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Suicide in Kenyan Universities

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Abstract

This study examines the prevalence of suicidal thinking, planning, attempts and self-harm and the associated psychological stressors in two Kenyan universities. The participants are undergraduate university students aged (18 -29) years. A convergent mixed method study design was adopted to collect data. Self-administered questionnaire and focus group discussions were carried out among 431 students and six university counselors participated in a three rounds delphi survey. The study instruments were adopted from the Suicide Assessment Five-Step Evaluation & Triage (SAFE-T), Columbia Suicide Severity Rating Scale (C-SSRS), Non-Suicidal Self-Injury Assessment Tool (NSSI-AT) and Emerging Adult Stress Inventory (EASI). A multivariate analysis (MANOVA) was performed. The prevalence rate of suicidal thinking was 17.1%, suicidal planning 5.9%, suicidal attempts 7.8% and self-harm 5.5%. Female students and private university students had high prevalence for all suicidal behaviors. Feeling hopeless and depressed, financial difficult, feeling anxious, family conflicts and academic challenges were psychological stressors compelling emerging adults to suicidal behaviors. The prevalence for suicidal behaviors were similar to that found in other studies carried out in other countries. Suicidal behaviors are associated with mental illness symptoms. This should be taken into account by peers, parents and university counselors to prevent and intervene for suicidal behaviors.

Keywords: Suicidal behaviors, emerging adults, psychological stressors, mixed methods, university students

Introduction

Suicidal behaviors are on the rise among emerging adults in universities, yet empirical studies on suicide rates and associated psychological stressors in Kenya are inadequate. Suicide is a global problem, with an estimated 800,000 people dying by suicide annually around the world (WHO, 2016). Suicidal is a top five causes of death in emerging adulthood in many countries (Palmer, 2011; Lewieckie & Miller, 2013; WHO, 2014; Mortier et al., 2018). For every suicide, numerous suicidal behaviors go unreported (Alabi et al., 2015). Self-harm is a strong predictor for later suicide (Kokkevi et al., 2012; O'Lounghlin et al., 2020). Suicide prevention is a key subject under mental health. Mental health continues to be a global priority, it was the fifth goal in the Millennial Development Goals [MDGs] (WHO, 2008; Hambrey, 2017) and the third goal in the health-related objectives in the Sustainable Development Goals [SDGs] (Droogers et al., 2020). Suicidal behaviors are a major public health concern accounting for serious injuries, death, negative psychological and social problems among emerging adults (Stone et al., 2017). Kenya is not an exception (Nyamori, 2015; Wakesah, 2019; Wanyoike, 2015).

Emerging adulthood is a transitional period when adolescents are moving on to adulthood between the ages of 18 to 29 years (Arnett, 2000; Arnett, 2018). The transition is characterized by self-search, feeling "in-between", being unsteady, self-focused and open to possibilities (Tanner & Arnett, 2016; Arnett, 2018). Emerging adults are faced with multiple transitions, such as; leaving home, decreasing parental guidance and supervision, adjusting to university life, managing opportunities and increasing access to many risky activities, balancing the decisions related to career development, and committing to starting a family (Carter & McGoldrick, 2005; Sivertsen et al., 2019). These transitional tasks are achieved when the emerging adult forms personal values, finds a career path, manages social pressure and academic demands (Salokangas et al., 2020).

While suicide behaviors in childhood and adolescence are alarming, suicidal behaviors among emerging adults in universities are on the rise. Most research on suicidal behaviors is skewed towards children and adolescents (Geenl et al., 2014; Skinner & Mcfaull, 2012; Khasakhala et al., 2013; Ross et al., 2017; Sui, 2019). A review between 2011 to 2016 showed a 20% increase in suicide death among emerging adults (Trust for American Well-being Trust, 2019). Suicide is the second cause of death and serious injuries among emerging adults in university (Ayubi & Raju, 2020; World Health Organization [WHO] 2014; WHO 2016). Suicide is a result of

suicidal behaviors: suicidal thinking, planning, attempts and self-harm. These suicidal behaviors are on the rise among emerging adults in the university (O'connor et al., 2018; Russell et al., 2019; Sivertsen et al., 2019). It is estimated that one in 10 emerging adults in the university struggle with suicidal thoughts, and one in nine has attempted suicide (Lageborn et al., 2017; Mortier et al., 2017). A suicidal attempt is the last step towards suicide; it is proceeded by suicidal thinking and planning. Studies observed that 48.8% of suicide attempters had prior suicidal thoughts and plans (Scocco et al., 2008). In addition, one in six emerging adults are engaging in self-harm. Those engaging in self-harm will attempt suicide two years after the first episode of self-harm (O'connor et al., 2018).

Literature Review

Suicide is the top two leading causes of death among emerging adults in Europe, America, Australia/Oceania and Asia (Asarnow & Ougrin, 2019). This means several suicidal behaviors such as; suicidal thinking, planning, attempts and self-harm are ongoing among this population. University students have a 13% lifetime prevalence for suicidal thinking (Mortier et al., 2017). Male students thought more about suicide than female students at a rate of (13%) and (10%) respectively (Mackenzie et al., 2011). The prevalence of non-suicidal self-injury was 5.9%, while 2.7% engaged in non-suicidal self-injury five times or more (Klonsky, 2011). Self-harm is a "gateway" to suicidal thinking because those people engaged in self-harm twenty times and more were a risk of suicidal thinking (Whitlock et al., 2013).

There is a twofold risk of suicide among undergraduate students compared to university graduates (Lageborn et al., 2017). A review of studies between 1 January 1993 to 31 December 2011, reported that more male students 2.07% to 2.72% compared to female students 1.77% to 2.61% died by suicide (Lageborn et al., 2017). A sign that male students engaged more in suicidal thinking, planning, and attempts (Motamedi et al., 2016). There is a lifetime prevalence of 11.3% of suicide attempt and 16.2% of non-suicidal self-harm (NSSH) among young adults ages 18 - 34 years-old (O'connor et al., 2018). It was estimated that one in four student exhibited depression symptoms, one in 10 struggled with suicidal thinking (Mortier et al., 2017), one in nine attempted suicide, and one in six engaged in non-suicidal self-harm (O'connor et al., 2018).

Depression and anxiety symptoms are common presentations alongside suicidal behaviors among university students. There is a 28.2% of university students have depressive symptoms and 33.1% battle with anxiety (Oyekcin et al., 2017). Although there are several prevalence studies of suicidal behaviors among emerging adults in the university, the findings

highlight cultural and environmental differences. Yet, majority of mental health practitioners rely on studies from Europe, North America and Australia to understand the risk and protective factors of suicidal behaviors in Africa (Mars et al., 2014; Rukundo et al., 2018; Quarshie et al., 2020).
Suicidal behavior is a public health concern in Africa (Mars et al., 2014). A literature review of 53 countries in the continent of Africa found that only 16/53 countries had suicide rates data and 7/53 countries' suicidal attempt data (Mars et al., 2014). Moreover, African studies on suicidal behaviors focused on children and adolescents. It was evident that an increase in suicidal behaviors was accompanied by an increase in mental disorders (Bentajes et al., 2019; Korb & Plattner, 2014; Wanyoike, 2015; Abdu et al., 2020; Owusu-Ansah et al., 2020). The common mental disorders were: major depressive disorders accounting for 24.7%, and generalized anxiety disorders, at 20.8% (Bantjes et al., 2019). Studies on suicidal behaviors among university students in Bostwana, Ghana and Ethiopia revealed alarming rates of suicidal behaviors that need urgent attention (Korb & Plattner, 2014; Owusu-Ansah et al., 2020; Abdu et al., 2020). Although these studies illustrated an increase in suicidal behaviors among emerging adults, empirical data of the Kenyan situation has not been factored.

This study examines the prevalence rates of suicidal behaviors: suicidal thinking, suicidal planning, suicidal attempts, and self-harm, among emerging adults. It seeks to determine the psychological stressors compelling university students towards these suicidal behaviors. In addition, the study investigated the statistical relationship among personal factors that were risk factors and protective for suicidal behaviors.

Methods

A convergent mixed methods study design was used in the study. The study was guided by the principles of life course development framework. Participants completed a questionnaire assessing suicidal behaviors and psychological stressors. The tool was adapted from Suicidal Assessment Five Steps Evaluation-Triage (SAFE-T), Columbia-Suicide Severity Rating Scale (C-SSRS), Non-Suicidal Self-Injury Assessment Tools [NSSI-AT] (Whitlock & Purington, 2014; Yershova et al., 2016) and Emerging Adult Stress Inventory [EASI] (Murray et al., 2020). A test retest method was used to test the reliability and validity of the questionnaire in examining the study objective. A test retest was conducted among 22 university students randomly selected in a different university from where the study was carried out. Based on the Pearson Product Moment Correlation, a score of r= .83 was obtained. The results were greater than r >.80, the acceptable reliability indices. The content validity, construct validity and internal validity were obtained by scrutiny of the research supervisors, lecturers in the psychology

department at Pan Africa Christian University. Peers reviewed the content to confirm that the questionnaire was measuring the intended variables.

Participants

The study involved 399 students who filled the self-administered questionnaire and 32 students were engaged in one of four focus group discussions. Six university counselors filled out a three round delphi survey. Participation was voluntary and no compensation was given for taking part in the study.

Procedure

The universities were selected from two clusters: one private and one public university. A simple random sampling procedure was used to select the private university. The public university was purposively sampled; it was the only public university in cluster in Kasarani Constituency. A stratified sampling method was used to select participants from five categories based on the years of study as reflected in the university's timetable. The class codes by year of study were written on pieces of paper and put in a big bowl. The papers were mixed up in the bowl and one paper was pick at a time without replacement. Two classes per year of study were selected. Only one class from the fifth year of study was available for selection. Nine classes per university were selected. A simple random sampling was done by assigning all the students attending the selected classes a number. The odd numbers for the study. The selected students completed a self-administered questionnaire. The response rate in the private university was 99.5% and 100% from the public university.

Sixteen students from each university were selected for a focus group discussion using convenient sampling. The students who had even numbers in the selected classed were asked to volunteer for the study. Two students volunteered in seven classes and only one student each volunteers in the fourth and fifth year classes. The students were further divided into two groups of eight each, one from every year of study apart from the fourth and fifth year students. Two interviewers facilitated each zoom focus group discussion after contracting with each student to participant and record the discussion. Two Zoom focus group discussion were held from each university.

Six university counselors were selected using the snowball sampling procedure. Four counselors from the private university and the two working in the public university participated in a three-rounds delphi interview. The first round was a semi-structured open-ended questionnaire sent on email to each counselor. The second rounds were structured closed-ended questionnaire generated from the counselors' responses which generated a

Google form document. The and third round compelled the common responses to form the final questionnaire.

Analysis

The quantitative data was analyzed by use of the Statistical Package for Social Sciences (SPSS) statistics version 27. Descriptive statistical methods were used to describe and summarize the findings using frequencies and inferential statistics. The relationship between variables were obtained using the multivariate statistics (MANOVA). In this study, mean score indexes were used to obtain the frequencies of suicidal behaviors. While a 5-scale indexes were used to measure suicidal thinking, suicidal planning, and suicidal attempts; a 6-scale indexes were used to measure self-harm. A mean score of one meant that the participants engaged in one incident of a suicidal behavior. A mean score of five or six meant that the participant had engaged in all the five incidences of suicidal thinking, planning and attempts or the six incidences of self-harm. The qualitative data was coded, categorized thematically and interpreted using NVIVO version 12. The dephi interview consensus was analyzed using the Google Form tools use of graphs and figures. The data from the quantitative and qualitative sources was triangulated, interpreted, merged and reported. The data report was based on two steps of data analysis: a) examination of the demographic variables of the emerging adults and their families and b) correlations between individual variables and each suicidal behavior.

The study was authorized by the Pan Africa Christian University Research Ethical Review Committee (RERC) and the National Commission of Science, Technology and Innovation (NACOSTI). In addition, the study was authorized by the Nairobi County government and the universities.

Results

Prevalence of Suicidal Behaviors

A total of 399 undergraduate students participated in this study; 189 (47.4%) male, 208 (52.1%) female and 2 (0.50%) other gender. One-hundred and ninety-nine students were drawn from the private university and 200 students from the public university. The average age range of the emerging adults in the university was 20 – 25-years, accounting for 316 (79.2%). Majority of the students 268 (67.2%) lived in the hostels whereas131(33%) who lived at home. Most students 160 (40%) live alone and 114 (29%) live with a schoolmate and only 82 (21%) live with parents/guardians and siblings. Thirty-three percent of emerging adults confide in peers and 28% confined in their mother. The family profiles of the emerging adults in this study revealed that both biological parents (father and mother) 289 (72.4%) is the dominant family structure. Most participants were first born 144

(36.1%) and second born 101 (25%) in their family. Authoritative 240 (60.2%) and authoritarian 85 (21.3%) parenting styles were most prominent. Majority of the parents 289 (72.4%) were college educated.

Overall, the prevalence of suicidal behaviors was; 17.1% engaged in suicidal thinking, 5.9% in suicidal planning, 7.8% in suicidal attempts and 5.5% in self-harm. Furthermore, students engaged in multiple suicidal behaviors. The highest frequency for suicidal thinking was three time by (25%), suicidal planning five times by (19%), suicidal attempt five times by (22%) and two self-harm activities by (20%) (see Table 1).

Table 1. *Prevalence for Suicidal Behaviours and the Mean Score Indices*

		Mean Score Indexes in Frequencies Percentages					
Suicidal behaviors	*Suicidal Behaviors Examined*	1	2	3	4	5	6
Suicidal thinking	I have felt that life is not worth living. I have wished myself dead. I have thought dying is better than living. I have browsed online for ways to end my life. I have told someone my thoughts of ending my life.	26	15	25	20	14	x
Suicidal planning	I have planned on how to end my life. I have sort, visited or purchased an item with a plan to end my life. I have had a specific plan on how to end my life. I have abandoned a set plan to kill myself. I have told someone how I plan to end my life.	38	12	12	19	19	x
Suicidal attempt	I have come close to taking away my life. I have attempted to take away my own life. I have interrupted an attempt to take away my life. I have abandoned an attempt to kill myself. I told someone I had attempted to take away my life.	36	20	12	10	22	x
Self-harm	Cutting Biting Piercing with a sharp object Burning Overdosing on a drug or alcohol Others	58	20	15	1	1	6

More female students engaged in all suicidal behaviors than the male students; suicidal thinking (Female 22% and male 12%), suicidal planning (female 7.6% and male 4.1%), suicidal attempts (female 11% and male 4.6%) and self-harm (female 6.8% and male 4.0%). And more private university students engaged in suicidal behaviors than students in public university: suicidal thinking (private 22% and public 13%); suicidal planning (private 7.1% and public 4.7%); suicidal attempt (private 11% and public 5%); and self-harm (private 7% and public 3.9%) (see Table 2).

In addition, being younger in the university, 19 years and below recorded the highest prevalence for all suicidal behaviors: suicidal thinking (51.6%); suicidal planning (8.9%); suicidal attempt (12%); and self-harm (8.9%). Second year students have 22% prevalence for suicidal thinking, while fourth year students had the highest prevalence for suicidal planning (7.6%), suicidal attempt (9.4%) and self-harm (7%). Besides, living alone and living in the hostels outside of the university were both positively correlated to all suicidal behaviors. The prevalence of suicidal behaviors by emerging adults' family profile revealed that emerging adults in families headed by guardian parents were most engaged in: suicidal thinking (46%), suicidal planning (31.4%), suicidal attempt (29%) and self-harm (6%). Similarly, students from blended families were highly involved in suicidal thinking (27%) and suicidal attempts (21%). Neglectful parenting styles had the highest prevalence in all suicidal behaviors: suicidal thinking (28.5%), suicidal planning (11.5%), suicidal attempt (13.1%) and self-harm (10.8%). Authoritarian parenting had the second highest prevalence in all suicidal behaviors: suicidal thinking (24.5%), suicidal planning (8.7%), suicidal attempts (11.8%) and self-harm (5.9%).

Table 2 .Suicidal Behavior Prevalence by Gender and University Type

	Overall		By gender				By unitype			
Variable	Observations	Percentage	Male Percentage	Female Percentage	Difference	p value	Private universities percentage	Public universities percentage	Difference	p value
Panel A: Suicidal thinking										
Feeling life is not worthy livin	399	27.3	20.7	33.7	13.0	0.004	32.7	22.0	10.6	0.017
Wished myself dead	399	18.5	12.7	24.0	11.4	0.004	24.1	13.0	11.1	0.004
Thought dying is better than liv	399	20.8	14.3	26.9	12.7	0.002	27.7	14.0	13.7	0.001
Browsed online for ways to endin	399	7.0	3.7	10.1	6.4	0.013	9.6	4.5	5.1	0.049
Told someone of the thoughts of	399	12.0	8.5	15.4	6.9	0.035	15.1	9.0	6.1	0.063
Panel C: Suicidal planning										
Planned how to end my life	399	7.0	4.8	9.1	4.4	0.089	8.6	5.5	3.0	0.235
Purchased an item to end life	399	4.3	2.1	6.3	4.2	0.043	5.6	3.0	2.6	0.212
Specific plan to end my life	399	6.0	3.7	8.2	4.4	0.063	8.1	4.0	4.1	0.09
Abandoned a set plan to kill mys	399	7.5	5.8	9.1	3.3	0.213	7.5	7.5	0.1	0.989
Panel B: Suicidal attempt										
Came close to taking away my lif	399	8.8	4.3	13.0	8.8	0.002	13.1	4.5	8.6	0.003
Attempted to take away my life	399	6.3	3.2	9.1	6.0	0.015	9.0	3.5	5.6	0.022
Interrupted the attempt to take	399	6.5	3.2	9.6	6.5	0.009	8.6	4.5	4.1	0.103
Abandoned an attempt to take awa	399	9.3	6.4	12.0	5.7	0.052	12.0	6.5	5.6	0.056
Told someone a suicidal attempt	399	8.0	5.8	10.1	4.3	0.119	10.5	5.5	5.1	0.064
Told someone the plan to take aw	399	4.8	4.3	5.3	1.1	0.624	6.0	3.5	2.6	0.237
Panel D: Self harm										
Cutting	399	7.0	4.3	9.6	5.4	0.036	9.0	5.0	4.1	0.115
Biting	399	5.0	3.7	6.3	2.6	0.248	6.6	3.5	3.0	0.166
Piercing with a sharp object	399	4.5	3.2	5.8	2.6	0.215	5.6	3.5	2.1	0.331
Burned	399	3.0	2.6	3.4	0.7	0.676	4.5	1.5	3.0	0.077
Overdosed on a drug/ substance	399	4.5	3.2	5.8	2.6	0.215	5.6	3.5	2.1	0.331
Other	399	3.3	3.2	3.4	0.2	0.915	4.0	2.5	1.5	0.394
Level of significance 95% ; p<0.05										

Statistical analysis revealed that female students positively and significantly correlated to suicidal thinking (r =.38, R^2 (.16), p< .05) and suicidal attempts (r =. .28, R^2 (.12) $p < .05$). Similarly, public university students was negatively associated with all suicidal behaviors, especially suicidal thinking (r.-40, R^2 (.18), $p < .05$). Growing older was negatively correlated to all suicidal behaviors especially suicidal thinking (r = -.17, R^2 = (.08), p< .05). While, second, fourth and fifth year students were positively associated with all suicidal behaviors; third year students were negatively associated with suicidal attempt [r=-.05, R^2 (.02)] and self-harm [r=-.08, R^2 (.17)]. Living at home was negatively correlated to all suicidal behaviors. On the contrary, living on the hostels outside the university was positively

correlated to all suicidal behaviors. Yet, living in the university hostel was negatively associated with suicidal thinking [r=-.37, R^2 (.31)] and suicidal attempts [r=-.08, R^2 (.23); but positively associated with suicidal planning [r=.09, R^2 (.21)] and self-harm [r=.01, R^2 = (.19)]. In addition, living alone and living with an intimate partner was positively correlated to all suicidal behaviors (see Table 3a). Living at home with parents/guardians and siblings and living with a schoolmate were positively correlated to suicidal thinking, planning and attempts but negatively associated with self-harm. However, living with as sibling only was positively associated with suicidal thinking, attempts and self-harm but negatively correlated to suicidal planning.

Table 3a. Demographic Statistics of the Emerging Adults' Profile and suicidal Behaviors

	Suicidal thinking	Suicidal planning	Suicidal attempt	Self-harm
Type of university (Private=0, Public=1)	-0.402**	-0.026	-0.264*	-0.177
	(0.182)	(0.121)	(0.138)	(0.111)
Gender (Male=0, Female=1)	0.381**	0.159	0.279**	0.129
	(0.158)	(0.106)	(0.120)	(0.097)
Age in years	-0.171**	-0.110*	-0.102	-0.073
	(0.086)	(0.057)	(0.065)	(0.052)
Year of study				
1st year	Omitted due to collinearity			
2nd year	0.437	0.110	0.117	0.071
	(0.290)	(0.194)	(0.219)	(0.177)
3rd year	0.195	0.058	-0.051	-0.081
	(0.275)	(0.184)	(0.208)	(0.168)
4th year	0.157	0.228	0.200	0.121
	(0.291)	(0.194)	(0.220)	(0.178)
5th year and above	0.199	0.090	0.144	0.032
	(0.394)	(0.263)	(0.298)	(0.241)
Birth Position				
1st born	0.261	0.016	0.116	-0.083
	(0.337)	(0.225)	(0.255)	(0.206)
2nd born	0.160	-0.138	-0.028	-0.161
	(0.346)	(0.231)	(0.262)	(0.211)
3rd born	0.215	-0.057	-0.063	-0.033
	(0.365)	(0.244)	(0.276)	(0.223)
4th born	-0.209	-0.329	-0.260	-0.431*
	(0.385)	(0.257)	(0.291)	(0.235)
5th born	Omitted due to collinearity			
Other	0.305	-0.209	0.405	0.213
	(0.438)	(0.293)	(0.331)	(0.268)
Living arrangements in session				
At home	-0.015	-0.059	-0.038	-0.152

	(0.278)	(0.186)	(0.210)	(0.170)
In a hostel around the university	0.252	0.033	0.075	0.007
	(0.231)	(0.154)	(0.175)	(0.141)
In the university hostels	-0.370	0.091	-0.076	0.005
	(0.308)	(0.206)	(0.233)	(0.188)
In hostels away from the university	Omitted due to collinearity			
Who you live with				
Living with Parents/guardians and siblings	0.082	0.058	0.067	-0.129
	(0.513)	(0.342)	(0.388)	(0.313)
School mate	0.341	0.036	0.248	-0.170
	(0.554)	(0.370)	(0.419)	(0.339)
Parent/guardians only	Omitted due to collinearity			
Siblings only	0.178	-0.130	0.136	0.172
	(0.641)	(0.428)	(0.485)	(0.391)
Alone	0.563	0.333	0.267	0.112
	(0.541)	(0.361)	(0.409)	(0.330)
Intimate partner	0.490	0.400	0.344	0.189
	(0.623)	(0.416)	(0.471)	(0.380)

**** p<.01, ** p<.05, * p<.1*

Additional statistical analysis revealed that being a first born was positively correlated to suicidal thinking, planning and attempts and being a fifth born onwards was positively suicidal thinking, attempts and self-harm. While being a second or third born was negatively associated with suicidal planning, attempts and self-harm; being a fourth born was negatively correlated to all suicidal behaviors (see Table 3b). Three parenting styles strongly and positively correlated to all suicidal behaviors were: guardian headed families, blended families and both biological parents' families. Neglectful and authoritarian parenting styles were positively and significantly linked to suicidal thinking and suicidal attempts, but negatively correlated to suicidal planning and self-harm. The higher the parent's level of education, the higher the prevalence for suicidal behaviors.

Table 3b. Demographic Statistics of the Emerging Adults Family Profile and Suicidal Behaviors

Family Structure				
Single parent male only parent	0.471	0.008	-0.133	-0.180
	(1.155)	(0.771)	(0.873)	(0.705)
Single parent female only parent	0.539	-0.042	-0.170	-0.136
	(1.114)	(0.743)	(0.842)	(0.680)
Both biological parents(mother and father)	0.661	0.072	0.054	0.013
	(1.095)	(0.731)	(0.828)	(0.669)
Blended family	0.852	0.045	0.416	-0.008
	(1.147)	(0.765)	(0.867)	(0.701)
Brother/sister only	Omitted due to collinearity			

Guardian	1.776	1.103	0.854	1.232
	(1.229)	(0.820)	(0.930)	(0.751)
Parenting Styles				
Authoritarian	0.330	-0.029	0.139	-0.393
	(1.550)	(1.035)	(1.172)	(0.947)
Authoritative	-0.198	-0.142	-0.059	-0.391
	(1.548)	(1.033)	(1.171)	(0.946)
Neglectful	0.263	-0.016	0.029	-0.266
	(1.571)	(1.049)	(1.188)	(0.960)
Permissive	-0.145	-0.340	-0.261	-0.692
	(1.567)	(1.046)	(1.185)	(0.957)
Parent's Highest education Level	0.032	0.061	0.005	0.020
	(0.061)	(0.041)	(0.046)	(0.038)
Who you confide in				
Mother	0.094	0.142	-0.094	0.545
	(0.589)	(0.393)	(0.446)	(0.360)
Father	0.020	0.249	-0.207	0.464
	(0.654)	(0.437)	(0.495)	(0.400)
Sibling(brother/sister)	-0.251	0.036	-0.236	0.365
	(0.614)	(0.410)	(0.465)	(0.375)
Relatives	**Omitted?**			
Peers/friends	0.274	0.394	0.016	0.472
	(0.584)	(0.390)	(0.442)	(0.357)
Pastor/religious leader	0.815	0.652	0.042	0.895
	(0.897)	(0.599)	(0.678)	(0.548)
No one	0.162	0.321	0.194	0.613*
	(0.597)	(0.398)	(0.451)	(0.364)
Other	0.050	0.223	-0.183	0.280
	(0.664)	(0.443)	(0.502)	(0.406)
Constant				
	-0.059	-0.128	-0.032	0.406
	(2.580)	(1.722)	(1.952)	(1.576)
Observations	397	397	397	397
R-squared	0.182	0.157	0.149	0.144

Standard errors are in parentheses
**** p<.01, ** p<.05, * p<.1*

Psychological Stressors Linked to Suicidal thinking, planning and Attempts

Psychological stressors associated with suicidal behaviors were: feeling very hopeless (35.1%); feeling very depressed (33.3%); financial

difficulties (28.1%); feeling very anxious (27.3%); family conflicts (20.8%); academic challenges (18.3%); intimate relationship problems (16.3%) and sexual abuse (incest/rape/assault) (16.3%). Female students experienced more: hopelessness (female 43.2% and male 26%); depression (female 39.9% and male 25.4%) and anxiety (female 34.4% and male 20.1%). Further analysis of the male and female differences were obtained using the t-test (see Table 4). The findings confirmed that female students experienced significantly more levels of hopelessness [t (43) = 0.17, p<.001]; depression [t (40) = 0.15, p<.002] and anxiety [t (34) = 0.14, p<.002].

	Overall		By Gender				By University Type			
Variable	Observations N	Mean	Male %	Female %	df	p value	Private Uni %	Public Uni %	df	p value
Suicidal Thinking, Planning and Attempt										
Academic challenges	399	0.183	0.148	0.216	-0.068	0.08	0.186	0.18	0.006	0.879
Financial difficulties	399	0.281	0.286	0.274	0.011	0.796	0.257	0.305	-0.049	0.28
Family conflicts	399	0.208	0.148	0.26	-0.112	0.006	0.221	0.195	0.026	0.522
Intimate relationship problems	399	0.163	0.138	0.188	-0.05	0.18	0.145	0.18	-0.035	0.355
Contracted HIV/AIDS	399	0.123	0.138	0.111	0.027	0.416	0.12	0.125	-0.005	0.894
Sexually abused(incest/rape/assault)	399	0.163	0.111	0.211	-0.101	0.007	0.206	0.12	0.086	0.02
Diagnosed with a mental disorder	399	0.123	0.106	0.14	-0.034	0.31	0.131	0.115	0.015	0.635
Feeling very depressed	399	0.333	0.254	0.399	-0.145	0.002	0.397	0.27	0.127	0.007
Feeling very anxious	399	0.273	0.201	0.342	-0.141	0.002	0.287	0.26	0.026	0.554
Feeling very hopeless	399	0.351	0.26	0.432	-0.174	0.001	0.357	0.345	0.012	0.806
Other	399	0.043	0.011	0.068	-0.057	0.004	0.045	0.04	0.005	0.796
Self-Harm										
Sexually abused(incest/rape/assault)	399	0.208	0.143	0.265	-0.121	0.003	0.252	0.165	0.087	0.034
Trouble with intimate relations	399	0.155	0.148	0.164	-0.015	0.675	0.136	0.175	-0.04	0.28
Broke up with intimate partner	399	0.138	0.133	0.144	-0.012	0.732	0.141	0.135	0.005	0.869
Distressed with schoolwork	399	0.168	0.153	0.178	-0.025	0.514	0.161	0.175	-0.014	0.706
Conflict with parent/guardian(s)	399	0.178	0.127	0.226	-0.099	0.01	0.206	0.15	0.056	0.144
Other	399	0.033	0.021	0.044	-0.022	0.217	0.04	0.025	0.015	0.394

Table 4. *Psychological Stressors and Suicidal Behaviour*

Furthermore, analysis by gender revealed that financial difficulties, family conflicts, academic challenges, sexual abuse and intimate partner problems were drivers for suicidal behaviors among emerging adults. While financial difficulty was the major psychological stressor for male students (male 28.6% and female 27.4%); family conflicts was the key psychological stressors for female students (female 26% and male 14.8%). Sexual abuse was a prominent psychological stressor among female students (21.1% as compared to male students (11.1%). The differences between family conflicts and sexual abuse between female and male was significant: family conflicts [t (26) = 0.11, p<.006] and sexual abuse [t (21) = 0.10, p<.007].

The findings revealed that students in the private university experienced more feelings of: depression (private 39.7% and public 34.5%), hopelessness (private 35.7% and public 27%) and anxiety (private 28.7% and public 26%). In addition, private university student had more family conflicts (private 22.1% and public 19.5%), sexually abuse (private 20.7% and public 12%) and diagnosis of mental disorders (private 13.1% and public 11.5%). The statistical differences recorded were: hopelessness [t(39.7) = 0.13, p<.007] and sexual abuse [t(20.6) = 0.09, p<.02].

Psychological Stressors Linked to Self-harm

This study revealed that sexual abuse (incest/rape/assault) (20.8%); conflicts with parents/guardians (17.8%); distressed with school work (16.8%), trouble in an intimate relationship (15.5%) and breaking up with an intimate partner (13.8%) were drivers for self-harm. There were gender and university differences on prevalence of these psychological stressors. While female students indicated that sexual abuse (26.5%), conflicts with parents/guardians (22.6%) and distress with schoolwork (17.8%) were the psychological stressors compiling them to self-harm. Male students indicated that distress with schoolwork (15.3%), trouble in an intimate relationship (14.8%) and sexual abuse (14%) were reasons they engaged in self-harm. These differences between female and male students were significant for sexual abuse [t (26) = 12.1, p<.003] and conflicts with parents/guardians [t (22) = 9.9, p<.01]. The dominant self-harm method for female students was cutting and alcohol abuse for male students.

Students in the private university indicated that sexual abuse (25.5%), conflicts with parents/guardians (20.6%) and distress with schoolwork (16.1%) were the compelling reasons behind suicidal behaviors. Public university students considered distress with schoolwork (17.5%), trouble in intimate relationships (17.5%) and sexual abuse (16.5%) were the reason for engaging in self-harm. There was a significant difference between sexual abuse [t (25) = 8.9, p<.034] as a driver for self-harm in the private university and public university.

Discussion

This study provides new information on the prevalence of suicidal behaviors among emerging adults in the two Kenyan university. Prior prevalence studies on suicidal behaviors involved children and adolescents. The highest frequency of suicidal behaviors among university students was suicidal thinking (17.1%), suicidal attempts (7.8%), suicidal planning (5.9%) and self-harm (5.5%). Female students and students in private universities recorded the highest rates across all suicidal behaviors. Feeling very hopeless, very depressed, very anxious, having financial problems, family conflicts and academic challenges were the main psychological stressors compelling students to suicidal behaviors. Protective factors against suicidal behaviors included: living at home, having parents who employed authoritative or permissive parenting styles and the absence of family conflicts, academic distress and relationship problems.

Demographics

The study revealed the average age range of emerging adults in the university to be 20 -25 years. At this stage, emerging adults are making important choices in education and career, gender identity, changing support systems from family to peers, exploring an independent identity apart from their family, and desired to appear 'normal'. These generates internal and external stress that might compel emerging adults to suicidal behaviors. Therefore, emerging adults still need family and parental support to navigate transitional challenges and develop healthy coping skills for the prevailing challenges (Valdez et al., 2013). Nurturing a positive parent-child relationship characterized by warmth, sensitivity, steady discipline, supervision, participation and support is protective against suicidal behaviors (McKinney et al., 2017; Perquire et al., 2021).

Prevalence

Suicidal Thinking

The prevalence of suicidal thinking among university student was 17.1%. These findings were both similar and dissimilar to others studies. Mortier's et al. (2017) from the USA, noted a 13% of students had a lifetime of suicidal thinking. At the same time, two studies in Turkey by Oyekin's et al. (2017) and Toprak's et al. (2011) recorded students' rates of suicidal thinking at 15.1% and 11.4%, respectively. A study conducted in Canada, the Midwest and the Northwest of the USA recorded male suicidal rates of 13% and females at 10% (Mackenzie et al., 2011). A study in Ghana by Owusu-Ansah et al. (2020) documented that 15.2% of the university students in the study had death wishes, and 6.3% had suicidal ideations. In China the prevalence rates for suicidal thinking was 9.2% (Zhai et al., 2015). However,

these findings revealed less suicidal thinking compared to a study in 12 Muslim Countries that recorded a 22% rate of suicidal thinking (Eskin et al., 2018). A study by Abdu et al. (2020) in Ethiopia recorded 58.3% of suicidal thinking among students. Another study in Botswana recorded a 47.5% rate of suicidal thinking in university students. This means that the rate of suicidal thinking among emerging adults in the two Kenyan universities were higher than those in USA, Canada, Turkey, China and Ghana. However, these rates were lower than those in 12 Muslim countries, Ethiopia and Botswana.

Suicidal planning

The rates of suicidal planning were 5.9%. These rates were higher than those recorded by Wilcox et al. (2010) in USA 0.9% in suicidal planning. Considering that Wilcox et al. study is an older, these rates might be different today. However, two other studies recorded higher rates of suicidal planning than the findings in this study. A study in Ghana recorded 6.8% in suicidal planning (Owusu-Ansah et al., 2020) and a study in Ethiopia recorded 37.3% in suicidal planning among emerging adults in the universities (Abdu et al., 2020). Hence, Kenyan students in the two selected universities recorded lower rates of suicidal planning than those in Ghana and Ethiopia.

Suicidal Attempts

A significant 7.8% of university students engaged in suicidal attempt. This rate was higher than several such studies: 0.9% in the USA (Wilcox et al., 2010); 7.1% in Turkey (Torprak et al., 2011); 4.4% in Ethiopia (Abud et al., 2020) and in Ghana 6.8% (Owusu-Ansah's et al., 2020). Nonetheless, the rates of suicidal attempts in Kenya were lower than those among university students in Scotland at 11.2% (O'conner et al., 2018), in 12 Muslim countries 8.6% and in Botswana 28.7%. This means that emerging adults in the two selected Kenyan universities engaged less in suicidal attempts than students in the Scotland, 12 Muslim Counties and Botswana. On the other hand, Kenyan students engaged more suicidal attempts that university students in the USA, Ethiopia, Turkey, and Ghana.

Self-Harm

This study revealed that emerging adults in the selected universities in Kenya had a 5.5% rate of self-harm. This was similar to other studies that recorded low prevalence rate for self-harm (Whitlock et al., 2006; Lageborn et al., 2017 & O'connor et al., 2018). However, five studies recorded high prevalence for self-harm. A study in the USA recorded 37.5% for self-harm (Marie, 2016), another American study recorded a rated of 17% (Whitlock et

al., 2006) and 16.2% engaged in self-harm in Scotland (O'connor et al., 2018). A study in Turkey recorded a high rate of 15.4% of self-harm and in South Africa 19.4% engaged in self-harm (Walt, 2016). It was noted that emerging adults in selected universities in Kenya had the lowest rates of self-harm compared to emerging adults in the USA, Scotland, Turkey and South Africa. Although this was positive, the decrease in self-harm and other suicidal behaviors among emerging adults in Kenya remains a priority.

Based on this study, female students were more engaged in suicidal behaviors than their male counterparts. These findings were differed from similar studies in which male students had higher prevalence for suicidal behaviors (Mackenzie et al., 2011; Motamedi et al., 2016; "Campus Suicides", 2018; Goodman et al., 2018; Nyamori, 2015). However, few studies were parallel to these findings where female students recording high rate of suicidal behaviors than male students (Tang et al., 2018; Abdu et al., 2020; Eskin et al., 2019).

The study generated new information that identified public universities, living alone, living in the hostels outside the university and confiding in peers as risk factors for suicidal behaviors. This calls for universities to equip students with problem-solving skills and help seeking procedures as need arises. Students need to be psycho-educated on what to do if they encounter a peer exhibiting suicidal thoughts, plans, attempts and self-harm so they can be assisted to deal with underlying psychological concerns.

Psychological Stressors

This study revealed that feeling hopeless, depressed and anxious were the reason emerging adults were engaging in suicidal behaviors. These findings corresponded to numerous studies linking the three mental illness symptoms; feeling hopeless, depressed and anxious, to suicidal behaviors among university students (Mortier et al., 2017; Othieno et al., 2014; Bruffaerts et al., 2018; Krasnova et al., 2015; Auerbach et al., 2016; McLaughlin & Gunnell, 2020; Oketch-Oboth & Okunya, 2018).

After mediating for the mental illness symptoms, the main psychological stressors driving emerging adults to suicidal behaviors were; financial difficulties, family conflicts, conflicts with parents/guardians, academic challenges, sexual abuse and intimate relationship problems. These findings were similar to many studies which identified financial problems, academic stressors, parent-child conflicts, family conflicts, problems in romantic relationships as reasons emerging adults were engaging in suicidal behaviours (McLaughlin and Gunnell (2020), Ajibola & Agunbiade, 2022; Wang & Wu, 2021; Halliburton et al., 2021; Oketch-Oboth & Okunya, 2018; Owiti, 2019; Nyamori, 2015).

Conclusion

Emerging adults in the universities are engaging in suicidal behaviors. There is need to engage all stakeholders to eliminate, reduce and prevent the surge in these behaviors. Emerging adults need skills to deal with stress and conflicts in the family and in intimate relationships. As a culture, there is need to address the negative attitudes, stigmatization and discrimination in addressing mental health issues. This study provides insight for marriage and family therapists, mental health practitioners, psychologists and counselors to systemically approach the assessment and treatment with students with suicidal behaviors.

Implications

Universities need to design way to psycho-educate students on mental health and support them with life skills to help them manage the emerging adulthood transition void of suicidal behaviors. Hostel owners need to provide emergency contacts for students to find psychological treatment whenever they need it.

Parents and guardians need to adjust their parenting styles for emerging adults and cultivate a positive parent-emerging adult relationship characterized by freedom and responsibility, warmth, sensitivity, steady discipline, supervision, participation and support. And resist negative control, rigidity, unfriendliness, overprotection, rejection, intimidation and tough parenting.

Mental illness, such as feelings hopeless, depressed and anxious are key indicators to suicidal behaviors in university students. Therefore, parents, peers, lecturers, university health workers and staff need to call out students exhibiting these symptoms to seek interventions. Additionally, university counselors need to assess suicidal behaviors among students dealing with financial, family, academic and relational problems. This will help to prevent and treat students who might be engaging or about to engage in suicidal behaviors.

Limitation

This study may not be generalizable in other universities outside the study. However, these finding provide the bases for conversation on the risk and protective factors for suicidal behaviors among university students in Kenya.

Recommendations

Parents, university administrators, lecturers, university counsellors and hostel owners need to work together to address the risk for suicidal

behaviors in the universities, especially in the private universities and among female students.

Further Research

There is need to extend this study to more universities in different counties in Kenya to confirm these findings. Such a study should involve a bigger sample size of students and university counsellors. A longitudinal study can help track emerging adults' suicidal behaviors from the first to fourth year and try clinical interventions to reduce suicidal behaviors among the students.

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