Prevalence of Suicide Behavior among Undergraduate University Students in Kenya: A Web-Based Cross-Sectional Survey

Stella K Nyagwencha, PhD., United States International University-Africa & Samuel O. Ojuade, PhD., PsycheBalm Consult, Nigeria

Abstract

Although suicide behaviors among university students are a global concern, very few studies have investigated its prevalence among university students in Kenya. The aim of this study was to establish the prevalence of suicide behavior (ideation, plan, and attempt) among undergraduate university students in Kenya. An online-based cross sectional survey utilizing convenience sampling was used to collect data from 138 undergraduate university students aged 17 years and above. Data was collected using researcher-generated socio-demographic questionnaire and Suicide Behavior Questionnaire Revised edition. The results showed that 60.9% of the participants had suicide behavior (ideation, plan and attempt) and the prevalence of suicide behavior was higher among participants aged 20-22 years (34.1%); Females (36.2%); public university students (37.7%); students who live off-campus (47.1%); singles not in relationships (47.8%); average family economic status (53.6%); and participants whose parents were married (38.4%). According to this study, mental health workers need to pay more attention to the mental health of undergraduate university students especially for the categories that exhibited higher prevalence of suicide behaviors. Also, supportive suicide prevention programs are needed in both private and public universities to lessen the alarming prevalence of suicide behavior among university students in Kenya.

Keywords: Prevalence, suicide behavior, undergraduate students, university

Introduction and Background

Suicide is a global phenomenon and major public health perennial concern. The phenomenon of suicide can include varying types and degrees of actual suicide occurrence, suicide attempts and suicide ideation (Klonsky et al., 2016). Research has shown that people with suicidal ideation and attempts are more prone to injury, hospitalization and even death which exerts a large financial burden on the society (CDC 2010; Nock et al. 2008; WHO 2014). WHO (2008) similarly report that suicide and suicide behavior taken together form the nineteenth leading cause of global disease burden due to premature death and ill health.

A study conducted by Nock et al. (2008) found the global prevalence rates for suicidal ideation to be 9.2% and 2.7% for suicide attempt. According to World Health Organization [WHO] (2019), close to 800,000 people die from suicide every year, that is one person for every 40 seconds. Further, suicide accounts for 1.4% of all deaths worldwide, making it the fourth leading cause of death. Although suicide has been found to occur throughout the lifespan, evidence-based research showed that the prevalence of this phenomenon is more among university students (Basri & Kumagai, 2017; Ojuade, Munene, & Mbutu, 2018; Tang, Byme, & Qin, 2018).

Researchers have attempted to explain the high prevalence of suicidal behavior among university students stating that, the developmental period the university students are in (late adolescence), challenges that arise from their families as well as academic and social challenges could explain this prevalence (Tammilehto et al., 2021). This is bound to be made worse by the current lockdown and quarantine that has been forced to avoid the spread of Corona virus (Jiao et al., 2020; Testoni et al., 2021). This means that undergraduate university students did not have the social support that would otherwise help them cope to a certain extent with everyday problems. Further, they had to be enclosed within a small place for long periods of time with no knowledge of when this would end. Some of the university students who were working may have lost their jobs while others experienced salary cuts (Kohls et al., 2020). Some of those who depend on their parents, some parents lost their jobs or experienced salary cuts which made paying of school fees a challenge. Kohls and colleagues argue that change in income level could affect one's levels of depression. Previous studies and reports established that depression was a risk factor to suicidal behavior (WHO, 2019).

A systematic review and meta-analysis conducted globally by Li and colleagues on the impact of Covid 19 on the mental health of 706,415 college students between December 2019 and October 2020 found that the prevalence of depression was 39% (95% CI:27-51%) while anxiety was 36% (95% CI: 26-46%). Further, it is possible that those who had been diagnosed with mental illnesses previously relapsed during the Covid 19 containment measures.

A recent study that investigated the prevalence of suicidal behavior and psychological distress among 5,572 university students across twelve nations indicated that 29% of the

sample reported having contemplated suicide and 7% reported attempting suicide (Eskin et al., 2016). Approximately 80% of suicide case around the world have been found to occur in low and middle income countries like Kenya as found in a report by WHO (2019). The penal code section 22 states that suicide is against the law of Kenya (Ochieng & Kamau, 2021).

Despite suicide being illegal in Kenya, Kenya National Commission on Human Rights reported that between 2015 and 2018, 1442 Kenyans attempted suicide excluding unreported cases (caseshttps://www.theguardian.com/global-development/2021/aug/10/concern grows-in-Kenya-after-alarming-rise-in-suicide-cases). A recent report showed that 20 university students across Kenya committed suicide between 2014 and 2018 (Sawahel, 2019). According to Wasike Andrew, police reported that more than 500 people took their lives in the first six months of 2021 (https://www.aa.com.tr/en/africa/alarm-sounds-over-rise-in-suicide-cases-in-kenya/2360272). This is supported by a report by WHO (2021) that states that in 2019, suicide was the fourth leading cause of death between 19 to 29 year old globally. The situation was expected to be worse with the Covid 19 pandemic. In light of the foregoing, the purpose of this study, therefore, was to establish the prevalence of suicide behavior (ideation, plan, and attempt) among undergraduate university students in Kenya.

This study was informed by the biosocial theory of adolescent suicide by Linehan (1993) who was also the inventor of DBT, and Durkheim's (1979) theory of social integration and social regulation. Linehan theorized that suicidal clients are biologically vulnerable to difficulties in regulating emotions and they are placed in environments that are perceived as pervasively socially toxic or "invalidating environments" (Linehan, 1993a). On the other hand, Durkheim (1979) proposed that two social forces, solidarity, and social control, influence the chance of a person taking his or her own life. Durkheim noted that suicide might be seen as an individual decision, but there are several factors that influence its rates. According to Durkheim, solidarity refers to the level of connectedness a person feels to others in the environment, and social control refers to the social mechanisms that regulate a person's actions. These two social forces are independent factors that help predict the type of suicide someone might commit (Durkheim, 1979; Joiner, 2005). As a result of Covid 19 containment measures, undergraduate university students may have felt the sense of loss of control over their lives and education as universities transitioned to online learning indefinitely. Further, the students experienced loss of solidarity as they lost physical support from instructors and

university administrators as well as from their peers which led to a sense of reduced wellbeing (Plakhotnik et al., 2021).

Methodology

This study utilized an online cross sectional survey. This was because the study was carried out during the Covid 19 pandemic when educational institutions in Kenya had been closed as a containment measure against the spread of the virus. Data collection was done online enabling university students across various universities to participate in the study. The target population of this study was undergraduate university students from both public and private universities. The researcher used convenience and snowball sampling method where the participants who could be accessed via email or social media were encouraged to refer other students by providing their contact details and the researcher would then reach out to them. The researcher sent the consent forms to the students email and social media platforms (Facebook, WhatsApp group platform, Twitter, Instagram and any other appropriate media) and those respondents who gave consent to participate in the study were sent the research questionnaires to fill and return. The study sampled 138 participants.

The suicide behavior questionnaire revised (SBQ-R) was used to assess for suicide behavior. SBQ-R is a brief 4-item questionnaire that is a measure of past suicidal thoughts and attempts which have proved to be significant predictors of future suicidality. The higher the score obtained, the higher the risk of subsequent suicidal behavior. The scale reliability of inter correlations among items ranges from .62 (Items 3 and 4) to .70 (items 1 and 2) and Cronbach's alpha =.88 (Osman et al., 2001). Further, the concurrent validity reports that area under ROC curve = 0.99 for inpatients, 1.00 for outpatients for efficacy of the SBQ-R as a screener implies that the instrument differentiated between suicidal and non-suicidal adolescents at odds ratio 2.19. The researcher-generated socio demographic questionnaire was also used to specifically capture demographic characteristics which included age, gender, year of study, place of residence (off-campus, in-campus or coming from home), and religious affiliation. Other demographics captured included, parents' employment status, which was further broken down into two variables - father's employment status and mother's employment status. Family economic status and family set-up were also captured.

All procedures were approved by United States International University-Africa Research and Ethics Review Board and National Council for Science, Technology, and Innovation (NACOSTI). Participants gave informed consent. Participants aged 17 years and above were considered as emancipated minors as they were living separately from their parents and guardians as well as managing their own finances at university level (Katz et al., 2016). All ethical standards such as confidentiality, freedom to withdraw and debriefing were adhered to.

Results

Prevalence of Suicide Behaviour

The study sought to establish the prevalence of suicide behavior (ideation, plan, and attempt) among undergraduate students in public and private universities in Kenya as seen in Table 1. Participants who scored 7 and above were considered to have suicide behavior (ideation, plan, and attempt) and those who scored 6 and below were considered not to have suicide behavior.

Table 1: Prevalence of Suicide Behavior (ideation, plan, and attempt) among the Participants

Variable	Frequency	Percent
≥ 7 = Suicide Behavior	84	60.9
≤ 6 = Suicidal behavior	54	39.1

N=138, participants were on average 23.5 years

According to Table 1 the percentage of participants who scored 7 or greater were higher at 60.9% as opposed to participants who scored 6 or less at 39.1%. This implies that the prevalence of suicide behavior among the participants was 60.9%.

Socio-Demographic Characteristics and Participants Scores on Suicide Behavior

The study sought to establish the socio- demographic characteristics and participants scores on suicide behavior.

Variables	N	%	≥ 7 = Pathological		≤ 6 = Less Suicidal		Chi-Square Test		
			n	%	n	%	p	df	Sig.
Respondent's Age									
17-19	12	8.7	7	5.1	5	3.6	.231	3	.972
20-22	75	54.3	47	34.1	28	20.3			
23-25	41	29.7	24	17.4	17	12.3			

Table 2: Socio-Demographic Characteristics and Participant's Scores on Suicide Behaviour

26+	10	7.2	6	4.3	4	2.9			
Respondent's Gender									
Female	89	64.5	50	36.2	38	28.3	2.315	1	.128
Male	49	35.5	34	24.6	15	10.9			
Type of university									
Private Univer	65	47.1	32	23.2	33	23.9	6.988	1	**.008***
Public Univer	73	52.9	52	37.7	21	15.2			
Mode of Residence in University									
Off-campus	111	80.4	65	47.1	46	33.3	1.272	1	.259
In-campus	27	19.6	19	13.8	8	5.8			
Religious Affiliation									
Pentecostal	45	32.6	29	21.0	16	11.6	11.214	6	.082
Evangelical	6	4.3	3	2.2	3	2.2			
Catholics	28	20.3	15	10.9	13	9.4			
Islam	3	2.2	3	2.2	0	0.0			
SDA	13	9.4	12	8.9	1	0.7			
Others	43	31.1	22	15.9	21	15.2			
Marital Status									
Single	101	73.2	66	47.8	35	25.4	9.570	2	**.008***
Single/in relationship	32	23.2	13	9.4	19	13.8			
Married	5	3.6	5	3.6	0	0.0			
Family Economic Status									
Poor	6	4.3	5	3.6	1	0.7	2.373	2	.305
Average	121	87.7	74	53.6	47	34.1			
Affluent	11	8.0	5	3.6	6	4.3			
Parents' marital status									
Married	87	63.0	53	38.4	34	24.6	3.050	4	.550
Separated	12	8.7	5	3.6	7	5.1			
Divorced	9	6.5	7	5.1	2	1.4			
Single parents	24	17.4	15	10.9	9	6.5			
Living w/Guardian	6	4.3	4	2.9	2	1.4			

*Note. N=138, * reflects statistical significance at 0.05*

Table 2 presents the socio-demographic characteristics and participant's scores on suicide behavior using suicide behavior questionnaire. Chi-square test showed that there was no significant difference in the distribution of suicide behavior scores and socio-demographic characteristics (Ps < 0.05) except type of university and marital status of the participants (Ps > 0.05). As regards participant's age, suicide behavior was more among participants aged 20-22 (34.1%) compared to other age categories; higher among female participants (36.2%) as opposed to male participants (24.6%); higher among students attending public universities (37.7%) as opposed to private universities (23.2%); higher among participants whose residence was off-campus (47.1%) as opposed to in-campus in 13.8%.

Concerning religious affiliation, suicide behavior was higher among the Pentecostals at 21% compared to other religious affiliations. The Table also showed that percentage of suicide behavior was higher among participants who were singles and not in relationship at 47.8% as compared to those who were single but in a relationship at 9.4% and married at 3.6%. Additionally, the result indicated that the percentage of suicide behavior was higher among the participants whose family economic status was average at 53.6% compared to poor family economic status at 3.6% and affluent family at 3.6%. Also, the percentage of suicide was severe among the participants whose parental marital status was married at 38.4% as opposed single at 10.9%, separated at 3.6%, divorced at 5.1% and living with guardian at 2.9%.

Discussion

The overall prevalence of suicide behavior among the participants in this study was found to be 60.9%. The finding from this present study seems to be high compared to the existing data on prevalence of suicide behavior among university students. For example, a study conducted among university students in 2019 in Southwest Ethiopia found the overall estimate of suicide behavior to be 28.9%, 95 CI (25.0-32.5) using SBQ-R (Abdu et al., 2020). Another study conducted among 5,972 undergraduate students from 6 universities in china found that 7.6% of those students had reported suicidal behavior in the last year (Tang et al., 2018). The high prevalence of suicide behavior among university students from this present study might be sequel to the fact that the survey was conducted amidst Covid 19 pandemic lockdown. This was true of a similar web-based survey among university students in Indonesia, Thailand, and Taiwan where the results showed highest levels of anxiety and suicide thoughts during the Covid 19 pandemic (Pramukti, et al., 2020). According to a similar report,

significant higher rates of suicide-related behaviours appear to have corresponded with times when Covid 19 stressors and community responses such as stay-at-home orders and school closures were heightened, indicating that youths experienced elevated distress during these periods (Hill et al., 2021; Korioth & Writer, 2020).

A study conducted by Nock et al. (2008) found that suicidal behavior differed by age, sex, and religion among other things. This is similar to findings of this study that found that suicide behavior was higher among participants aged 20-22 at 34.1% than other age categories and higher among females 36.2% than males. These findings concur with a study on epidemiology of suicide and its associated socio-demographic factors where it was found that greater proportion of the study subjects (65%) were female and greater prevalence (43.5%) were in the age group of 16- to 25 years (Pour et al., 2014). A systematic review and meta-analysis conducted by Miranda-Mendizabal and colleagues (2018) on adolescents and young adults also found that females were almost twice at higher risk of suicide attempts than males. Similarly, a study conducted in china found that suicide rate was 60% higher among females than males (Zhang et al., 2019).

Suicidal behavior was also found to be high among participants whose residence was off-campus at 47.1% and singles who were not in relationship at 47.8%. This could be because of lack of social support received from peers when living off campus and lack of support from partners when not in a relationship (Chu et al., 2021; Owusu-Ansah et al., 2020). This is supported by a study conducted in Kenya among students that found that 93.4% of respondents who were single had suicidal behavior (Ndetei et al., 2019). Similar findings were found in a study by Wanyoike that found that loneliness accounts for 10% of the factors that could lead to suicidal behavior among university students (Wanyoike, 2015).

In addition, suicide behaviours were pathological among the participants whose family economic status was average (53.6%) as compared to those from poor and affluent families. This was contrary to findings of a study by Grasdalmoen et al. (2020) that found that students from poor economic backgrounds were more prone to suicidal behaviors than those from average and rich backgrounds. Further, participants whose parents were married had higher suicidal behavior (38.4) as opposed to those whose parents were single (10.9%); separated (3.6%); divorced (5.1%) and students living with guardian (2.9%). This goes on to echo the findings of a study that found that the environment, especially discord within families, plays a

major role in university students presenting with suicidal behavior (Johnson et al., 2021). Research has shown that families were affected by the Covid 19 pandemic as many parents experienced job losses and pay cuts which may have increased their levels of stress which would in turn increase the levels of stress among their children (Gadermann et al., 2021; Spinelli et al., 2020).

This study also found a statistically significant difference in the percentage of students with suicidal behavior between students attending private universities and those from public universities (p=008). More research needs to be done to determine why more students from public universities would have suicide behavior yet public universities are regarded more positively than private universities (Oketch, 2009). Further, More research needs to be done to determine factors that would lead people who ascribe to certain religions to have higher suicide behavior than other religions yet religion has been found to be a protective factor against suicide behavior (Burshtein et al., 2016).

Conclusion

The study concluded that mental health workers need to pay more attention to the mental health of undergraduate university students especially those in public universities and those whose residents are off campus as their presentation of suicide behaviors might be more than in other groups. Also, supportive suicide prevention programs are needed in both private and public universities to reduce the alarming prevalence of suicide behavior among university students in Kenya.

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