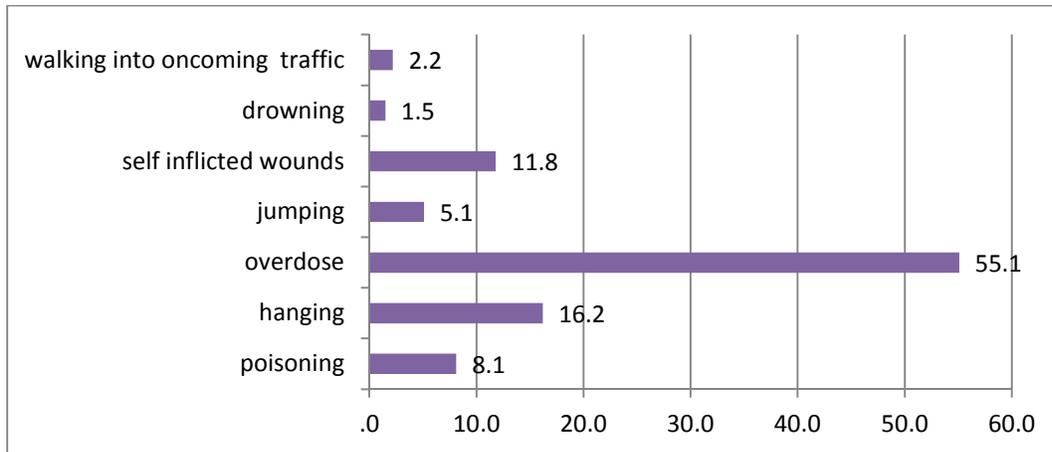


Figure 8. Method of suicide attempt

Chi square analysis revealed that there was no significant difference between method of suicide attempt for persons who were ≤24 year and those who were ≥25 years (p>0.05).

Reasons for Suicide Attempt

A significant number of youth reported ‘interpersonal conflict’ as their primary reason for attempting suicide (49.2%). These included conflict with family members, consorts or friends. Other reasons stated for suicide attempt were; feeling other (13.3%) and sexual assault (9.4%) (Figure 9).

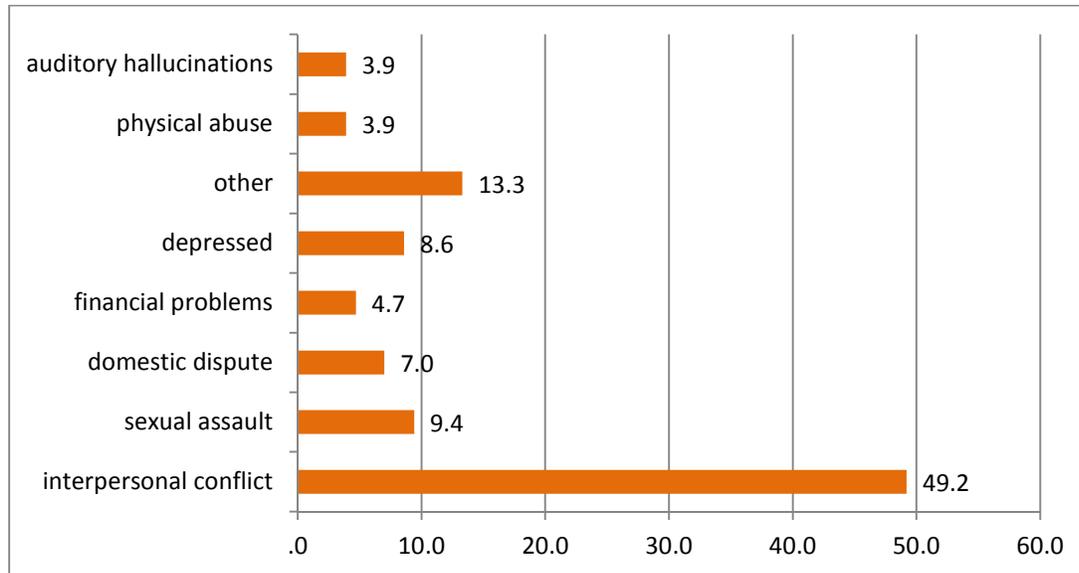


Figure 9. Reasons for suicide attempt

Chi square analysis revealed that there was a significant difference between reasons for suicide attempt and age group ($p < 0.05$). However across age group 'interpersonal conflict' was the main reason for suicide attempt (Table 11).

Table 11. Age group and reason for suicide attempt by frequency and percentage

		interpersonal conflict	sexual assault	domestic dispute	financial problems	depressed	other	physical abuse	auditory hallucinations	Total
under 25 years	Frequency	63	12	9	6	11	17	5	5	128
	Percent %	49.2%	9.4%	7.0%	4.7%	8.6%	13.3%	3.9%	3.9%	100.0%
over 25 years	Frequency	33	2	5	11	13	8	1	7	80
	Percent %	41.3%	2.5%	6.3%	13.8%	16.3%	10.0%	1.3%	8.8%	100.0%

Additionally, Fisher's Exact test did reveal that there was a significant difference between living arrangement and reason for suicide attempt ($p < 0.01$) where more persons who

lived with their parents reporting interpersonal conflict as their main reason for suicide attempt when compared to those who reported other living arrangements.

Number of Attempts

The majority of those who presented to hospital over the period under study were first time suicide attempters 93 (73.2%). However some 34 (24.8%) of persons were found to be repeat attempters.

Information regarding number of attempts was available for 23 cases. Among this group 14 (60.9%) had attempted twice before while 9 (39.1%) had attempted thrice.

In a few of these cases (6) of these cases persons seemed to move across hospital for treatment, that is, the same person would have a docket which recorded different attempts of suicide at multiple hospitals.

Clinical Characteristics

Presenting Symptoms

Persons who attempted suicide presented to hospital with a range of psychiatric symptoms.

The most common symptom was depressed mood (18.2%) followed by difficulty sleeping (13.9%) and feeling sad (13.1%) (Figure 10).

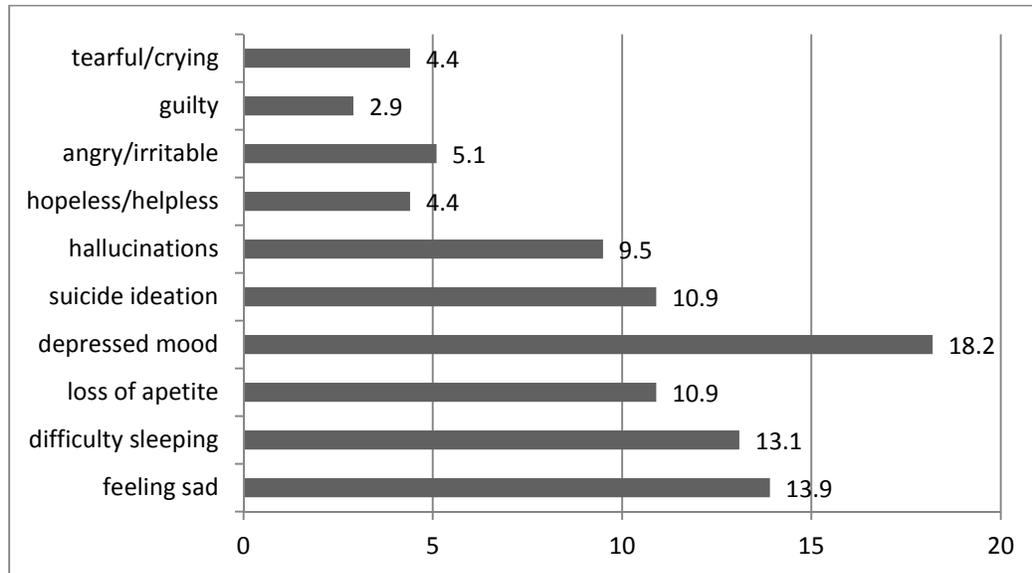


Figure 10. Presenting psychiatric symptoms of suicide attempters

Psychiatric History & Provisional Diagnosis

Information was missing regarding past psychiatric history for 109 (79.6%) of the cases who presented to hospital. However for the 28 cases where this information was available 17 (60.7%) did report a past psychiatric diagnosis.

The type of past psychiatric diagnosis was recorded for 17 cases. In these cases the most common past psychiatric diagnosis was Schizophrenia (35.3%), followed by depression (17.6%) (Table 12). There were no significant differences between age groups and type of past psychiatric diagnosis ($p > 0.05$).

Table 12. Type of Past Psychiatric disorder by frequency and percentage

Past Psychiatric Diagnosis	Frequency	Percent %
Schizophrenia	6	35.3
Conduct disorder	3	17.6
Adjustment disorder	1	5.9
Bipolar disorder	1	5.9
PTSD	3	17.6
Depression	3	17.6

There were no significant differences between age groups and type of past psychiatric diagnosis ($p>0.05$).

Provisional Diagnosis

In addition to the Provisional Diagnosis of Suicide Attempt or Parasuicide, 81(59.1%) persons received another Provisional Diagnosis (Table 13).

Table 13. Provisional diagnosis along with Parasuicide by frequency & percentage

Provisional diagnosis along with Parasuicide	Frequency	Percent
Major depression	35	43.2
Psychotic disorder	9	11.1
PTSD	6	7.4
Adjustment disorder	27	33.3
Dysthymic disorder	2	2.5
Personality disorder	1	1.2
Other	1	1.2

The most common Provisional diagnosis persons were given was Major Depressive Disorder (43.2%) followed by Adjustment Disorder (33.3%) or a Psychotic Disorder (11.1%). There were no significant differences between age groups and provisional diagnosis ($p>0.05$).

Substance Use

The vast majority of persons did not report substance use (81.9%). For those who did report substance use the most common report was alcohol use 7 (5.1%) followed by combination 6 (4.4%), cannabis 4 (2.9%).

Treatment Process

In most cases persons who presented to hospital for attempted suicide were admitted to hospital (71.4%), others were given a clinic appointment (17.6%), day hospital (6.6%) or received ward review (3.4%).

Treatment in a significant number of cases involved psychotherapy (44.9%), medication and psychotherapy (43%) and medication alone (12.1%).

In the vast majority of cases persons were referred to other services (95.6%), these included Psychiatry and Medicine departments.

C. PSYCHOLOGICAL AUTOPSY OF REPORTED CASES OF COMPLETED SUICIDE IN JAMAICA

For the period January 1, 2012 to December 31, 2012 there were 53 cases of suicide reported to the Police. This number is comparative to the number of cases reported in the previous year however the number of youth who committed suicide increase by one case in 2012 (Figure 11)

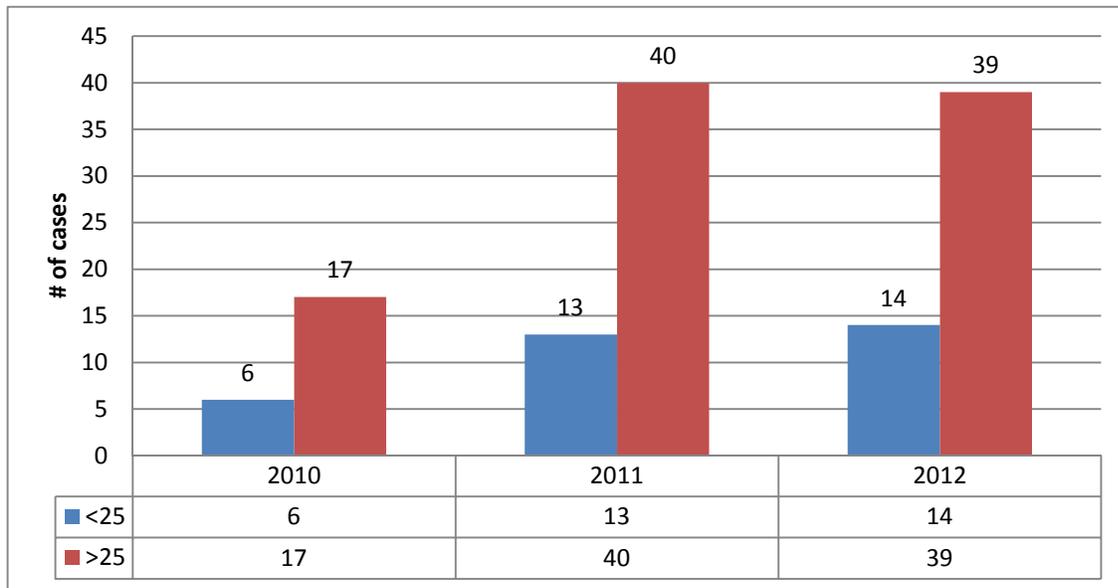


Figure 11. Cases of suicide reported between 2010-2012

Of the 53 cases that were identified, 14 cases involved persons under 25 years. Interviews were conducted for 12 of the 14 cases identified. For the remaining 2 cases, the families had moved away from the home.

In most cases information about the deceased was garnered from a relative (75%), a parent/guardian (16.7%), or other (8.3%).

Based on the population statistics released by the Statistical Institute of Jamaica, Jamaica had a population count of 2,711,476 for the year 2012. This puts the overall rate of suicide at 1.95 per 100,000. The rate of suicide for youth under 25 years for the same period

was 1.16 per 100,000 and the rate of suicide for the adult population 25 years and over at 2.58 per 100,000.

Sociodemographic Characteristics

Of the 12 cases of youth suicide reported over the period, eight persons were male (66.7%) and four persons were females (33.7). The age range for completed youth suicides spanned 11-24 years. Looking at the complete number of cases (53), it is clear that most of those who committed suicide were over 25 years old (69.2%). Additionally, most of sample were single (91.7%), identified as having Christian beliefs (58.3%) and most commonly reported as having up to Primary level education (Table 14).

Table 14. Some sociodemographic characteristics of persons who completed suicide

Characteristics	Frequency	Percent
<i>Gender</i>		
Male	8	66.7
Female	4	33.3
<i>Age group</i>		
<25 years	12	30.8
25 years or older	27	69.2
<i>Marital Status</i>		
Single	11	91.7
Visiting Relationship	1	8.3
<i>Religious Background</i>		
Christian	7	58.3
Rastafarian	1	8.3
Missing	4	33.3
<i>Education Level</i>		
Primary/all age	6	50
Secondary	4	33.3

Other 2 16.7

Among the group, more persons lived with their 'siblings' (33.3%) or 'parents and siblings' (25%) than any other living arrangements (Table 15). Most persons experience no change in their living arrangements prior to suicide 10(83.3%). Additionally, most persons were 'students' or 'unemployed' at the time of death (33.3% respectively).

Table 15. Other sociodemographic characteristics of persons who completed suicide

Characteristics	Frequency	Percent
<i>Living Arrangements</i>		
Mother	2	16.7
siblings	4	33.3
parents & siblings	3	25.0
Other relatives	1	8.3
Alone	1	8.3
Missing	1	8.3
<i>Employment Status</i>		
Student	4	33.3
Self Employed	1	8.3
Employed	3	25.0
Unemployed	4	33.3

Personal History of victims

Respondents were asked to provide a history of the life of the victims according to their best knowledge of events as they occurred in the persons' lives.

In terms of developmental history, in most cases development of the victim was reported to be uneventful or normal (75%). In a few cases however, development was considered to be delayed (16.7%) indicating that the person did not meet all the developmental milestones within the expected times (Table 18).

Also, the most commonly reported family structure of in which victims were raised was single parent (58.3%) followed by nuclear family (20.5%). Most respondents believed that the deceased did 'good' in school (75%) and 'had many friends' (58.3%), (Table 16).

Table 16. Victim history as reported by interviewees

Victim history	Frequency	Percent
<i>Development</i>		
normal	9	75.0
delayed	2	16.7
unknown	1	8.3
<i>Family structure</i>		
nuclear	1	8.3
single	7	58.3
relatives	2	16.7
Missing	2	16.7
<i>Performance in school</i>		
good	9	75.0
fair	1	8.3
bad	1	8.3
Missing	1	8.3
<i>Relationship with peers</i>		
had many friends	7	58.3
had few friends	1	8.3
unknown	4	33.3

Most respondents believed that the deceased had good relationships with their family (81.8%), other reported family relationships to be 'fair' or 'bad' (9.1% respectively).

Medical & Psychiatric History

Only one person was known to have a medical condition (8.3%) while 25% of victims were also known to be on medication. Also, 2 out of 12 persons who committed suicide were known to

have a past psychiatric illness (16.7%). This illness was considered to be persistent and present up to the time of death of the victim. In both cases this diagnosis was Psychosis.

Most respondents reported drug use by victims (66.7%). Among those who used drugs, most used a combination of drugs (Figure 12) such as alcohol and marijuana or marijuana and cigarettes. Chi square analysis revealed that more victims over the age of 25 years (61.9%) used drugs than those under the age of 25 years (38.1%) ($p=0.038$, $p<0.05$).

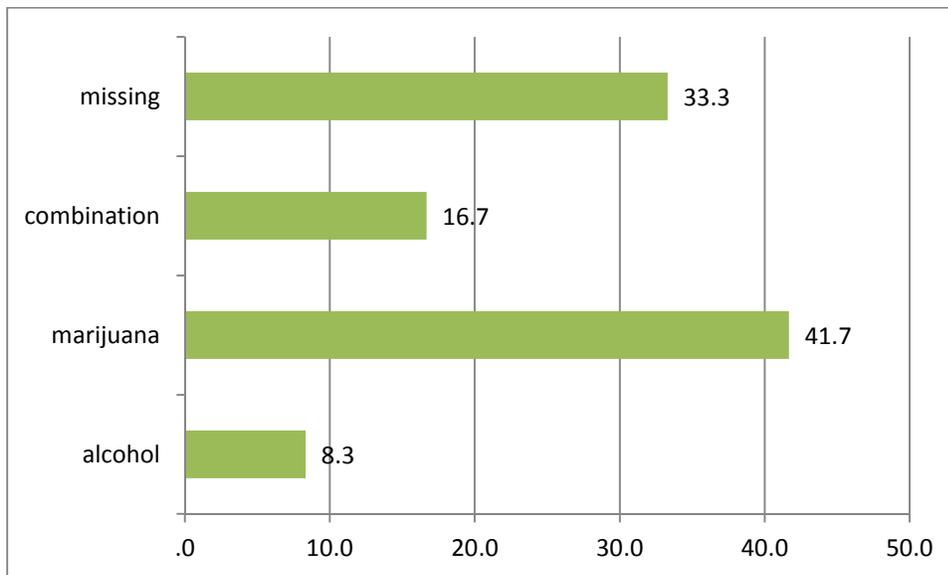


Figure 12. Drug use of suicide victims by percent

In terms of psychosexual history, most respondents reported not being aware of any concerns victims may have been experiencing regarding their sexual orientation (75%). Some expressed that victims were sexually active (41.7%), others reported that the deceased was not sexually active or did not provide this information (25%). There were no known cases of sexual abuse reported.

By way of personality characteristics, persons were described as ‘reserved’, ‘kind and loving’ or ‘friendly’ at an equal proportion (33.3% respectively).

Suicide Characteristics

Only one person had a past suicide attempt (8.3%) while 16.7% of persons previously expressed suicidal ideation but no-one indicated a suicide plan to any of the respondents.

Method of Suicide

The primary method of suicide was hanging (91.7%) of the cases (Figure 13). A variety of tools were utilized in the cases of hanging including rope, electric cord, clothing and sheets.

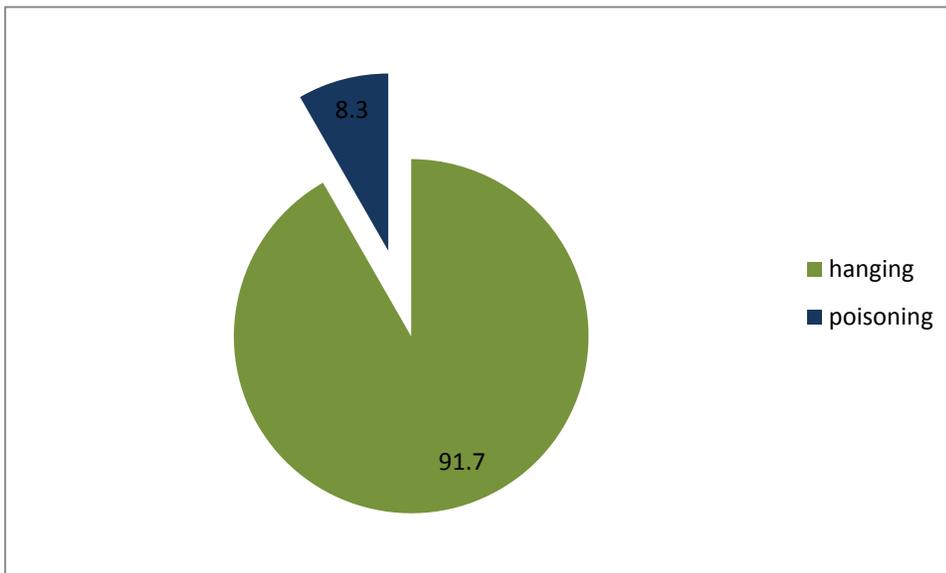


Figure 13. Method of suicide

Additionally, 3 of the 12 cases (23.1%) reviewed were reported as homicide/suicide. In these cases homicides involved a domestic dispute between consorts which resulted in the outcome of a murder followed by a suicide.

Stressors

Prior to the suicide, a number of stressors were identified as being present in the life of the victims (Figure 14). The most common stressor was ‘intimate relationship problems’ (33.3%), ‘other’ (25%). In several of the cases suicide happened directly after an argument or confrontation with a family member or consort.

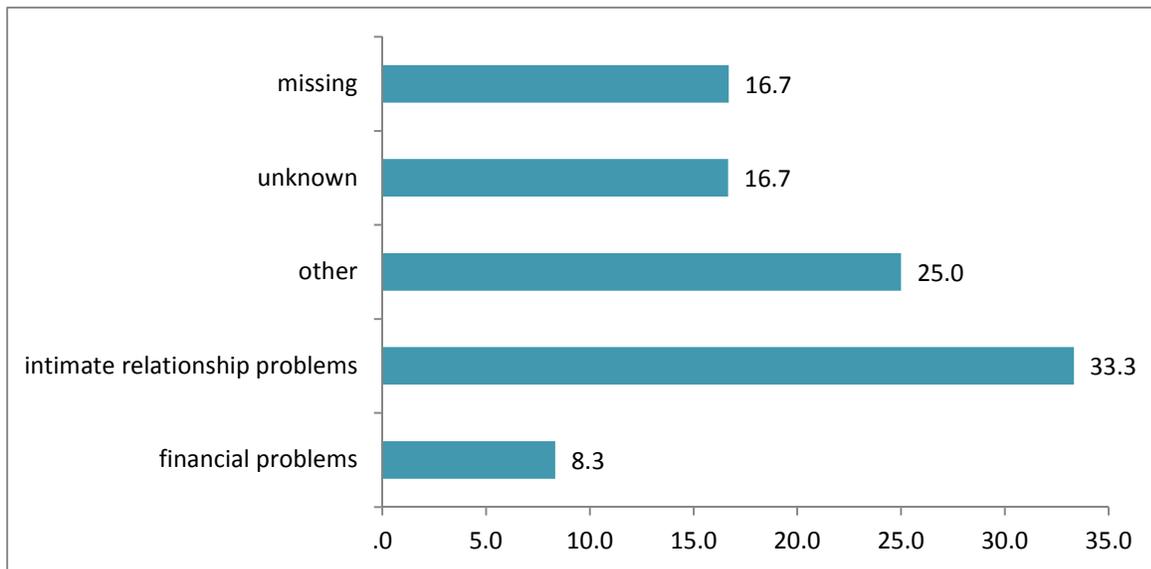


Figure 14. Stressors prior to suicide

Recent changes in to relationship status

As intimate relationship problems was highlighted as the most common stressor (33.3%) interviewers queried whether or not there were any changes in relationships close to the time of the suicide. In most cases there were ‘no changes’ (66.7%), in other cases the respondent was unsure or did not provide this information (33.3%).

Reaction of Respondents

Most of the respondents expressed feeling “shock” or “disbelief” about the suicide. Several persons stated that they “did not expect it”. Some were laden with guilt and wondered what they could have done differently to save their loved one. A few persons indicated symptoms of Post Traumatic Stress Disorder (PTSD) as they expressed having dreams, and recurrent memories of the incident.

DISCUSSION

This study was able to explore crucial aspects of suicidality in the Jamaican context and provides important insights into patterns associated with suicidal behaviour in youth, suicide attempts and completed suicide.

Suicidal Behaviour in Youth

This study identified a suicide risk prevalence of 19.8% within a representative sample of Secondary school students. This gives an estimated ratio of 1:5 students being at risk for suicide. Moreover, 35.5% of (3032) students reported that they have experience suicidal ideation or exhibited suicidal behaviour in their lifetime.

Also of the 1393 students who went on to answer the question regarding 'frequency of suicidal ideations in the past month, 69.9% reported that they had experienced these ideations at various frequencies. These results are significantly higher than those reported in other studies conducted in Jamaica⁷⁻⁹. However, WHO (2002) has pointed out that globally suicidal thoughts and attempts are common among young people²⁸. This tendency is most likely linked to the psychological and emotional transitions which occur during the period of adolescence and young adulthood.

As it relates to the characteristics of adolescents who are at risk of suicide, the findings of this study were consistent in some measure with global findings⁵⁻⁹. These results found that significantly more females than males reported suicidal ideation and attempt in their lifetime. Also, more females (64.3%) than males (35.7%) were found to be at risk of suicide. This finding is consistent with most global trends²⁸. However, in this study this difference was not

statistically significant ($p>0.05$). This suggests that in the Jamaican context adolescent males also may be more vulnerable than in other countries to suicide.

Moreover, age was also found to be significantly related to the risk of suicide, where as age increased suicide risk decreased. There was a clear concentration of at risk students within the age group of 14-16 years old (51.7%). This is in keeping also with international findings which indicate that this period of development is marked for suicide risk²⁹.

Interestingly, there was a significant relationship between attending a Co-educational and being at risk for suicide. This is an area that requires further exploration to determine what environmental factors in this setting may be contributing to suicide risk.

Contrary to international findings³⁰ certain family factors were not generally found to be associated with suicide risk in our population such as relationship with parents or parental involvement. Nonetheless there was a significant relationship between parent attention to school work and suicide risk.

Also school factors, such as, school performance, attitude towards school work, relationship with teacher, absence/skipping school or behavioural/disciplinary problems were not found to be associated with suicide risk. There was however a significant relationship found between repeating grades in school and suicide risk and sense of belonging at school and previous suicide attempt. Some possibilities may be that those who have repeated a grade or feel that they do not belong when they go to school may be undergoing some emotional problems or possible being bullied. Ahluwalia et al. (2009) pointed out that emotional factors such as feelings of not belonging despair or hopelessness actually increase the risk of suicidal behaviour

in adolescents³¹. Also, Nock (2009) highlighted that bullying has been correlated with suicidal behavior in several international researches³².

Furthermore results from the school survey also supported to some degree international findings regarding substance use and suicidality. There was a significant relationship between lifetime suicidal ideation and alcohol use and past 12 month use of cannabis³¹. Despite this, there was no significant relationship between cigarette, alcohol or marijuana use and suicide risk.

Characteristics of Suicide Attempters

The larger urban hospitals saw a greater number of suicide attempt cases than hospitals located in more rural parishes. This is inconsistent with global research which indicates that significantly more persons in rural areas attempt suicide than those in urban areas^{5, 21, 36}. Even though, this finding was in line with those of the school survey arm of this study which showed that more students in urban schools exhibited suicidal behaviour than those in rural schools.

On the other hand, consistent with the literature was the finding that more females (82.5%) than males (17.5%) attempt suicide as well as, more persons under 25 years old (60.6%) attempted suicide than older persons with suicidal attempt being more common among persons 17-24 years (59.9%)²⁻⁵. Other areas of consistence of the international literature are that most suicide attempters were single (94.4%) and unemployed (88.8%)²⁻⁵. However in this study it was found that most persons had up to secondary school education (78.8%) and lived with their parent (s) or other relatives (79.7%). These findings vary somewhat from other

studies which suggest that lower levels and education and living alone are primarily associated with suicidal behaviour^{16,22}.

The main method of suicide attempt of those presenting to hospital was overdose of medication (55.1%). Also, similar to international reports is the most common reason for suicide attempt being listed as an interpersonal conflict (49.2%)⁴.

The majority of those who presented to hospital over the period under study were first time suicide attempters 93 (73.2%). Interestingly, there were a number of cases where the same persons visited multiple hospitals over the period presenting with suicide attempt. These cases may be suggestive of undiagnosed personality disorders or other untreated mental disorders as well as it may suggest inadequate response from health provider or lack of resolution of problems which may be triggering the suicide attempts.

The most common presenting symptom of suicide attempters was depressed mood (18.2%) followed by difficulty sleeping (13.9%) and feeling sad (13.1%). These are clear indications of possible psychiatric diagnoses and are in keeping with findings from the Jamaica Health & Lifestyle Survey (2008)³⁷ which found that 33% of Jamaicans between the ages of 14-74 years reported 'feeling down or depressed' as their primary mental health concern with depression being implied in 20.3% of cases.

Unfortunately, Information was missing from the records regarding past psychiatric history for 109 (79.6%) of the cases who presented to hospital. Nevertheless for the 28 cases where this information was available 17 (60.7%) did report a past psychiatric diagnosis. This frequency is very high and does suggest the likelihood that in other unrecorded cases there may have been a past psychiatric diagnosis.

The type of past psychiatric diagnosis was recorded for 17 cases. In these cases the most common past psychiatric diagnoses were Schizophrenia (35.3%) then depression (17.6%). After the initial assessment at hospital, patients received a provisional diagnosis of Suicide Attempt or Parasuicide (which was used interchangeably in the docket). Noteworthy, is the finding that along with Suicide Attempt, 81 (59.1%) patients were also given another Provisional diagnosis. The most common additional diagnosis given was Major Depressive Disorder (43.2%) followed by Adjustment Disorder (33.3%) or a Psychotic Disorder (11.1%). These findings are in keeping with global research which indicates that mental health problems are some of the best-known and well-studied risk factors linked to suicidal ideation, suicide attempts, and suicide mortality³⁴.

In this study the vast majority of persons denied substance use (81.9%). This is contrary to international reports which place substance use as a major characteristic of suicide attempters³¹.

The process of hospital intervention for suicide attempters is generally in line with what is done the world over. In most cases persons who presented to hospital for attempted suicide were admitted to hospital (71.4%). Treatment in majority of the cases consisted of medication management and/or psychotherapy. Also the vast majority of cases persons were referred for psychiatric services. Despite this, there were generally no notes in the docket regarding follow up to these services as well as in many instances specific treatment or other interventions relevant to patient care was also unclear or lacking. Addressing some of these issues at the time of first presentation of the patient may result in a decrease in the number of suicide attempts and hospitalizations.

Psychological Autopsy of Completed Suicides

In 2012, Jamaica had an approximate population of 2.7 million people with 53 reported cases of suicide. This indicates a suicide rate of 1.95 per 100,000. The rate of suicide for youth under 25 years for the same period was 1.16 per 100,000 and the rate of suicide for the adult population 25 years and over at 2.58 per 100,000. This finding is consistent with those reported by Abel et al who reported a suicide rate of 1.8-2.7 per 100,000 for a similar period⁹.

Of the 53 reported cases of suicide for the period, 14 cases were youth suicides and this suicide reported on 12 of these cases. The majority of those who completed suicide were males (66.7%). This finding reveals that more females attempted suicide than males while more males completed suicide than females. Most studies have found that even though women are more prone to suicidal thoughts than men, rates of suicide are higher among men²⁸.

What's more, most of those who committed suicide were over 25 years old (69.2%). The WHO (2002) reported that when it comes to completed suicide, generally, suicide rates increase with age. Rates among people aged 60 and older are about three times the rates among people 15-29 years of age²⁸.

Also it is observable that over the same one year period there was a large disparity between the number of youth suicide attempts presenting to hospital (137) and the actual number of completed youth suicides for the period (14). Here again, WHO (2002) highlighted that globally this disparity exists where significantly more persons attempting suicide than those who actually complete the act. They reported that generally, about 10% of people who attempt suicide eventually kill themselves²⁸.

An interesting finding is that among this group of suicide completers there was a difference in education level when compared to those who attempted suicide in the same period. Half of these suicide victims were educated at the Primary level while among the suicide attempters most were educated at the Secondary level.

Additionally, this study found that only person (8.3%) was known to have a psychiatric illness. This finding is contrary to previous local and international research which has shown that approximately 90% of all individuals who completed suicide met criteria for 1 or more diagnosable psychiatric conditions^{27,34}. It is very likely that some of the relatives or friends of the deceased may not have known of a psychiatric diagnosis in many of these cases.

Surprisingly, only one respondent reported that the victim had a past suicide attempt (8.3%) while 16.7% of persons expressed suicidal ideation and no respondent indicated knowing of a suicide plan. This is inconsistent with the literature which suggests that previous suicidal behaviour often precedes completed suicide²⁸.

Moreover the primary method of suicide was hanging (91.7%). This is a notable difference from those who attempt suicide where the primary method of suicide attempt was by overdose on medication. Nonetheless, this is in keeping with extensive research which indicates that those who complete suicides tend to utilize more lethal methods than those who attempt suicide^{14,33}.

Many studies have pointed out that the experience of stressful life events can precipitate suicide²⁸. Among our sample we found that most persons who completed suicide were known to be experiencing such events. The most common stressor was 'intimate relationship problems'. In these cases suicide occurred directly after an argument or confrontation with a

family member or consort. The reports provided by respondents in these cases indicate that the act may have been an impulsive reaction. Impulsivity and self-directed anger have been noted throughout the literature to be linked to suicide as persons with these tendencies tend to lack adequate thought and behavior control mechanisms³⁵.

As this study gathered information from respondents who were either related or close to the suicide victims, it is important to note that these persons who are left behind, many of whom still display signs of grieving or post traumatic stress may become vulnerable to suicide. The literature shows that a family history of suicide, depression and other anxiety states including Post Traumatic Stress Disorder (PTSD) can increase the likelihood of suicidal behaviour developing in persons left behind³⁵.

LIMITATIONS

There are several crucial limitations associated with each aspect of the study. These are highlighted below.

Suicidal Behaviour in Youth

The questionnaire utilized in this study was incorporated into a bigger questionnaire on drug use patterns among adolescents. The overall questionnaire consisted of about 202 questions and took about one hour to administer. The suicide related questions were placed towards the ending of the questionnaire. This could have resulted in the responses to the suicide questions not being as accurate as hoped for. Also, due to the length of the questionnaire several key questions which would tap into important aspects of suicide were not included, such as items relating to depression and general mental health of the students.

Additionally items measuring parental involvement, relationship with parents and attitude towards school were not standardized scales and may have yielded more significant results if appropriate pre-existing scales that measure these factors were identified.

Characteristics of Suicide Attempters

This segment involved an audit of medical records. There were three main limitations to this aspect of the study. Firstly, in most hospitals sampled there was a huge discrepancy in the number of records tagged as having suicide attempt in the Medical Records database and the actual number of cases reported over the specified period. The cases on the Medical Records databases were severely under recorded which resulted in the manual review of Admission

books. In some cases these books could not be identified, resulting in an inaccurate representation of the total number of cases of attempted suicide over this period.

The second limitation involved the actual recording of information related to suicide attempt in the docket by the physician. In many cases important information about the history of the patients and even presenting symptoms was not recorded in the docket. Again, this limited our ability to accurately present crucial information regarding attempted suicide.

Also, the researchers received information regarding the Jamaica Injury Surveillance System (JISS) which should have been operating within the hospitals throughout the island. However, this system was not found to be active in any of the hospitals and would suggest possible deficiencies in the hospitals reporting of attempted suicide.

Thirdly, the study did not take into account a comparison group so that comparisons and associations for psychosocial risk factors could have been determined.

Psychological Autopsy of Completed Suicides

This section of the study involved interviewing family members and close friends of those who completed suicide over a specified period. The main limitations of this segment of the study include the fact that the study did not take into account a comparison group so that comparisons and associations for psychosocial risk factors could be determined also information was not gathered through interviews for 14 of the 53 cases of suicide reported over the period. Another limitation was that the study involved a review of police reports and interviews with family members or friends of the deceased as the only means of data collection.

RECOMMENDATIONS

Based on the findings of this study a number of important recommendations can be made to address the issue of suicide in Jamaica.

- Given the finding that the rate of suicide risk and suicidal behaviour is greater than previously found among adolescents in Secondary school, it is important to develop prevention and intervention programmes geared towards these institutions based on the findings from this report. This would include workshops on problem solving and coping skills. This must be addressed in a non-stigmatizing way. Clear avenues for early diagnosis and intervention must be identified.
- Resource materials which hone in on the development of emotional intelligence and conflict resolution skills needs to be included in the curriculum of all schools as difficulty managing emotions and interpersonal conflict were repeatedly highlighted in this study as a major reasons for suicidality. This will equip young people with the skills to manage emotional stress and relationships in a health way.
- School staff should also be trained in the recognition of suicidal behaviour as the first point of contact to students. They should also be provided with guidance as to the referral channels of those who exhibit these behaviours.
- Further research needs to be conducted looking in detail at the impact of living in a violence prone area, being bullied, psychological and emotional factors (mental

disorder, impulsivity, anger), being in a co-educational institution and their relation to suicide risk in Secondary school students.

- There needs to be a review and improvement in the system of recording information regarding suicide attempt at the physician and Medical Records level of hospitals.
- There needs to be a standardized procedure throughout hospitals regarding the intake, assessment, treatment and management of those who present to hospital as suicide attempters. This procedure needs to be developed by the Ministry of Health and should include a mechanism that improves the follow up of patients with mental health services once discharged. This could include referral and monitoring by community mental health professionals.
- Mental disorders are linked to suicide, thus there must be a campaign towards the early recognition and treatment of these disorders to prevent or decrease the incidences of suicidal behaviour. This no doubt would involve the training of community based physicians and other medical health professionals on the importance of not overlooking mental health concerns of patients as well as the proper referral channels for these patients.
- Persons with diagnosed mental health disorders must be recognized as being at risk for suicidal behaviours especially those who are diagnosed with Schizophrenia and Depression. Consequently, suicide risk assessments must be included as a part of routine follow up with these patients and relevant measures and interventions developed to assist them.

- Family members and friends of those who have lost loved ones to suicide as well as suicide attempts need support. This may involve mechanisms that allow social workers or counselors to visit the homes of those fit into these categories, carry out an assessment of these individuals and send them along a prescribed referral channel so that they can receive the help they need.
- The Ministry of Health should continue to pursue opportunities for collaboration with Non-Governmental Organizations (NGO's) and multi-lateral organizations to build public awareness about suicide as a preventable death. These campaigns could include health promotion and intervention methods such as a suicide hotline, social media campaign and a suicide information portal.

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APPENDIX 1

LIST OF SCHOOLS REPRESENTED IN THE SCHOOL SURVEY

Kingston & St. Andrew (8)
Vauxhall High 928-2304/928-1047/930-0542
Kingston Technical High 922-5474/922-2907
Tivoli Gardens High 923-8469
Excelsior High 938-0751/938-0752/938-0745
Merl Grove High 925-7585/925-5601
St. Andrew High 926-5925/926-5926
Trench Town High 967-5606/922-7478
Clan Carthy High 928-2008/759-9730
St. Thomas (3)
Morant Bay High 982-2206/982-0191/734-1149
Seaforth High 982-4138
Fair Prospect High 913-7562/913-7562
St Mary/St Ann (4)
Marymount High 992-2274/724-3356/724-0618
St. Hilda's Diocesan High 975-2218/975-2279
Brown's Town High 975-2403
Steer Town High 974-6607/974-5622/974-4072
Portland high
St. James (3)
Cornwall College 952-2406/940-1498/979-5256
St. James High 971-3837/952-2940/979-3021
Herbert Morrison Technical High 952-5388/ 979-9088
Merlene Ottey High 816-5272/957-6331/531-9395
Westmoreland/St. Elizabeth (4)
Green Island High 956-9137/956-9366
Petersfield High 955-5390/955-5024/955-5364
Black River High 965-2309/965-2637/965-2753
B. B. Coke High 965-8368/965-5960
Manchester/Clarendon (6)
Manchester High 962-2616/962-3461/625-4142
Bellefield High 963-4407/963-4636
Clarendon College 987-2213/785-0127
Central High 902-8835/986-2483/986-4572
Lennon High 999-6001/999-6001
Spaldings High 987-8020/964-0517
Achievers Muliti Resource Centre 786-14588

St. Catherine (6)
St. Catherine High 981-8004/981-8209/981-8210
Charlemont High 985-3307/985-3308/985-3309
Old Harbour High 983-2727/983-2377/983-2777
Bog Walk High 708-2147/985-1732
Cumberland High 704-8366/704-8365
Innswood High 943-2685/981-3960
Roles Education & Design Institute 324-2410

APPENDIX 2:
QUESTIONS USED FOR SUICIDE STUDY

ST.1. THE STUDENT BEGINS TO FILL OUT THE QUESTIONNAIRE HERE

<p>7. Gender</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20px; height: 20px;"></td> <td>1. Male</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>2. Female</td> </tr> </table>		1. Male		2. Female	<p>8. Age (at last birthday)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20px; height: 20px;"></td> <td>Age (at last birthday)</td> </tr> </table>		Age (at last birthday)																																				
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<p>9a. What is your parents'/guardians' marital status? (in relation to each other)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20px; height: 20px;"></td> <td>1. Single</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>2. Married</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>3. Divorced</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>4. Separated</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>5. Widow(er)</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>6. Living together/common law</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>7. Other</td> </tr> </table> <p>9b. What is your parents'/guardians' highest level of education?</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20px; height: 20px;"></td> <td>1. No formal education</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>2. Primary</td> </tr> </table>		1. Single		2. Married		3. Divorced		4. Separated		5. Widow(er)		6. Living together/common law		7. Other		1. No formal education		2. Primary	<p>10. With whom do you live? (you may tick as many options as necessary)</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20px; height: 20px;"></td> <td>1. Father</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>2. Mother</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>3. Brother and/or Sister</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>4. Stepmother</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>5. Stepfather</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>6. Wife/Husband</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>7. Girlfriend/Boyfriend</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>8. Guardian(s)</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>9. Other relative</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>10. Friend</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>11. Alone</td> </tr> <tr> <td style="width: 20px; height: 20px;"></td> <td>12. Other</td> </tr> </table>		1. Father		2. Mother		3. Brother and/or Sister		4. Stepmother		5. Stepfather		6. Wife/Husband		7. Girlfriend/Boyfriend		8. Guardian(s)		9. Other relative		10. Friend		11. Alone		12. Other
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	3. Secondary/High school		
	4. Vocational training		
	5. College/University/Tertiary level		

ST.2. PARENTAL INVOLVEMENT

<p>11. After school hours or on weekends, how often does your mother or father or guardian know where you are? Let's say for one or more hours.</p>	<p>12. As a rule, do any of your parents/guardian(s) focus on or know the programs you watch on television?</p>										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td>1. They never or almost never know where I am</td> </tr> <tr> <td></td> <td>2. Sometimes they do not know</td> </tr> <tr> <td></td> <td>3. They always or almost always know where I am</td> </tr> </table>		1. They never or almost never know where I am		2. Sometimes they do not know		3. They always or almost always know where I am	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"></td> <td>1.Yes</td> </tr> <tr> <td></td> <td>2.No</td> </tr> </table>		1.Yes		2.No
	1. They never or almost never know where I am										
	2. Sometimes they do not know										
	3. They always or almost always know where I am										
	1.Yes										
	2.No										

13. How closely do your parents/guardian(s) (or one of them) pay attention to what you are doing in school?

<input type="checkbox"/>	1. Very closely
<input type="checkbox"/>	2. Closely
<input type="checkbox"/>	3. Somewhat
<input type="checkbox"/>	4. Not at all

14. In a normal week, how many days do you sit down together, you and your parents/guardian(s) (or one of them), at the same table, whether for breakfast, lunch, supper or dinner? (Check just one option)

<input type="checkbox"/>	1. Never
<input type="checkbox"/>	2. One single day
<input type="checkbox"/>	3. Two days
<input type="checkbox"/>	4. Three days
<input type="checkbox"/>	5. Four days
<input type="checkbox"/>	6. Five days
<input type="checkbox"/>	7. Six days
<input type="checkbox"/>	8. Every day

15. On weekends, do your parents/guardian(s) (or one of them) control what time you come home at night?

<input type="checkbox"/>	1. Yes
<input type="checkbox"/>	2. No
<input type="checkbox"/>	3. Rarely
<input type="checkbox"/>	4. Never

16. When you go out in the afternoon or on weekends, do your parents/guardian(s) (or one of them) ask you and/or expect you to tell them where you are going?

<input type="checkbox"/>	1. Yes
<input type="checkbox"/>	2. No
<input type="checkbox"/>	3. Rarely
<input type="checkbox"/>	4. Never

17. As a rule, how well do you think your parents/guardian(s) (or one of them) know your closest friends?

<input type="checkbox"/>	1. Very well
<input type="checkbox"/>	2. More or less
<input type="checkbox"/>	3. Slightly
<input type="checkbox"/>	4. Not at all

Risk factors youth suicidality

FOCUSING ON YOUR RELATIONSHIP WITH YOUR PARENTS/ GUARDIAN(S)	1. Very good	2. Good	3. Bad	4. Very Bad	Not applicable, I have no living father/mother/guardian, I have no relationship with them
22. How would you describe the relationship you currently have with your father/guardian?					
23. How would you describe the relationship you currently have with your mother/guardian?					
24. How would you describe the relationship your Parents/ guardian(s) have with each other? Describe it even if they do not live together.					

31. How happy do you feel when you go to school? <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <input type="checkbox"/> 1. Very happy </div>	32. Speaking generally, would you say that you feel a sense of belonging at school? <div style="border: 1px solid black; padding: 2px; width: fit-content;"> <input type="checkbox"/> 1. YES </div>
---	---

<table border="1"> <tr><td data-bbox="196 203 264 275"></td><td data-bbox="264 203 773 275">2. Fairly happy</td></tr> <tr><td data-bbox="196 275 264 346"></td><td data-bbox="264 275 773 346">3. Neither happy/nor unhappy</td></tr> <tr><td data-bbox="196 346 264 417"></td><td data-bbox="264 346 773 417">4. Unhappy</td></tr> <tr><td data-bbox="196 417 264 495"></td><td data-bbox="264 417 773 495">5. Very unhappy</td></tr> </table>		2. Fairly happy		3. Neither happy/nor unhappy		4. Unhappy		5. Very unhappy	<table border="1"> <tr><td data-bbox="773 203 841 275"></td><td data-bbox="841 203 1468 275">2.NO</td></tr> </table>		2.NO								
	2. Fairly happy																		
	3. Neither happy/nor unhappy																		
	4. Unhappy																		
	5. Very unhappy																		
	2.NO																		
<p data-bbox="196 495 829 625">33. In the past year, how often did you skip/skull school without permission for a part of the day or the entire day?</p> <table border="1" data-bbox="196 726 773 1018"> <tr><td data-bbox="196 726 264 798"></td><td data-bbox="264 726 773 798">1.Never</td></tr> <tr><td data-bbox="196 798 264 869"></td><td data-bbox="264 798 773 869">2.A few times</td></tr> <tr><td data-bbox="196 869 264 940"></td><td data-bbox="264 869 773 940">3.Several times</td></tr> <tr><td data-bbox="196 940 264 1018"></td><td data-bbox="264 940 773 1018">4.Often</td></tr> </table>		1.Never		2.A few times		3.Several times		4.Often	<p data-bbox="829 495 1468 625">34. In the past year, how many full days were you absent from school? Choose one of the following options.</p> <table border="1" data-bbox="829 726 1409 1094"> <tr><td data-bbox="829 726 898 798"></td><td data-bbox="898 726 1409 798">1. Less than 5 days</td></tr> <tr><td data-bbox="829 798 898 869"></td><td data-bbox="898 798 1409 869">2. Between 5 and 10 days</td></tr> <tr><td data-bbox="829 869 898 940"></td><td data-bbox="898 869 1409 940">3. Between 11 and 20 days</td></tr> <tr><td data-bbox="829 940 898 1018"></td><td data-bbox="898 940 1409 1018">4. Between 21 and 30 days</td></tr> <tr><td data-bbox="829 1018 898 1094"></td><td data-bbox="898 1018 1409 1094">5. More than 30 days</td></tr> </table>		1. Less than 5 days		2. Between 5 and 10 days		3. Between 11 and 20 days		4. Between 21 and 30 days		5. More than 30 days
	1.Never																		
	2.A few times																		
	3.Several times																		
	4.Often																		
	1. Less than 5 days																		
	2. Between 5 and 10 days																		
	3. Between 11 and 20 days																		
	4. Between 21 and 30 days																		
	5. More than 30 days																		
<p data-bbox="196 1094 829 1224">35. How would you describe the relationship you generally have with your teachers at school?</p> <table border="1" data-bbox="196 1325 773 1688"> <tr><td data-bbox="196 1325 264 1396"></td><td data-bbox="264 1325 773 1396">1. Very good</td></tr> <tr><td data-bbox="196 1396 264 1467"></td><td data-bbox="264 1396 773 1467">2. Good</td></tr> <tr><td data-bbox="196 1467 264 1539"></td><td data-bbox="264 1467 773 1539">3. Average</td></tr> <tr><td data-bbox="196 1539 264 1610"></td><td data-bbox="264 1539 773 1610">4. Bad</td></tr> <tr><td data-bbox="196 1610 264 1688"></td><td data-bbox="264 1610 773 1688">5. Very bad</td></tr> </table>		1. Very good		2. Good		3. Average		4. Bad		5. Very bad	<p data-bbox="829 1094 1468 1224">35B. How well do you do in your school work?</p> <table border="1" data-bbox="829 1293 1430 1629"> <tr><td data-bbox="829 1293 898 1365"></td><td data-bbox="898 1293 1430 1365">1. I get grades below most children</td></tr> <tr><td data-bbox="829 1365 898 1436"></td><td data-bbox="898 1365 1430 1436">2. I get grades similar to most children</td></tr> <tr><td data-bbox="829 1436 898 1507"></td><td data-bbox="898 1436 1430 1507">3. I get grades above most children</td></tr> <tr><td data-bbox="829 1507 898 1629"></td><td data-bbox="898 1507 1430 1629">4. I don't know</td></tr> </table>		1. I get grades below most children		2. I get grades similar to most children		3. I get grades above most children		4. I don't know
	1. Very good																		
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	5. Very bad																		
	1. I get grades below most children																		
	2. I get grades similar to most children																		
	3. I get grades above most children																		
	4. I don't know																		

40. Do you have a job in addition to going to school?

	1. YES
	2. NO (<i>Go to # 42</i>)

41. How many hours a week do you work at your job?

	Hours
--	-------

42. How likely is it that you will complete high school/secondary school?

	1. Very likely
	2. Likely
	3. Not very likely
	4. Impossible
	5. Don't know

43. How likely is that you will go to University?

	1. Very likely
	2. Likely
	3. Not very likely
	4. Impossible
	5. Don't know

44. How many grade levels or years have you had to repeat throughout your school years?

	1. None
	2. One
	3. Two or more

45. Have you ever had behavioural and disciplinary problems during your school years? (e.g. detentions, suspensions, being sent to the headmaster/mistress or corporal punishment).

	1. Never
	2. Once
	3. A few times
	4. Often

96. Have you ever thought about or attempted to kill yourself? (Select ONE option)

	1.Never (Go to # 98)
	2. It was just a brief passing thought
	3a.I have had a plan at least once to kill myself but did not try to do it
	3b. I have had a plan at least once to kill myself and really wanted to die
	4a.I have attempted to kill myself, but did not want to die
	4b. I have attempted to kill myself, and really hoped to die

97. How often have you thought about killing yourself in the past year?(Select ONE option)

	1.Never
	2. Rarely (1 time)
	3.Sometimes (2 times)
	4.Often (3-4 times)
	5.Very Often (5 or more times)

98. Have you ever told someone that you were going to commit suicide, or that you might do it? (Select ONE option)

	1.No
	2a. Yes, at one time, but did not really want to die
	2b. Yes, at one time, and really wanted to die
	3a.Yes, more than once, but did not want to do it
	3b. Yes, more than once, and really wanted to do it

99. How likely is it that you will attempt suicide one day? (Select ONE option)

	0.Never
	1. No chance at all
	2. Rather unlikely
	3.Unlikely
	4. Likely
	5. Rather likely
	6. Very likely

--	--



APPENDIX 3

PARENT/GUARDIAN INFORMED CONSENT FORM

Date

Dear Parent/Guardian,

The National Council on Drug Abuse in collaboration with the Organization of American States (OAS) will be conducting a **Secondary School Drug Prevalence Survey**. This is an island wide study that will be sampling students from both public and private schools. Your child’s school and class have been selected for participation in this study.

This Survey is critical to the development of intervention strategies to prevent the use and abuse of alcohol, tobacco, and other drugs by our adolescents. It will also help to identify issues of suicidal behaviour and other issues taking place among youth. The Ministry of Education has given permission to administer this Survey as such data will be collected during the period of October 7 to 18, 2013. This is a self administered questionnaire which will be distributed in a classroom session by a trained facilitator of our data collection team. Facilitators will remain in the classroom until all questionnaires are completed by students and will be available to answer questions or concerns raised by students in relation to the questionnaire

Students will be informed that the **anonymous** and **confidential** questionnaire is not a test. It is expected that approximately 60 minutes will be needed to complete the survey, which includes students receiving of instructions from the facilitator and upon completion placing the survey in a sealed envelope in a drop box, which will be located in the classroom.

Your child’s participation is invaluable. However, if you **DO NOT** wish for your child to participate in this Survey, you can indicate this on the consent form on the next page. If you agree, your child will be informed by the School of the date when the Survey will be administered and during which time period. Please return the consent form indicating whether or

not your child can participate in this study to the School by **October 4, 2013**. *Participation or non-participation will have no effect on your child's grades.*

The risks from participating in this study are no more than encountered in everyday life. The benefit, however, of your child's participation is that the collective responses will allow planners, policy makers, and researchers to better understand and counter risky behaviours among our youths. The published results from this Survey will in no way identify any one student and data will be aggregated.

If you have any questions with regard this initiative, please call the Council at 991-4244 and speak with Mrs. Uki Atkinson, Research Analyst or call Professor Wendel Abel at 927-2492.

For independent advice on your rights as a research participant please contact Professor Horace Fletcher, Dean, Faculty of Medical Sciences, University of the West Indies, Mona, Kgn 7 (Tel: (876) 927-1297, e-mail: medsci@uwimona.edu.jm).

Thank you for your allowing your child to participate in the Survey.

Respectfully yours,

Michael Tucker, B.Sc., BSN, ICADC, CCS
Director
National Council on Drug Abuse

CONSENT FORM

I have read the informed consent letter and I understand the content of the letter. Please return this consent form to the School by **Friday October 4, 2013**. This time is provided for you to carefully consider whether or not you want your child to participant in the study.

Please tick the appropriate box below:

- My child **CAN** participate in this study
- I **DO NOT** want my child to participate in this study

Name of Respondent: _____ Signature of Respondent: _____

DATE: _____

Name of Researcher: _____ Signature of Researcher: _____

Date: _____

Signature of Independent Witness : _____

APPENDIX 4

ASSENT TO PARTICIPATE IN RESEARCH

The National Council on Drug Abuse in partnership with the Organization of American States will be conducting a **Secondary School Drug Prevalence Survey**. This is an island wide study that will be sampling students from both public and private schools. Your school and class have been selected for participation in this study.

If you agree to participate in this study, you will be asked to complete a questionnaire in your classroom by one of our trained facilitators. Your cooperation in this survey shall be very useful. Your answers are **absolutely confidential**, that is, no one other than the research team will have access to them. In addition, there is no way that anyone can identify you with your answers, as you must not write down any of your personal information anywhere.

The facilitator will stay in the classroom until everyone has completed their questionnaire. The facilitator will also be there to help you if a question is unclear or if you need other assistance.

Please talk this over with your parents before you decide whether or not to participate. We will also ask your parents to give their permission for you to take part in this study. But even if your parents say "yes", you can still decide not to do this.

If you don't want to be in this study, you don't have to participate. Remember, being in this study is up to you and no one will be upset if you don't want to participate or even if you change your mind later and want to stop.

You can ask any questions that you have about the study. If you have a question later that you didn't think of now, you can call the Council at 991-4244 and speak with Mrs. Uki Atkinson, Research Analyst. If after completing this survey you feel any distress, feel free to call Professor Wendel Abel at 927-2492.

Signing your name at the bottom means that you agree to be in this study. You and your parents will be given a copy of this form after you have signed it.

Name of Child

Signature of Child

Date

Signature of Investigator or Designee

Date



APPENDIX 5

STUDENT INFORMED CONSENT FORM

Date

Dear Student,

The National Council on Drug Abuse (NCDA) in partnership with the Organization of American States (OAS) will be conducting a **Secondary School Drug Prevalence Survey**. This is an island wide study that will be sampling students from both public and private schools. Your school and class have been selected for participation in this study.

This is not a test; we simply want to learn about your experiences. You will be asked to complete a questionnaire which will be distributed in a classroom session by a trained facilitator of our data collection team. Facilitators will remain in the classroom until all questionnaires are completed by students and will be available to answer any questions or concerns you raise in relation to the questionnaire. No names or identifying information will be required on the questionnaire so no-one will know which questionnaire was yours.

The questionnaire will take approximately 60 minutes to complete which includes time to receive instructions from the facilitator. Upon completion questionnaires will be placed in a sealed envelope in a drop box, which will be located in the classroom.

Your participation is important to us. However, if you **DO NOT** wish to participate in this Survey, you can feel free to say so. There will be no negative consequence for choosing not to participate.

If you have any questions with regard this initiative, please call the Council at 991-4244 and speak with Mrs. Uki Atkinson, Research Analyst. If after completing this survey you feel any distress, feel free to call Professor Wendel Abel at 927-2492.

For independent advice on your rights as a research participant please contact Professor Horace Fletcher, Dean, Faculty of Medical Sciences, University of the West Indies, Mona, Kgn 7 (Tel: (876) 927-1297, e-mail: medsci@uwimona.edu.jm).

Thank you for your allowing your child to participate in the Survey.

Respectfully yours,

Michael Tucker, B.Sc., BSN, ICADC, CCS
Director
National Council on Drug Abuse

CONSENT FORM

I have read the informed consent letter and I understand the content of the letter.

Please tick the appropriate box below:

I WILL participate in this study

I WILL NOT want my child to participate in this study

Name of Respondent: _____ Signature of Respondent: _____

DATE: _____

Name of Researcher: _____ Signature of Researcher: _____

Date: _____

Signature of Independent Witness : _____

APPENDIX 6

LIST OF MENTAL HEALTH PROFESSIONALS

- Dr. Wendel Abel- Consultant Psychiatrist, UWI- (tel) 927-2492
- Dr. Toni-Ann Heron- Resident in Psychiatry- UHWI (tel) 927-2492
- Dr. Michele Henry- Psychiatrist- MOH- (tel) 984-5916
- Mrs. Patrice Whitehorne-Smith- Associate Clinical Psychologist- 367-0607

APPENDIX 7

DATA EXTRACTION FORM

Data Extraction Form for Clients with a presenting complaint of Attempted Suicide

Designed by Dr. Michele E. A. Henry

1. Docket Identification Code.....
2. Age..... 3. Gender.....
4. Marital status: Single() Married() Common-law() Visiting() Divorced() Widowed()
5. Parish of Origin: Kingston () St. Andrew () St. Catherine () Other.....
6. Highest level of education? Primary() Secondary() Tertiary() Vocational() other
7. Are you employed? Yes/ No.
8. If yes, in what area are you employed?
9. Do you use the following substances: Cigarettes () Cannabis () Alcohol () Cocaine ()
Combination None ()
10. Who do you live with? Parents() Relatives () Friends () Consort () Alone ()
11. Method of Attempting suicide
12. Reasons for attempting suicide
13. Presenting psychiatric symptoms.....
14. Past psychiatric history.....
15. Current provisional psychiatric diagnosis.....
16. First attempt: y/n. 17. How many attempts?
18. Follow - up: Ward review () Day Hospital () Admission ()

19. Mode of therapy: Medication alone () Psychotherapy alone () Medication and Psychotherapy ()
20. Referral to other service: y/n
21. Type of service referred to: Medicine () General Surgery () Other.....

APPENDIX 8

PSYCHOLOGICAL AUTOPSY INTERVIEW SHEET

Please ensure that the following information is captured in the interview:

1. Demographics:

- a) Name of Informant:
- b) Relationship to the deceased 1) Parent/Guardian 2) Other Relative (If yes, please specify)
3) Close Friend 4) Friend 5) Other (please specify)

2. About the Victim:-- Demographics:

- c) Age at last Birthday:
- d) Marital Status: 1) Single 2) Married 3) Divorced 4) Separated 5) Common Law Relationship 6) Visiting Relationship
- e) Religious Background: 1) Christian (If yes, state denomination) 2) Rastafarian 3) Muslim 4) Jewish 5) Other
- f) Education level: 1) None 2) Infant School 3) Primary/All Age School 4) Secondary School 5) Tertiary 6) Other (please specify)
- g) Living Arrangements: who did the victim live with?
- h) Were there any changes in living arrangements over the past year prior to death?
- i) Employment Status: 1) Student 2) Self Employed 3) Employed 4) Unemployed 5) Retired
** Record the specific occupation of the victim

3. Victim History:

- Developmental History (birth, early, mid, late childhood, adolescence, early adulthood):
- Family History (family structure, family connectedness)

- School History (educational background, type of student)
 - Social History (social interactions, friendships)
 - Employment History (length of time working, type of work)
 - Medical History (persistent or chronic conditions or disease, surgeries or hospitalizations)
 - Medication History (was he/she on any medication? What were they?)
 - Psychiatric History (any known psychiatric disorders past or present, details of onset of illness or behavioural change, duration, any intervention such as visits to doctor or other professional, treatment with any medication?)
 - History of Suicidal Behaviour (any past attempts at suicide, previous suicide plan or suicidal behaviours: expressed thoughts or suggestive behaviours)
 - Drug History (use of any licit or illicit drugs, suspicion of abuse or dependence).
 - Psychosexual History (was the person in a relationship or just ended a relationship? Was the person sexually active?, when did sexual activity begin) Did he/she express any struggles or concerns with sexual orientation? Do you have any knowledge of sexual or physical abuse that he/she may have experienced?
4. Personality of Victim: (what were some of the dominant characteristics he/she possessed e.g. shy/social, helpful/unkind? Were there changes in personality noticed before suicide, if yes what type of changes?)
 5. Stressors Present in victim's life at the time of or just before suicide (typical reactions to stress, reaction to stress at the time of last stressor).
 6. Was this a homicide suicide? 1) Yes 2) No
 7. Information about the suicide: (how did the person die, how was he/she discovered?, what was done?)
 8. Reaction of respondent to victim's death

APPENDIX 9

Psychological Autopsy-Informed Consent Form

The Ministry of Health, Mental Health Unit is carrying out a study examining the risk factors associated with youth suicide and attempted suicide. We are seeking your participation in the section of the study the Psychological Autopsy.

The Psychology Autopsy is where the relatives, friends or associates of persons who have committed suicide are interviewed in an effort to gain a better understanding of the circumstances surrounding their death.

We recognize that this may be a very sensitive topic for you and may bring up memories that are painful. However, the information that you can provide may be very useful to our understanding of youth suicide and will assist the Ministry in the development of prevention and intervention programmes for persons who may be at risk for committing suicide.

Nonetheless, participating in this study is completely voluntary; there will be no negative consequence if you choose to decline.

We assure you that the interviewer is a well trained and is understanding of the sensitive nature of this information. He/she will ensure complete confidentiality and will offer encouragement and support to you throughout this process.

Also, if at the end of the interview you feel any level of distress or feel as if you need to talk to someone more about your feelings, please let the interviewer know and he/she can refer you to another mental health provider associated with the project.

You can ask any questions that you have about the study. If you have a question later that you didn't think of now, you can call the ministry and speak with Dr. Maureen Irons-Morgan at

Thank you for your willingness to participate in this project.

Respectfully yours,

Maureen Irons-Morgan, MBBS, DM, MPH
Director
Mental Health Unit
Ministry of Health

Signing your name at the bottom means that you agree to be in this study. You will be given a copy of this form after you have signed it.

Name & Signature

Date

Signature of Investigator or Designee

Date