Individual Level Factors Influencing Self-Reported Gender Based Violence among Medical Training College Students in Kenya

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ABSTRACT

Gender-based violence and lack of institutional protection contribute to the potential for abuse in higher education, which is a global public-health problem and highly underreported. This study was guided by the Ecological Model of Violence and the theory of revictimization and examined individual determinants of self-reported gender-based violence among students at the Kenya Medical Training College where the clinical hierarchy and professional pressures amplify students' vulnerabilities. An analytical cross sectional research design with a predictive modelling component was used for the study with the target population being pre-service health-training students age 18 years old and above. A multistage sampling technique was adopted in which campus was selected purposively, years of study and programme type were stratified, and systematic random sampling of the respondents was done, and data was collected from 478 respondents. The main data collection tool was an anonymous, structured online questionnaire that included demographic, behaviourally specific violence experiences, past victimisation experiences, and mental-health indicators. The quantitative data were analysed by descriptive statistics, chi-square tests and multivariate logistic regression. The findings showed that 15.1% of the students surveyed suffered gender-based violence in the form of any of the behaviourally specific types during enrolment and 10.0% of them suffered gender-based violence in the past 12 months. Descriptive analysis revealed that the most common types of abuse experienced by recent victims were unwanted sexual comments (56.3%), emotional/verbal abuse (54.2%) and non-consensual sexual touching or stalking (47.9%). Academic progression (Y3 vs Y1: aOR=5.31, $p<0.001$), childhood sexual abuse (aOR=5.65, $p<0.001$) and severe mental-health symptoms (aOR=5.50, $p=0.004$) were significant independent predictors of violence occurrence. Measurement analysis indicated that 0.0% of the students endorsed a general violence question while 15.1% endorsed behaviourally specific items, indicating a significant conceptual gap and lack of practical recognition of abuse. The study finds that vulnerabilities to gender-based violence in these settings are cumulative and structurally embedded, and are related to past trauma experiences, seniority in school and psychosocial distress. It shows that there is a need for trauma-informed, institution-specific strategies to support the welfare of students, and that a combination of behaviourally specific literacy and confidential mental-health screening and peer-mentorship referral pathways are needed for sustainable student resilience.

Keywords: Gender-Based Violence, Individual Determinants, KMTC Students, Mental Health, Prior Victimisation, Student Welfare

I. INTRODUCTION

Gender-based violence (GBV) in higher education (HE) is a worldwide public health issue due to its negative effects on students' safety, mental health, academic continuity and professional development. GBV is defined as physical, sexual, psychological or economic violence against persons as a result of gendered power dynamics and is also underreported in institutional records, to the extent that it is reported at all, and is therefore crucial to self-reported measures to reveal the hidden burden (World Health Organization [WHO], 2021). Self-reporting is an important factor, then, to identify the students who are at risk and to create protective, trauma-informed campus systems (Steele *et al.*, 2024). The research has been conducted worldwide and highlights that campus GBV is prevalent but not widely reported via formal reporting. A worldwide meta-analysis of higher education sexual assault revealed a high pooled prevalence, as well as a significant underreporting, with the official prevalence rates underestimating the actual prevalence rates

(Cantor *et al*, 2020; Steele *et al*., 2024). A multi-country survey in Sub-Saharan Africa revealed that most of the student survivors sought informal support instead of formal institutional support (Owusu-Antwi *et al.,* 2024). A cross-sectional study of healthcare students in Europe revealed that females were independently more likely to be victims of GBV, but there were low levels of formal complaints made (Tavolacci *et al.,* 2023).

The individual-level factors that affect exposure and disclosure to GBV shape the self-reported occurrence of GBV. A systematic review in Ethiopian higher education institutions revealed that childhood victimisation and psychological distress were risk factors for experiencing GBV and decreased the likelihood of formal help-seeking (Tadesse *et al*., 2024). Workye *et al.,* (2023) conducted a cross-sectional study at Wolkite University, which revealed a strong association between prior victimisation, substance-use contexts, and mental-health symptoms, and the occurrence of GBV. A quick survey in Kenyan tertiary institutions showed that GBV awareness, stigma, and seniority level among students were a factor in identifying and reporting GBV in a safe manner (United Nations Population Fund [UNFPA] & Collaborative Centre for Gender and Development [CCGD], 2024).

Previous studies in Kenya Medical Training College (KMTC) reported high rates of harassment and GBV but provided limited information on how individual-level factors contribute to the reported incidence of GBV (Bally *et al.,* 2022; Edwards *et al.,* 2021). Health-training contexts include clinical hierarchies and professional pressures, which can exacerbate vulnerabilities and exposure and silence. Hence, this study sought to explore the effect of individual level factors on self-reported GBV occurrence among students at KMTC. The study aimed to identify those students who were most vulnerable and to provide evidence to support targeted, trauma-informed prevention, screening and support interventions.

1.1 Statement of the Problem

Students are still subjected to sexual comments, emotional abuse, non-consensual touching, coercion, stalking and technology-facilitated GBV, despite institutional measures to combat GBV. There is evidence from existing KMTC that a large proportion of students are experiencing harassment and abuse, although there is limited empirical analysis of individual-level factors associated with self-reported occurrence of harassment and abuse (Bally *et al*., 2022; Edwards *et al*., 2021). Measurement issues add to the problem. Many students may not report experiences of abuse when asked general questions about GBV due to stigma, shame, fear or lack of practical recognition of abuse. Behaviourally specific questions are thus needed to uncover the hidden burden (Anderson *et al.,* 2023). Moreover, mental health symptoms and previous trauma, as well as substance use settings, may impact vulnerability and help-seeking (Keynejad *et al.,* 2020; Krause-Utz *et al*., 2021). These factors are interrelated, so it is important to analyse them at the individual level to design interventions that are not only generic and raise awareness but also address the needs of the students.

1.2 Research Objective

To determine if self-reported gender-based violence occurrence is associated with individual level factors among the Kenya medical training college students.

II. LITERATURE REVIEW

2.1 Theoretical Review

This article is theoretically underpinned by two interrelated models: the Ecological Model of Violence and revictimisation theory. They together describe how individual vulnerability is determined by individual history, behavioural contexts and environments of institutions.

2.1.1 Ecological Model of Violence

The Ecological Model of Violence views GBV because of interactions between multiple factors at the individual, relational, community and institutional levels (Tarzia, 2021). Individual factors such as age, sex, previous experience of violence, substance use, psychological distress and help-seeking self-efficacy may influence the risk of GBV and disclosure. Campus transition, new peer networks, financial dependency, change of living environment and clinical training hierarchies can heighten the risk of exposure to coercion and harassment among young adult students.

The model is suitable for this article, as it does not allow for a reductionist definition of the individual factors as stand-alone traits. This study demonstrates that the personal attributes function in the context of the relational and institutional environment. A second-year student staying in a hostel off campus might have different social settings and gaps of supervision than a first-year student who stays in a more controlled environment. Likewise, a student who is experiencing psychological distress may be less likely to seek help when institutional pathways are unclear or when they are mistrustful of the pathways. The Ecological Model thus suggests a view of individual vulnerability as cumulative and as situational and not as personal failure.

2.1.2 Trauma and Revictimisation Theory

Revictimisation theory suggests that early victimisation experiences can lead to later victimisation experiences, as the victimisation experience can cause trauma, normalisation of violence, decreased self-protection, and decreased confidence in seeking help (Krause-Utz *et al.,* 2021). Students may come to college with unresolved trauma from childhood physical abuse, childhood sexual abuse, bullying, and/or witnessing domestic violence. This trauma has the potential to influence the students' ability to identify risky situations, set boundaries, or rely on institutional supports.

This framework is based on mental-health effects. Depression, sleep disturbance, self-blame, fatigue and suicidal thoughts may be a result of GBV but may also diminish a survivor's capacity to seek formal help and/or to resist further harm (Keynejad *et al.,* 2020). The cross-sectional nature of this study should be interpreted as mental-health symptoms being correlates of violence exposure, which may be either antecedents or consequences of violence exposure, or markers of violence exposure that mutually reinforce each other.

2.2 Empirical Review

Student's personal experiences have a significant impact on their vulnerability to gender-based violence (GBV) and their choices on disclosure and help-seeking. Around the world, self-reporting behaviours are influenced by a variety of demographic, relational, economic, substance use, historical trauma and psychological health factors (Owusu-Antwi *et al*., 2024; Steele *et al.,* 2024). These micro-level factors do not exist in isolation from each other, but rather they interact with other, more macro, socio-cultural norms and institutional environments that determine whether a survivor is silenced, confides in informal peer networks, or moves through formal reporting channels (Tavolacci *et al.,* 2023). This complex interplay of individual factors is essential for capturing the hidden picture of campus violence and developing trauma-informed support systems, especially in specialised, high-stakes health-training institutions such as the Kenya Medical Training College (KMTC) (Bally *et al*., 2022; UNFPA & CCGD, 2024).

Biological sex and socially constructed gender identities continue to be one of the most consistent factors in GBV exposure and reporting behaviours among students globally. In various institutional and population-based studies, the prevalence of sexual harassment, sexual coercion and physical violence were found to be higher among female students than male students (Beyene *et al*., 2021; Tadesse *et al*., 2024). Femaleness is consistently found to be an independent determinant of being a victim of multiple forms of GBV in large-scale cross-sectional studies of healthcare students in Europe and in systematic reviews of studies in Sub-Saharan Africa (Tavolacci *et al*., 2023; Workye *et al*., 2023). But the impact of sex is not just on prevalence; it also has a strong impact on disclosure patterns. Men who have survived GBV are also limited in their ability to self-identify due to the norms of hegemonic masculinity, stigma and institutional disbelief (Tavolacci *et al*., 2023; Steele *et al*., 2024). There is a tendency for formal institutional records to underestimate GBV prevalence among non-female students, meaning that anonymous, behaviourally specific self-report measures are required when conducting campus-based GBV research (Owusu-Antwi *et al*., 2024). The mixed-methods research also demonstrates that while women students are more likely to report their victimisation in anonymous surveys, they are still very hesitant to make formal complaints, for fear of victim-blaming and institutional betrayal (Abubeker *et al*., 2021; Hassen & Mohammed, 2021). In the end, the power dynamics and norms that shape a society are gendered and determine who is a target for abuse as well as who has social license to pursue formal justice.

Age, as a proxy for developmental stage, social independence and risk environments, is closely related to gender. Late adolescence and early adulthood are a time of increased vulnerability to interpersonal violence, as identified by both global and regional evidence, due to the transitional nature of life during this period and the changing nature of peer networks (Owusu-Antwi *et al*., 2024; WHO, 2021). But empirical evidence on the effect of age on GBV of higher education students is not clear-cut. There are some cross-sectional studies conducted in institutions that suggest that younger students are at a higher risk of being involved in child labour, which is due to their lack of life experience, their lack of negotiating power in intimate relationships, and their susceptibility to peer pressure (Hassen & Mohammed., 2021; Workye *et al.,* 2023). Other systematic reviews indicate that older students might be exposed to GBV as their autonomy, extended campus stay and intimate partner relationships increase their risk profiles (Tadesse *et al.,* 2024). Moreover, age has a significant impact on disclosure pathways, with younger students relying mainly on informal support from friends and older students opting to not disclose formally, possibly due to concerns about academic repercussions or the impact on their future careers (Owusu-Antwi *et al*., 2024; Tavolacci *et al.,* 2023).

Academic seniority becomes a key factor and a critical determinant which affects GBV risk and reporting behaviours as students advance in their tertiary education. Academic advancement is a measure of both how long a student spends on campus and how involved he or she is in the institutional hierarchy and outside clinical settings. There is strong empirical evidence that the prevalence of GBV tends to increase as students advance in their academic studies, especially among the students of healthcare and universities in higher grades who are more likely to be exposed to power imbalance in hierarchical settings (Tavolacci *et al.,* 2023). This is supported by institution-based studies in Ethiopian universities that found that second-year and third-year students are more likely to be sexually and physically violated

than first-year students, which is thought to be due to an increased level of exposure and increased social network (Workye et al., 2023). This is a trend that is seen in mixed-methods studies across private colleges, where the longer tenured institutions are at risk for peer and faculty exploitation (Abubeker *et al*., 2021). At the same time, behaviours are difficult to report by academic seniority as senior students may be more aware of the formal reporting process but may also fear that they could jeopardise their clinical placement, face academic sabotage, or that their reputation would suffer (Bally *et al*., 2022).

In these academic settings, students' formal disclosure is greatly influenced by the relational and economic backgrounds of the students, especially in the Sub-Saharan African context. Incidents involving intimate partners, peers or known faculty members are significantly underreported as compared to stranger assaults, largely due to emotional involvement, pressures for private reconciliation, and fear of serious social or academic repercussions (Owusu-Antwi *et al*., 2024; Steele *et al.,* 2024). Economic precarity can be a key risk factor for GBV exposure and a major obstacle to formal disclosure. Systematic reviews reveal that among the student population, transactional sex is common as they are unable to afford basic education and living costs (Beyene *et al*., 2021; Tadesse *et al*., 2024). Students in transactional relationships, who sell sex for tuition, accommodation or academic grades, are caught up in coercive situations, and risk losing their livelihood and academic prospects if they report the abuse (Mihretie *et al*., 2023; UNFPA & CCGD, 2024). These vulnerabilities are further compounded by power dynamics, such as large age differences and hierarchical relationships between lecturers and students, which limit the ability to consent and make formal complaints, and which are perceived as ineffective (Laz-Figueroa *et al*., 2026). Rapid assessments of technology-facilitated GBV in Nairobi tertiary institutions have shown that when survivors fall into economically coercive relationships, they tend to seek informal support instead of reporting to institutions, as they are often afraid to be economically sanctioned and exposed in public (UNFPA & CCGD, 2024).

These relational and economic vulnerabilities are compounded by behaviour risk factors and historical traumas especially relevant in East African higher education contexts. Alcohol use and region-specific psychoactive substance use (e.g. khat) are known correlates of GBV victimisation and non-reporting, and substance use is a recurring correlate of both. Alcohol and substance use have been found to be important behavioural risk factors associated with sexual and physical violence consistently reported in systematic reviews and meta-analyses in East Africa (Tadesse *et al.,* 2024; Workye et al., 2023). Alcohol and drug use has also been linked to GBV, where the incident is often trivialised by the survivor and their peers, resulting in significant self-blame and low uptake of formal disclosure, fearing being judged or disciplined for substance abuse (Owusu-Antwi *et al.,* 2024; Steele *et al.,* 2024). In addition, previous victimisation, such as childhood physical or sexual victimisation and witnessing domestic violence, is a long-standing and deep risk factor for future GBV. Systematic syntheses show that students who have been exposed to early-life violence are more likely to be revictimised during their tertiary education, because of the normalisation of violence and learned helplessness (Beyene *et al.,* 2021; Laz-Figueroa *et al*., 2026; Tadesse *et al*., 2024).

Mental health status and GBV literacy are complexly related to GBV occurrence and disclosure at the most localised level of individual vulnerability, especially in specialised health-training institutions such as KMTC. Campus GBV survivors often experience high levels of psychological morbidity such as depression, anxiety, post-traumatic stress disorder (PTSD), suicidal thoughts, and other psychological conditions that can systematically take away their agency and make formal reporting insurmountable (Owusu-Antwi *et al.,* 2024; Steele *et al.,* 2024). Cross-sectional studies report that when students experience high levels of psychological distress, they tend to socially isolate themselves from others and to avoid institutional judgment (Workye *et al.,* 2023). The stigma of mental health issues can also be a barrier to seeking treatment in high-stakes environments like medical education, where students might fear being perceived as unfit for practice (Tavolacci *et al.,* 2023). At the same time, GBV literacy (including the knowledge of what constitutes GBV and how to report it formally) is a key factor in formal help-seeking. Quick assessments in Kenyan tertiary institutions have shown that although students may have a general understanding of GBV policies, they often lack the practical knowledge and/or behaviour-specific information needed to guide them in the reporting process or to access confidential support (UNFPA & CCGD, 2024). There are alarmingly low levels of awareness among students of the specific reporting focal points which directly relates to underutilisation of institutional welfare services (Bally *et al.,* 2022). In conclusion, it is crucial to immediately introduce trauma-informed mental health care and behaviourally specific literacy programmes that will enable survivors to navigate the formal reporting process safely within the KMTC setting (Bally *et al.,* 2022; Tavolacci *et al*., 2023; UNFPA & CCGD, 2024).

III. METHODOLOGY

3.1 Research Design

The parent study was an analytical cross-sectional study with a predictive modelling element. The data was obtained at a particular time from students of selected KMTC campuses. With the design, the study was able to estimate

prevalence, describe patterns, and test associations between individual-level factors and GBV occurrence. Due to the cross-sectional design, the findings are regarded as associations and not evidence of causation.

3.2 Study Site

The study was carried out in the selected campuses of KMTC. KMTC has a widespread presence across the country and the campuses selected were based on geographic spread, size of the campus, and the student population. This context was suitable as students come from a variety of socio-demographic, cultural and economic backgrounds and live in different residential arrangements – on-campus hostel, off-campus hostel, family residence. Health-training environment also applies as academic stress, clinical placement and hierarchical supervision can impact student vulnerability and help-seeking behaviours.

3.3 Study Population and Sampling Strategy

The respondents of the study were students in pre-service training programmes in the selected campuses during the period of the study. Students, 18 years and older, who consented were eligible. Students under the age of 18, on academic leave or suspension, and missing at data collection, and those who did not agree to participate were excluded. A multistage sampling procedure was used. The campuses were selected purposively, while the students were stratified according to their year of study and programme type and then selected using systematic random sampling. The total number of students invited was 500, with 100% (500) of the students accessing the questionnaire, and 478 (95.6%) completing the questionnaire fully. The minimum number of samples required was 427, and the final sample analysed was greater than this.

3.4 Data Collection and Analysis

An anonymous self-administered online questionnaire was used to collect the data. The tool included demographic data, as well as GBV experiences specific to behaviours, previous victimisation, knowledge and attitudes, substance use, mental-health indicators, and reporting behaviour. The operationalisation of GBV occurrence included nine behaviourally specific items that were included in the study to assess physical violence, forced sexual intercourse or acts, attempted sexual coercion, non-consensual sexual touching, unwanted sexual comments, technology-facilitated abuse, sexual exploitation/economic abuse, emotional or verbal abuse, and stalking. If a respondent answered yes to any of the nine items, then he/she was considered to have experienced GBV during enrolment. Descriptive reporting was done for occurrence in 12 months.

Data obtained from the questionnaires were analysed quantitatively with the help of the Statistical Package for the Social Sciences (SPSS). Descriptive statistics were used to summarise respondents' characteristics and the occurrence of GBV. Bivariate associations were examined by chi-square tests, and the independent contribution of selected individual factors to the occurrence of GBV was estimated by multivariate logistic regression. Adjusted odds ratios (ORs) and 95% confidence intervals (CIs) were given. For clarity, the reference groups were the lowest-risk groups: Year 1, no childhood sexual abuse; no bullying prior to college; never drank alcohol; mental-health symptoms reported as “not at all.” If output was coded in an alternate manner, adjusted ORs were viewed as reciprocals for ease of interpretation. Estimates were unstable in the highest alcohol-use category, probably because of sparse data or separation, and so not interpreted substantively.

3.5 Validity, Reliability and Ethical Considerations

The questionnaire was pre-tested with some 30 students from a non-study campus. Experts were used to review content validity and internal consistency of multi-item scales was determined with Cronbach's alpha. The composite individual level scale had acceptable reliability. The Masinde Muliro University of Science and Technology Institutional Scientific Ethics Review Committee (Approval Number: MMUST/ISERC/077/2026, approved on 30 March 2026) gave ethical approval for the study. The administration of KMTC gave the researchers authorisation to carry out research. The participation was voluntary, anonymous and confidential. Information was given to participants about counselling and support services available and a referral procedure was adhered to if a participant was distressed.

IV. FINDINGS & DISCUSSION

4.1 Results

4.1.1 Overall rate of Gender Based Violence (GBV) occurrence

Figure 1 shows the gender-based violence prevalence rate of the 478 students surveyed. Most of the respondents (84.9%, n = 406) said that they never experienced GBV during enrolment. But 10.0% (n = 48) said that they had been victim of GBV in the past 12 months and another 5.0% (n = 24) said they had been victim of GBV more than 12 months

ago. Overall, 15.1% (n = 72) of students said that they experienced at least one type of GBV behaviour since they were admitted to the institution.

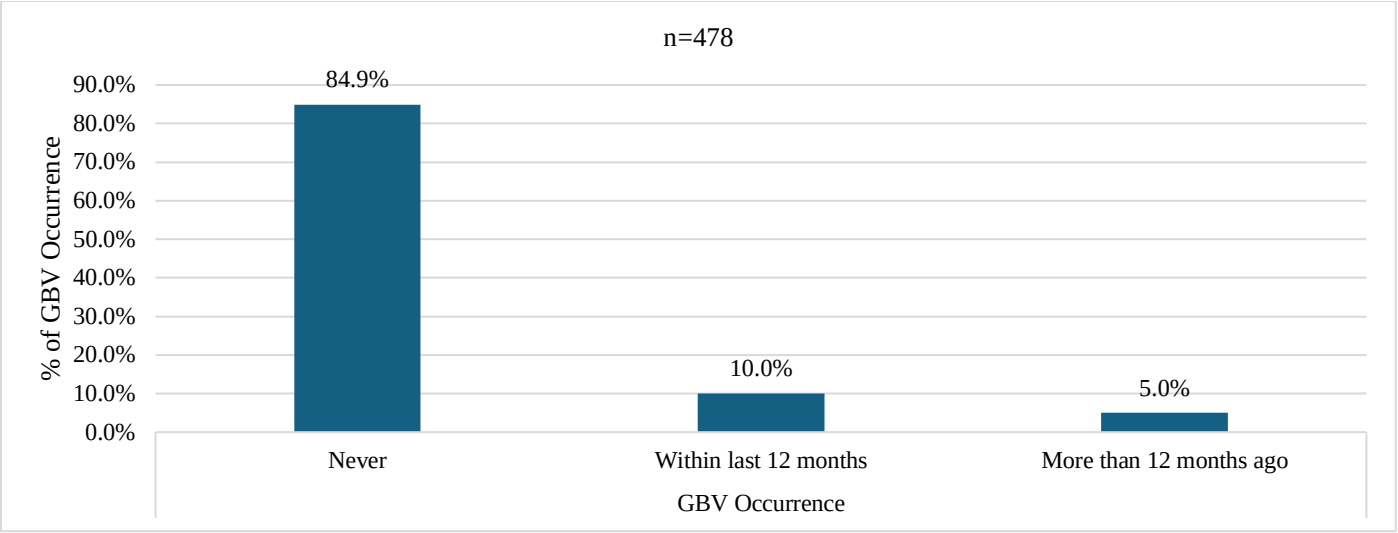

Figure 1
Gender Based Violence Occurrence

4.1.2 Gender Based Violence (GBV) Prevalence and Measurement of GBV Occurrence

A total of 478 students completed the questionnaire and these responses were analysed. 72 students (15.1%) had any GBV experience at enrolment, and 48 students (10.0%) had GBV experience in the last 12 months, using behaviourally specific questions. Interestingly, none of the students indicated that they had experienced GBV during their time at school, but several students reported experiencing specific behaviours including physical violence, forced sexual acts, unwanted sexual comments, non-consensual touching, stalking and emotional abuse. This discovery suggests that the GBV literacy could be conceptual and not practical.

The most frequently reported types of abuse among recent victims were unwanted sexual comments (56.3%), emotional or verbal abuse (54.2%), non-consensual sexual touching (47.9%), stalking/monitoring (47.9%) and forced sexual intercourse/sexual acts (41.7%). 22.9% of recent victims reported the abuse was facilitated by technology. This research indicates that GBV is not just about physical violence, but a range of sexual, emotional, digital and coercive harms among students.

Table 2
Selected Sociodemographic and Academic Characteristics by Gender-Based Violence Occurrence among KMTC Students.

Characteristic	Never n (%)	Within last 12 months n (%)	More than 12 months ago n (%)
Age in years (Mean ± SD)	23 ± 5	21 ± 3	22 ± 3
Sex assigned at birth			
Male	134 (33.0)	16 (33.3)	4 (16.7)
Female	272 (67.0)	32 (66.7)	20 (83.3)
Year of study			
Year 1	200 (49.3)	13 (27.1)	4 (16.7)
Year 2	156 (38.4)	26 (54.2)	11 (45.8)
Year 3	50 (12.3)	9 (18.8)	9 (37.5)
Primary residence during academic terms			
Off-campus hostel	218 (53.7)	28 (58.3)	18 (75.0)
On-campus hostel	105 (25.9)	10 (20.8)	5 (20.8)
With family or relatives	83 (20.4)	10 (20.8)	1 (4.2)

Note. N = 478. Column totals: Never = 406, Within 12 months = 48, More than 12 months = 24. Past 12-month prevalence was 48/478 (10.0%); recent-or-previous GBV was 72/478 (15.1%).

4.1.3 Experience of Specific Forms of Gender-based violence

Selected GBV behaviourally specific experiences by occurrence category are presented in Table 3. The general item “experienced GBV while enrolled” was not endorsed by any respondent. Therefore, occurrence of GBV was calculated based on behaviourally specific items. Unwanted sexual comments, emotional or verbal abuse, non-

consensual sexual touching, stalking, and forced sexual intercourse or acts were the most common types of sexual victimization reported by recent victims.

Table 3

Selected Behaviourally Specific Gender Based Violence Experiences of KMTC Students

GBV experience item	Never n (%)	Within 12 months n (%)	More than 12 months ago n (%)
Experienced GBV while enrolled, general item	0 (0.0)	0 (0.0)	0 (0.0)
Physical violence	8 (2.0)	16 (33.3)	10 (41.7)
Forced sexual intercourse or acts	6 (1.5)	20 (41.7)	11 (45.8)
Attempted sexual coercion	10 (2.5)	20 (41.7)	12 (50.0)
Non-consensual sexual touching	8 (2.0)	23 (47.9)	13 (54.2)
Unwanted sexual comments	20 (4.9)	27 (56.3)	15 (62.5)
Technology-facilitated abuse	10 (2.5)	11 (22.9)	5 (20.8)
Sexual exploitation or economic abuse	6 (1.5)	18 (37.5)	9 (37.5)
Emotional or verbal abuse	9 (2.2)	26 (54.2)	11 (45.8)
Stalking or monitoring	15 (3.7)	23 (47.9)	11 (45.8)

Note. N = 478. No respondent endorsed the general GBV item and so it was not used to define GBV occurrence.

4.1.4 Prior Victimisation

Table 4 shows the distribution of childhood and pre-enrolment victimisation experiences according to the occurrence of GBV. Students who reported GBV at enrolment were more likely to have been victimised in the past. The greatest difference was found in students who were recently involved in GBV (29.2%) and those who had been involved in GBV (41.7%) compared to students who never engaged in GBV (5.7%) and reported childhood sexual abuse. Students who reported GBV were also more likely to have been bullied prior to KMTC and to have been witness to violence at home.

Table 4

Prior Victimisation by Gender Based Violence (GBV) Occurrence among KMTC Students

Prior victimisation indicator	Response	Never n (%)	Within 12 months n (%)	More than 12 months ago n (%)
Physical abuse before age 18	Yes	43 (10.6)	16 (33.3)	7 (29.2)
	No	331 (81.5)	27 (56.3)	15 (62.5)
	Prefer not to say	32 (7.9)	5 (10.4)	2 (8.3)
Sexual abuse before age 18	Yes	23 (5.7)	14 (29.2)	10 (41.7)
	No	364 (89.7)	30 (62.5)	11 (45.8)
	Prefer not to say	19 (4.7)	4 (8.3)	3 (12.5)
Witnessed violence at home	Yes	155 (38.2)	29 (60.4)	11 (45.8)
	No	251 (61.8)	19 (39.6)	13 (54.2)
Experienced bullying before KMTC	Yes	117 (28.8)	29 (60.4)	15 (62.5)
	No	289 (71.2)	19 (39.6)	9 (37.5)

Note. N = 478. GBV: Gender Based Violence, KMTC: Kenya Medical Training College.

4.15 Knowledge, Alcohol and Substance Use, Mental Health

Selected knowledge/awareness, attitude, alcohol use and mental-health indicators by GBV occurrence are provided in Table 5. Most students had high levels of GBV knowledge, with most agreeing or strongly agreeing with statements in all categories of GBV occurrence. But there was a greater prevalence of alcohol use and mental health problems among students who said they experienced GBV. For most students who had never experienced GBV, the proportion of students who experienced mental-health symptoms was 'Not at all', but for those who had experienced GBV in the last 12 months or more than 12 months ago, the proportions of students who experienced the mental-health symptoms 'Several days', 'More than half the days', or 'Nearly every day' were significantly higher. Alcohol use was also more common among students who experienced GBV at any frequency compared to students who never experienced GBV.

Table 5

Knowledge, Alcohol and Substance use and Mental-Health indicators among KMTC students based on Gender Based Violence (GBV) occurrence

Indicator	Response	Never n (%)	Within last 12 months n (%)	More than 12 months ago n (%)
Frequency of alcohol use (past 3 months)	Never	350 (86.2)	31 (64.6)	21 (87.5)
	Rarely	21 (5.2)	9 (18.8)	0 (0.0)
	2 - 4 times/month	20 (4.9)	7 (14.6)	3 (12.5)
	2 - 3 times/week	9 (2.2)	1 (2.1)	0 (0.0)
	4+ times/week	6 (1.5)	0 (0.0)	0 (0.0)
Knowledge, Awareness and Attitude	Strongly Disagree	3 (0.7)	0 (0.0)	0 (0.0)
	Disagree	1 (0.2)	1 (2.1)	0 (0.0)
	Neutral	22 (5.4)	6 (12.5)	2 (8.3)
	Agree	158 (38.9)	22 (45.8)	9 (37.5)
	Strongly Agree	222 (54.7)	19 (39.6)	13 (54.2)
Mental Health	Not at all	274 (67.5)	16 (33.3)	6 (25.0)
	Several days	97 (23.9)	16 (33.3)	14 (58.3)
	More than half the days	22 (5.4)	10 (20.8)	3 (12.5)
	Nearly everyday	13 (3.2)	6 (12.5)	1 (4.2)

4.1.6 Associations between individual-level factors and GBV occurrence

Selected individual-level factors are shown bivariate with the occurrence of GBV in Table 6. Year of study, childhood physical abuse, childhood sexual abuse, witnessing violence at home, previous bullying, frequency of alcohol use and mental-health status were all significantly associated with the occurrence of GBV. Sex, age, residence, knowledge, awareness and attitude were not statistically significant.

Table 6

Bivariate Associations Between Selected Individual-Level Factors and Gender-Based Violence Occurrence

Characteristic	No GBV n (%)	Yes GBV n (%)	Total n	χ^2	df	p-value
Age in years	23 ± 5	23 ± 3		13.33	27	.987
Sex assigned at birth				0.77	1	.382
Male	134 (87.0)	20 (13.0)	154			
Female	272 (84.0)	52 (16.0)	324			
Year of study				18.33	2	< .001
Year 1	200 (92.2)	17 (7.8)	217			
Year 2	156 (80.8)	37 (19.2)	193			
Year 3	50 (73.5)	18 (26.5)	68			
Primary residence				2.60	2	.273
Off-campus hostel	218 (82.6)	46 (17.4)	264			
On-campus hostel	105 (87.5)	15 (12.5)	120			
With family/relatives	83 (88.3)	11 (11.7)	94			
Before 18: physical abuse				24.67	2	< .001
Yes	43 (65.2)	23 (34.8)	66			
No	331 (88.7)	42 (11.3)	373			
Prefer not to say	32 (82.1)	7 (17.9)	39			
Before 18: sexual abuse				58.20	2	< .001
Yes	23 (48.9)	24 (51.1)	47			
No	364 (89.9)	41 (10.1)	405			
Prefer not to say	19 (73.1)	7 (26.9)	26			
Witnessed violence at home				7.65	1	.006
Yes	155 (79.5)	40 (20.5)	195			
No	251 (88.7)	32 (11.3)	283			
Experienced bullying before KMTC				28.55	1	< .001
Yes	117 (72.7)	44 (27.3)	161			
No	289 (91.2)	28 (8.8)	317			
Frequency of alcohol use				15.75	4	.003
Never	350 (87.1)	52 (12.9)	402			

Rarely	21 (70.0)	9 (30.0)	30			
2–4 times/month	20 (66.7)	10 (33.3)	30			
2–3 times/week	9 (90.0)	1 (10.0)	10			
4+ times/week	6 (100.0)	0 (0.0)	6			
Knowledge, Awareness, Attitude				7.07	4	.132
Strongly Disagree	3 (100.0)	0 (0.0)	3			
Disagree	1 (50.0)	1 (50.0)	2			
Neutral	22 (73.3)	8 (26.7)	30			
Agree	158 (83.6)	31 (16.4)	189			
Strongly Agree	222 (87.4)	32 (12.6)	254			
Mental Health				40.29	3	< .001
Not at all	274 (92.6)	22 (7.4)	296			
Several days	97 (76.4)	30 (23.6)	127			
More than half the days	22 (62.9)	13 (37.1)	35			
Nearly everyday	13 (65.0)	7 (35.0)	20			

Note. N = 478. Any behaviourally specific GBV occurrence during enrolment was the dependent variable.

4.1.7 Multivariate predictors of the occurrence of gender-based violence

The results of multivariate logistic regression are shown in Table 7. Independent factors that predicted the occurrence of GBV were year of study, childhood sexual abuse, previous bullying and mental-health status. After adjustment, childhood physical abuse and witnessing of domestic violence were not statistically significant. Overall, there was no significant difference in alcohol use frequency; however, the difference between alcohol use 2-4 times per month and never using alcohol was significant. Unstable estimates were obtained for the highest alcohol-use category and was not interpreted substantively.

Table 7

Gender Based Violence (GBV) Predictors by Multivariate Logistic Regression Model.

Predictor	Adjusted Odds Ratio	df	95% Confidence Interval	p
Year 2 versus Year 1	2.89	1	1.45–5.74	.003
Year 3 versus Year 1	5.31	1	2.23–12.65	< .001
Childhood sexual abuse versus none	5.65	1	2.25–14.20	< .001
Prior bullying versus none	2.25	1	1.10–4.61	.028
Mental health: several days vs. not at all	2.77	1	1.42–5.40	.003
Mental health: > half the days vs. not at all	4.86	1	1.87–12.67	.001
Mental health: nearly every day vs not at all	5.50	1	1.71–17.65	.004
Alcohol use 2–4 times/month vs. never	2.69	1	1.06–6.85	.038

Note. The lowest risk groups were used as reference categories.

These trends were confirmed by qualitative responses from the parent study. One student said that:

> "*I regret joining, being stressed, depression, being lonely... I have failed exams twice and it has really been painful to me"* (20-year-old female Diploma student, KMTC campus May 2026).

One of the students said,

> *"My experience at KMTC is good but there are some strings which must be pulled... not all the GBV cases are taken seriously, discrimination is high and this mentality leads to drug and substance abuse among male students because of fear to report"* (22-year-old male certificate student, KMTC campus, April 2026).

4.2 Discussion

The results of the general GBV question (no student endorsed it) and behaviourally specific items (15.1% endorsed) is methodologically and practically important. It suggests that pupils might have a conceptual understanding of GBV but not recognise their own experiences as such. This can be due to stigma, shame, fear of not being believed, or lack of knowledge about certain behaviours that can be considered as GBV. It also recommends that institutions should not use only general questions when assessing and/or screening for violence. Behaviourally specific questions are more reliable as they help to minimise ambiguity and to identify concrete experiences without first being stigmatised by accepting a label (Anderson *et al*., 2023; Owusu-Antwi *et al*., 2024). This discovery is a justification for the use of concrete examples in orientation, counselling and reporting tools. Institutional systems should not only ask students if they have experienced GBV but should ask about specific behaviours and then direct students in a confidential manner

to support services. This could help to increase the identification of students, decrease underreporting and enhance the college's duty of care.

One of the most significant independent predictors of the occurrence of GBV was the year of study. Year 2 and Year 3 students were much more likely to report GBV than were Year 1 students. This trend indicates that the more students are in campus and clinical settings, the more they are exposed to a broader social network and the more complex the power dynamics, the more vulnerable they may be. This finding is in line with the Ecological Model of violence which states that individual factors are not working in isolation but within a relational and institutional context (Tarzia, 2021).

This higher risk with older students could be due to cumulative exposure. Students in the more senior years might experience longer enrolment, more involvement in off campus activities and more experience with clinical placements in which there are hierarchical relationships. They might also have a greater likelihood of identifying and recalling experiences after having longer periods of time spent in the institution. But, since this was a cross-sectional study, it is unclear whether the increased prevalence is a result of increased exposure or increased recognition or both. However, with the progressive trend, it is recommended that prevention and support should not be restricted to orientation but should be sustained during the training period (Tavolacci *et al*., 2023; Workye *et al*., 2023).

This article's most significant finding is that childhood sexual abuse is closely linked to the present occurrence of GBV. More than 5 times the adjusted odds of reporting GBV at enrolment were found for students who had experienced childhood sexual abuse. In the adjusted model, prior bullying before college also was significant. These findings align with the idea of revictimisation, which suggests that individuals who have experienced violence early in life are more likely to perceive themselves as being at risk for violence, more likely to protect themselves, make different choices in their relationships, and to experience psychological distress and seek help (Krause-Utz *et al*., 2021; Tadesse et al., 2024). The study suggests that an unhealed trauma and diminished protective contexts can result in vulnerability. For KMTC, this translates to trauma-informed screening and referral, not just disciplinary action following a reported incident, as part of the student-welfare systems. Counselling services need to be able to recognize students with a history of childhood abuse, bullying, and/or witnessing violence and offer them confidential support prior to a crisis (Sewalem & Molla, 2022).

There was a strong dose-response relationship between mental-health indicators and the occurrence of GBV. There was a gradual increase in the risk of GBV as the number of psychological symptoms reported by students increased. There are two ways to consider this finding. Firstly, psychological morbidity can be a result of GBV. Secondly, distress can decrease the ability to seek assistance, to continue to report and/or to leave out of unsafe relationships and environments. As this was a cross-sectional study, the causality cannot be determined. This means that psychological distress can be correlated or a result of GBV, and not necessarily a temporally earlier predictor (Keynejad *et al*., 2020; Steele *et al*., 2024).

Care needs to be taken in interpreting the alcohol and substance-use findings. He study acknowledges that the most recent victims were less likely to have no alcohol use and more likely to report exposure to substances. But this should not be construed as a reflection of survivors' fault. It rather emphasizes dangerous social situations, the inability to negotiate consent, the predatory nature of the behaviour of the perpetrator and the post-event self-blame that can lead to a decrease in reporting. Survivor empowerment, bystander education, perpetrator accountability, and environmental controls are all components of prevention evidence that have been shown to be effective (Kettrey *et al*., 2023; Senn *et al.,* 2017). Estimates for the highest category of alcohol-use were unstable, probably because of separation or sparse data, and should be treated with caution.

Most respondents indicated that they were aware about what constitutes GBV, however knowledge was not significantly associated with the occurrence of GBV. Recent victims were also less likely than those not recently victimized to know where to turn for help. This indicates that there is a disconnect between conceptual awareness and navigating the institution. Awareness campaigns are needed but not enough, as students need to know how to report, where to get help, and if they will be believed and protected (Lathan *et al*., 2023; UNFPA & CCGD, 2024). The results show that vulnerability of individual students at KMTC is not a one factor problem but a combination of developmental, residential, psychosocial and behavioural factors. The most significant adjusted effects were for academic progression, childhood sexual abuse, previous bullying, and increased mental-health symptoms. This trend indicates that GBV vulnerabilities are not just determined by the demographic status, but also by the cumulative exposure and psychological burden. Institutions therefore need to go beyond the general awareness and create targeted, trauma-informed and practical support systems.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The individual level determinants of self-reported GBV among KMTC students are year of study, previous victimisation, alcohol exposure and mental-health symptoms. Year of study, childhood sexual abuse, previous bullying and mental-health status were the most significant independent predictors in the adjusted model. Results indicate that there is a close association between GBV vulnerability and trauma history and psychosocial distress. Knowing what GBV is not enough, if students fail to identify behaviourally specific experiences as GBV. The shows that individual vulnerability is cumulative, contextual, and is strongly influenced by psychological well-being.

5.2 Recommendations

Incorporating trauma-informed mental-health screening in student orientation, student welfare and regular counselling should be integrated in KMTC. Second- and third-year students, students with previous trauma experiences, and students who are depressed, blame themselves, have sleep disturbances or suicidal thoughts should be given special attention. Peer mentors and class representatives need to be equipped to recognise distress, respond in a non-victim blaming way and to signpost to professional help. There should also be inclusion of substance-use counselling and safer social-environment strategies and no use of language that attributes blame to survivors for violence against them.

Declaration of Interest

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