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Doris Tuitoek School of Nursing, Midwifery & Paramedical Sciences, Masinde Muliro University of Science & Technology, P. O. Box 190-50100 Kakamega, Kenya, Dr. Tecla Sum Psusma – School of Nursing, Midwifery & Paramedical Sciences, Masinde Muliro University of Science & Technology. P. O. Box 190-50100 Kakamega, Kenya, Prof. Peter Odera School of Education, Masinde Muliro University of Science & Technology. Kakamega, Kenya. P. O. Box 190-50100 Kakamega, Kenya and Prof Gladys Mengich, School of Public Health Biomedical Science & Technology, Masinde Muliro University of Science & Technology. P. O. Box 190-50100 Kakamega, Kenya

Corresponding author: Doris Tuitoek School of Nursing, Midwifery & Paramedical Sciences, Masinde Muliro University of Science & Technology, P. O. Box 190-50100 Kakamega, Kenya. Email: dorischeta@gmail.com

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D. Tuitoek, T. S. Psusma, P. Odera and G. Mengich

ABSTRACT

Background: Intimate partner violence (IPV) comprises physical, sexual, and psychological abuse during marriage, cohabitation, or other kinds of relationships. Despite several studies linking IPV to mental health, the findings among college students have produced conflicting results; some studies have linked IPV to mental health issues, while others have found no relationship. Hence, this study assessed the most prevalent form of IPV and its effects on mental health among university students in Western Kenya.

Methodology: This study adopted a cross-sectional descriptive study design in the universities in Western Kenya. Sample size was calculated using Solvin's formula, where snowball sampling was used to identify 426 undergraduates who had ever experienced any form of IPV since enrolment. Data was collected by use of self-administered semi-structured questionnaire that consisted of validated screening tools - Patient Health Questionnaire (PHQ-9), General Anxiety Disorder (GAD-7) screening tool and Primary Care Post Traumatic Stress Disorder Test for DSM-5 (PC-PTSD-5) to measure the mental health outcomes. Data was analysed using statistical analysis software, descriptive data was presented in tables and figures, while a Multiple Analysis of Variance (MANOVA) test analysed the effect of the various forms of IPV on mental health.

Results: Majority of participants reported to have experienced psychological violence (47%, 199), while physical and sexual violence were at 40% (170) and 13% (57), respectively. On mental health outcomes, this study found that Physical form of IPV had a statistically

significant multivariate effect on mental health outcomes ($\Lambda = 0.974$, $F(3, df) = 3.72$, $p = 0.012$), with univariate tests indicating a significant effect on anxiety ($F = 7.00$, $p = 0.008$). While psychological form of IPV also showed a significant multivariate effect ($\Lambda = 0.977$, $F(3, df) = 3.23$, $p = 0.022$), with significant univariate effects on depression ($F = 6.17$, $p = 0.013$) and anxiety ($F = 5.57$, $p = 0.019$). Sexual IPV did not show a statistically significant multivariate effect ($\Lambda = 0.994$, $F(3, df) = 0.83$, $p = 0.475$) with any negative mental health outcomes.

Conclusion: There was a noticeable effect of physical and psychological forms of IPV on depression and anxiety; however, sexual violence was not associated with any mental health disorders.

Key words: Intimate partner violence, mental health outcomes, depression, anxiety, post-traumatic stress disorder (PTSD).

INTRODUCTION

Intimate partner violence (IPV) is a global public health problem due to its prevalence and related physical, mental, and psychological morbidity and mortality.¹ IPV includes abusive physical, sexual, and psychological behaviours committed during a marriage, cohabitation, or other type of partnership, as well as controlling and abusive behaviours on a financial and emotional level.^{1, 2} The World Health Organisation (WHO) gathered data globally between 2000 and 2018, revealing that 26% of ever-married or cohabiting women worldwide aged 15 and older have experienced IPV.³ The incidence of IPV is significantly higher among college students, which globally ranges from 21% to 32%.⁴ A study on IPV victimisation among 22 universities across Asia, Africa, and America found that 6.3% of students reported experiencing physical or sexual intimate partner violence (IPV) at some point in their lives; among these, 15.4% were men and 17.2% were women, whereas another involving college students from 21 nations revealed that 14%–15% of participants had experienced physical violence.^{5, 6} In Africa, prevalences of 42.6% and 48.7% have been reported in universities in South Africa and

Nigeria, respectively.^{7, 8} In Kenya, a study done in the University of Nairobi reported a prevalence of 61% on physical violence, while sexual and psychological violence were at 22.5% and 57.6% among men and women, respectively.^{9, 10} Western Kenya is one of the regions that is highly affected by violence; according to the Kenya Demographic Health Survey 2022, Bungoma County, which is one of the counties in Western Kenya, had the highest prevalence rates of 62% in physical violence and 30% in sexual violence, superseding all the other counties.¹¹ Due to a dearth of data on the prevalence of IPV in universities in the Western region of Kenya, the burden is unknown.

There has been widely documented evidence of IPV's effects on mental health. Victims have been found to experience psychological discomfort, including anxiety, post-traumatic stress disorder (PTSD), despair, and suicidal thoughts and actions, including anxiety, hopelessness, and depression.¹² Additionally, individuals could engage in dangerous behaviours, including drinking excessively, using illegal substances, and having inappropriate sexual relationships.¹³⁻¹⁵ Other effects identified include anxiety, depression, low self-esteem, disobedience,

nightmares, and physical and health deterioration, which may negatively impact academic performance, while inferior social skills may also affect their capacity to cope and seek assistance.¹⁶⁻²⁰ Additionally, the effects of recurrent or chronic abuse might worsen symptoms and lead to mental health crises.²¹

Despite several studies alluding to the link between IPV and mental health, the outcomes among college students have yielded contradictory results.²² For instance, some studies indicate that victims of IPV are more likely to have mental health problems like depression, PTSD, and suicidal thoughts, while other studies show mixed or inconclusive results about this link.²³ These disparities may be due to differences in methodological approaches, encompassing varied definitions of IPV, evaluation instruments, and study populations, which collectively result in a heterogeneous research outputs.^{22,24} Additionally, cultural contexts and socio-economic factors might substantially affect the manifestation and reporting of IPV, consequently impacting mental health outcomes variably among diverse student groups.²⁵ To address this gap, this study was able to show the most prevalent form of IPV and added to the body of knowledge on the effects of the different forms of IPV on mental health among university students in western Kenya, which included the male university student population.

METHODOLOGY

Study design

This study used a cross-sectional descriptive research design, which sought to determine the effect of IPV on mental health among university students in Western Kenya. All four universities in Western Kenya were included in the study: Alupe University College, Kaimosi Friends University, Masinde Muliro University of Science and Technology (MMUST), and Kibabii University were included in the study.

Sample size calculation

This sample size was calculated using the Solvin's formula, this formula was adopted since the population characteristic was unknown thus, Solvin's formula was used to calculate the minimum sample size needed based on the acceptable margin of error which was calculated at 95% confidence interval.²⁶

$$\frac{N}{1 + Ne^2}$$

Where:

n – is the estimated sample size

N – Population size

e – margin of error (0.05)

According to the registry office in the respective institutions, the number of undergraduate students were as follows: 24000 students in MMUST, 12000 students in Kibabii University, 7,000 students in Kaimosi Friends University, and 5,000 students in Alupe University College. The total population is 47,000 students.

$$n = \frac{47000}{1 + 35715 \times 0.05^2}$$

thus, n = 396 study participants

To accommodate for any non-response and missing data, the predicted sample size of 396 participants was raised by 10%, bringing the ultimate population of 436 respondents.

Sampling strategy

Snowball sampling was employed to select study participants from each institution. This non-probability technique was used to identify participants who have ever experienced IPV since admission to the university; due to the sensitive nature and difficult to access population, snowball sampling helped the researchers reach out to potential victims through trusted networks. The study included students who reported to have experienced either physical, sexual, or psychological violence or all three

forms of IPV since enrolment at the university; students who were enrolled in any undergraduate program in the four universities (Alupe, Kibabii, Kaimosi, and MMUST) and students who agreed to screening of mental health status. The study excluded participants who did not give consent.

Data collection tools

Data was obtained through a self-administered, semi-structured questionnaire that consisted of validated mental health screening tools.

Validity & reliability of the tools

To establish the validity of the tool, an exhaustive assessment of the available literature was conducted to ensure that the tools encompassed all pertinent aspects of the topic. The researcher also conferred with specialists and the supervisors to evaluate the data collection instruments, and their feedback facilitated the comprehensiveness of the tools and gave feedback on the face validity. To establish construct validity, the researcher explicitly described all major concepts and terminology utilised in the study. In addition, a pretest of the tool was done among forty-three students in Maseno University, and the tool was rectified to ensure they accurately reflected the study's intended constructs for measurement and guaranteed that participants interpreted the questions uniformly. In addition, this study also used validated screening tools such as the Patient Health Questionnaire (PHQ-9), which has a specificity and sensitivity of 88% and a Cronbach's alpha score of 0.86.^{27,28} The Primary Care PTSD Screen for DSM-5 (PC-PTSD-5) cutoff of 4 has 100% sensitivity and 85.2% specificity, and the General Anxiety Disorder (GAD-7) scale was recently validated among the adolescent population in Rwanda and found good reliability and validity coefficients, with a Cronbach's α of .077.²⁹⁻³²

Data analysis

Data was analysed for completeness prior to data collection; the validated tools screened the participants for mental health disorders. To classify the respondents with PTSD, the participants who responded to any four questions as 'Yes' on the Primary Care PTSD Test for DSM-5 (PC-PTSD-5) screening tool were screened to have PTSD, while the Patient Health Questionnaire (PHQ-9) screening tool was used to screen participants for depression. This study classified depression as follows: those with no depression (0–4), mild depression (5–9), moderate depression (10–14), moderately severe (15–19), and severe anxiety (20–27). To measure the anxiety levels, the General Anxiety Disorder-7 tool (GAD-7) was used. The classification of anxiety was done as follows: minimal anxiety (0–4), mild anxiety (5–9), moderate anxiety (10–14), and severe anxiety (above 15). The researcher used a Statistical Analysis Software (SAS) to analyse the data. A multiple analysis of variance (MANOVA) test was done to test for the effects of the different forms of IPV (physical, sexual, and psychological) on mental health (depression, PTSD, and anxiety).

Ethical Considerations

The researcher sought ethical approval from the Institutional Ethical Review Committee of Masinde Muliro University of Science and Technology (IERC/186/2023) and a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI/P/23.29915). Permission to conduct the study in the four institutions was obtained from the respective vice chancellors. Participants were screened, and for those who met the inclusion criteria, informed consent was obtained, and for those who were found to have major depression and suicidal ideations, a counsellor was there to provide psychological counselling and referred them to the university health centre for further management. Participants were also informed of the study's

procedures and that they could leave at any time. They were also informed of the benefits of the study, were also informed that the study may evoke psychological harm by reviving suppressed feelings and fears as they recalled the violence they encountered. A pre-coded questionnaire was given to study participants and the research assistants were trained on how to collect data, screen for poor mental health outcomes and maintain confidentiality throughout the study.

RESULTS & DISCUSSION

Table 1: Socio-demographic characteristics of study

participants

Variables	Categories	Total	%
Age group (in years)	20 - 29	264 (62)	62
	30 - 39	162 (38)	38
Gender	Male	284 (67)	67
	Female	142 (33)	33
Religion	Christian	390 (91)	91
	Muslim	24 (6)	6
	Other	12 (3)	3
Ethnicity	Luhya	124 (29)	29
	Luo	87 (20)	20
	Kamba	23 (5)	5
	Kikuyu	29 (7)	7
	Kalenjin	76 (18)	18
	Abagusii	53 (12)	12
	Others (Teso, Meru, Digo, Maasai, and others)	34 (8.0)	8
Marital status	Single and searching	206 (48)	48
	Single but dating	188 (44)	44
	Married	22 (5)	5
	Divorced or separated	10 (2)	2
Living arrangement	Lives alone in university hostel	162 (38)	38
	Lives alone off campus	156 (37)	37
	Lives with friends off campus	73 (17)	17
	Lives with partner off campus	19 (5)	5
	Lives with family member	16 (4)	4
Source of financial support	Parents	282 (66)	66
	Guardian	62 (15)	15
	Friends	24 (6)	6
	Partner	23 (5)	5

Sociodemographic data

Table 1 depicts the sociodemographic characteristics of the study participants. Of the total 426 participants, the majority, 264 (62%), were in the age bracket of 20-29 years of age, male gender 284 (67), Christians 390 (91%), and depended on parents for their financial support 282 (66%). The minority of the participants included Muslims (24, 6%), females (142, 33%), those who were divorced or separated (10, 2%), those with mental health disorders (38, 9%), and those who lived with their partners and relied on them for financial support (19, 5% and 23, 5%), respectively.

	Self	35 (8)	8
Ever been diagnosed with mental disorder	Yes	38 (9)	9
	No	388 (91)	91

Type of violence experienced by the study participants

Among the 426 participants recruited in the study, they all had experienced either physical, sexual, or psychological violence since

enrolment at the university. This research found out that 199 (47%) of the participants experienced psychological violence, 170 (40%) had experienced physical violence, and 57 (13%) had experienced sexual violence, as depicted in Figure 1.

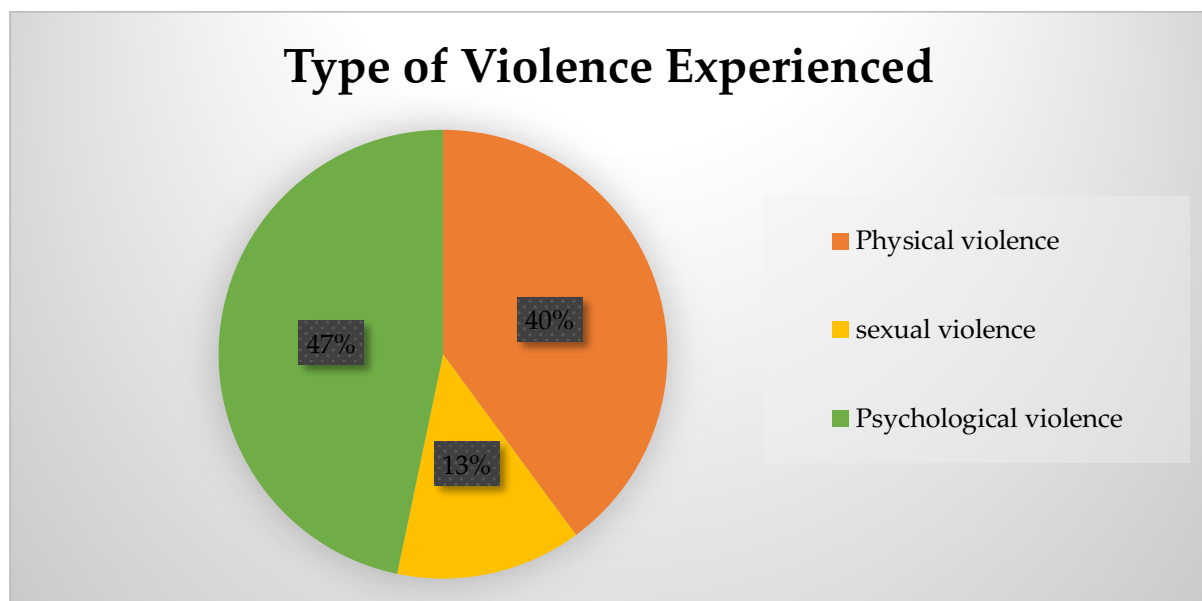


Figure 1: Type of violence experienced

Mental health outcomes of intimate partner violence victims

A multiple analysis of variance (MANOVA) statistical analysis was done to test for the effects of various forms of IPV (physical, sexual, and psychological) on mental health outcomes (anxiety, depression, and PTSD). Results in Table 2 show physical and psychological violence were

statistically significant with p-values of 0.012 and 0.022, respectively. Additionally, physical violence was associated with anxiety with a p-value of 0.008, while psychological violence was associated with depression and anxiety with p-values of 0.013 and 0.019, respectively. This study found out that sexual violence was not associated with any negative mental health outcomes.

Table 2: MANOVA test on effects of intimate partner violence on mental health

Predictor	Dependent Variable	ANOVA		Wilks' Lambda			
IPV	Mental Health	F Value	P Value	Λ	F	df	P Value
Physical	PTSD	2.48	0.116	0.974	3.72	3	0.012
	Depression	3.47	0.063				
	Anxiety	7.00	0.008				
Sexual	PTSD	1.12	0.289	0.994	0.83	3	0.475
	Depression	0.90	0.344				
	Anxiety	0.11	0.736				
Psychological	PTSD	0.67	0.413	0.977	3.23	3	0.022
	Depression	6.17	0.013				
	Anxiety	5.57	0.019				

DISCUSSION

This research finding depicts that the most prevalent form of IPV was psychological violence. This finding may have been attributed to the gender distribution of the study participants, where the majority of the study participants were male students. This finding is similar to Wood et al., who found that among 21% of students reporting victimisation since starting college, psychological abuse was the most common type and the one that had the strongest correlation with poor mental and academic outcomes.³³ However, this finding contrasts the findings of a study conducted in the University of Nairobi where the most prevalent form of IPV was physical violence.¹⁰

A substantial body of research links IPV exposure to negative and long-lasting effects on women's and men's physical, mental, and social health. The severe impact on their mental health increases their susceptibility to depression, anxiety, and other mental health issues.^{15, 34-36} This study, as depicted in Table 2, found a statistically significant effect of physical and psychological forms of IPV with poor mental health outcomes. These findings are in tandem with a study done by Brewer and Thomas, who noted that

undergraduate student survivors of IPV were more likely to experience depression, and anxiety.³⁷ A study done by Wood et al., also found a strong correlation between psychological IPV and depression, which is also in tandem with White et al., meta-analysis, which observed predominant poor mental health outcomes on PTSD and anxiety among IPV survivors.^{25, 38} In addition, other studies have linked male victimisation to PTSD and sleeping problems while in women, survivors were substantially more likely to experience increase in depressive symptoms, higher suicide risks, and decreased satisfaction. (39-41).

Strengths and limitations of the study

The study recruited both the male and female students who had ever experienced IPV as compared to the majority of the research that has solely focused on the female gender. In addition, there has been a dearth of data on intimate partner violence in Kenyan universities; hence, this study has provided insights into the situation in Western Kenyan universities. On the limitations of the study, the study adopted a non-probability sampling. This was due to the sensitive nature of the study and a way to reach out to the affected students. Consequently, the

findings lack generalisability to the wider population.

III. CONCLUSION & RECOMMENDATIONS

Conclusion

This study revealed noticeable effects of physical and psychological intimate partner violence on depression and anxiety. Contrary to this finding, sexual violence did not show any mental health disorders, which may be attributed to a small sample size of participants who had experienced this form of violence.

Recommendations

This study also demonstrated that the different types of IPV have an effect on the mental health outcomes and social well-being of university students; thus, it recommends screening and assessing mental health outcomes among victims of intimate partner violence, with close attention to physical and psychological violence, for early intervention and timely support. Interventions should be tailored to target depression and anxiety mental health outcomes, considering the unique challenges faced by university students.

Credit statement of author's contributions

Doris Tuitoek: was the principal investigator, leading the design and execution of the study. She developed the research concept, conducted fieldwork, collected data, performed analysis, and authored the original draft of the manuscript.

Tecla Sum: she offered supervision all through the study and offered guidance all through the research process, from conceptualisation, methodology, data collection and analysis to reviewing and editing of the manuscript.

Peter Odera – A psychologist and a supervisor, whose expertise guided the development of methodology, ensuring it was rigorous and relevant. He also devised scientific ways of reaching out to the vulnerable group and gave valuable inputs on data collection management

and analysis. He also participated in reviewing and editing the manuscript.

Gladys Mengich, a supervisor, contributed her expertise in the field of gender-based violence. Her experience helped shape the methodology for approaching victims of intimate partner violence. She also participated in reviewing and editing the manuscript.

Conflict of Interest

None for all the authors

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