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Epidemiology of Campus Sexual Assault Among University Women in Eswatini

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Abstract

Sexual assault on university campuses has attracted growing attention, but there is little data available on the scope of the problem in Southern Africa. We sought to measure the prevalence of campus sexual assault among female university students at the University of Eswatini and describe the experience of survivors using a mixed-methods study design. Women were randomly sampled from a list of all full-time female university students provided by the office of the registrar, and participants completed a brief behavioral survey in a private study office using a tablet with computer-assisted self-interview software. Women who indicated experiences of sexual violence during the survey were invited to self-identify themselves to study staff to participate in a follow-up qualitative interview. We measured sexual assault using the Sexual Experiences Survey–Short Form Version (SES-SFV). We found that women in University were over 6 times more likely to report forced or coerced sex in the previous 12 months than has been previously reported in the general population. Sixty percent of participants reported experiencing an attempted or completed sexual assault in their lifetime, and a total of 38% reported an assault in the past 12 months. The vast majority (93%) of assailants were known to their victim, and the majority (56%) of perpetrators were romantic partners. The majority of participants had never disclosed their assault, and victim blaming and stigma emerged as highly salient themes during in-depth qualitative interviews. Food insecurity, losing a parent before age 21, and hazardous drinking were all significantly associated with experiencing sexual assault in the previous 12 months, as was experiencing a previous assault before the age of 18. To our knowledge, this is the first generalizable study of campus sexual assault prevalence conducted in the Southern African region.

Keywords

campus sexual assault; mixed-methods; Eswatini; sexual violence

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Introduction

Gender-based violence (GBV) is a global public health problem that affects women on every continent. One in three women globally have experienced sexual assault or intimate partner violence (Garcia-Moreno et al., 2013). The prevalence is highest in the African region, where over 45% of women have experienced intimate partner violence or non-partner sexual violence (Garcia-Moreno et al., 2013). Around the world, poverty, experiencing abuse as a child, alcohol use, and a social environment in which gendered violence are normative all heighten women's risk of experiencing GBV (Heise, 1998). In Southern Africa, experiencing abuse as a child, losing a parent before age 18, food insecurity, and hazardous alcohol use have all been associated with sexual violence (Dunkle et al., 2004; Reza et al., 2007; Tsai et al., 2011).

In recent years, sexual assault and harassment on university campuses have attracted growing attention in high-income countries as a barrier to women's ability to access higher education and fully participate in the social, educational, and economic lives of their communities (Campbell, 2015; Clancy, Nelson, Rutherford, & Hinde, 2014). A study of 27 university campuses across the United States found that approximately one third of female university students will experience some form of nonconsensual sexual contact by their senior year, with the highest rates among first-year students (Cantor et al., 2015). The vast majority of women who experience sexual violence on campus do not report the incident to any institution (Cantor et al., 2015).

Sexual assault can have severe effects on women's mental and physical health and ability to function in an academic setting (Peltzer & Pengpid, 2015; Senn et al., 2014; Tsai et al., 2016). Research from high-income countries suggests that women who experience sexual assault have worse academic outcomes and are more likely to drop out of school (Banyard et al., 2017; Mengo & Black, 2016). Women in sub-Saharan Africa already face significant challenges attaining higher education (UNESCO, 2010), and so addressing sexual assault among women who attend university in the region may be an important strategy to support their educational attainment and keep those who have already begun their studies from dropping out as a result of trauma or safety concerns.

There is currently little information available on the scope of campus sexual violence in low- and middle-income countries (LMICs), particularly Southern Africa. Epidemiological data from South Africa has documented that urban women and women aged 18 to 24 may be at higher risk of sexual coercion than women in rural areas and women 25 years and older (Jewkes & Abrahams, 2002), suggesting the possibility that university women may be at elevated risk by dint of their age and attendance at university in an urban area. One small study at a South African university found that 94% of female students reported feeling fearful on campus, with 57% specifically afraid of sexual assault (Singh, Mudaly, & Singh-Pillay, 2015). Most female students reported fear of strangers and a desire for better campus security (Singh et al., 2015), although the majority of sexual assault is perpetrated by individuals whom the victim already knows (Breiding et al., 2011; Collins, Loots, Meyiwa, & Mistrey, 2009; Hollander, 2016; Sinclair et al., 2013).

We conducted a mixed-methods study to measure the prevalence of campus sexual assault in Eswatini (formerly Swaziland) and describe the broader context of assault using descriptive statistics and qualitative data. Eswatini is a small Kingdom in Southern Africa with a population of approximately 1.1 million (Swaziland National Census Report, 2017). The Kingdom has high levels of economic inequality, and approximately one in four Swazis are food insecure (Human Development Report: Swaziland, 2015; Swaziland Annual Vulnerability Assessment and Analysis Report, 2015; Swaziland Multiple Indicator Cluster Survey, Key Findings, 2015). Eswatini is a traditionally patriarchal country, and while little population-level data on GBV exists, newspaper reports and qualitative data suggest it is widespread (Brear & Bessarab, 2012). Approximately 40% of Swazi women have reported that their first sexual encounter was forced or coerced (Ruark & Fielding-Miller, 2016), just over 11% of Swazi women have experienced forced sex in their lifetime (Tsai et al., 2011) and one in three young women aged 13 to 24 experience some form of sexual violence before their 18th birthday (Reza et al., 2009)—a rate 4.75 times the global average and nearly 3 times higher than that reported by women on the rest of the continent (Garcia-Moreno et al., 2013). Sexual assault is associated with heavy alcohol use among victims (Reza et al., 2009; Tsai et al., 2011), and young women who experienced some form of sexual assault before their 18th birthday had a doubled risk of experiencing depression, suicidal ideation, or suicide attempts compared to women who did not (Reza et al., 2009).

We hypothesized that female university students would have elevated rates of sexual violence compared to other women in their age, that structural drivers such as poverty and orphan status would be associated with elevated risk, and that mental health and substance use would be associated with campus sexual assault. To our knowledge, this is the first such study in a low- or middle-income country.

Setting

The University of Eswatini (UNESWA) was established by the Swaziland parliament in 1982 with a mandate to teach, conduct research, and carry out community service. The University enrolls approximately 6,000 students a year, predominantly undergraduates, across three campuses. The main campus, Kwaluseni, is home to approximately 4,500 students, 30% of whom live on campus with the remainder in peri-urban areas nearby. Women make up 58% of the total student population but are 15% more likely to drop out before their fourth year than are men (UNISWA—Report of the Vice-Chancellor, 2014). Students at UNESWA are relatively affluent, compared to the rest of the country. However, 85% of students do receive a government bursary, and student strikes to protest delays in bursary disbursement and to demand stronger material support from the government are not uncommon. UNESWA's sexual harassment policy defines sexual assault/harassment as, "any uninvited, unwanted, unsolicited, and unacceptable move or behavior with a sexual orientation." Student complaints are directed to the police and both victims and perpetrators are referred to the campus health center for treatment and counseling. Beyond this, however, there are few targeted resources on campus for preventing sexual harassment, assault, or dating violence.

Methods

Study Sample and Design

We conducted a mixed-methods study of campus sexual assault with a concurrent nested design consisting of a cross-sectional survey of female students and in-depth interviews with a subset of sexual assault survivors sampled from survey participants. Data were collected at the Kwaluseni campus of the UNESWA between March and November 2018. We selected survey participants using simple random sampling from a list of all full-time female students enrolled on campus as of February 2018, obtained through the office of the University Registrar. Based on previous research in the region, we hypothesized a lifetime sexual assault prevalence of 40% (Reza et al., 2009; Ruark & Fielding-Miller, 2016). We calculated a minimum necessary sample size of 369 participants to capture this prevalence with 95% confidence and 5% precision using the online sampsize calculator (Glaziou, 2005). Surveys were self-administered in English using SurveyCTO software on handheld devices.

Women were eligible to participate if they spoke English, were enrolled full time, and were 18 years of age or older. Randomly selected students were emailed, texted, and called to invite them to come to our private office within the on-campus clinic to participate in a study of “health and lifestyle at the University of Eswatini.”

Measures

The quantitative survey was self-administered in English using small tablets with computer-assisted self interview (CASI) software. English is the instructional language at UNESWA and all students on campus are fluent. The study team agreed that for the purposes of a standardized survey, the concepts were clearer and easier for participants to discuss in English, and using English as a criteria ensured that students from other countries (i.e., Botswana, Lesotho, or South Africa) would also be eligible. Items were pretested with a convenience sample of UNESWA students at a different campus and slight modifications were made for clarity as needed. At the conclusion of the self-administered survey, women who reported experiencing sexual assault in their lifetime received a message on the tablet inviting them to speak to the supervising research assistant if they were interested in participating in a follow-up in-depth interview to discuss their experiences.

Qualitative interviews followed a semi-structured guide. Participants were asked to share their experience of sexual assault as a whole narrative. Interviewers then probed for further detail and context as necessary, including time, place, relationship to perpetrator, and whether substance use was involved. The interview guide also covered participants’ perceptions of victim-blaming at the university and in Eswatini, experiences with disclosure, and preferences and perceptions of available services for survivors. Interviews were conducted in a mixture of siSwati and English based on participant comfort and the concepts being discussed by trained, bilingual female age-matched qualitative interviewers, transcribed, and translated as necessary.

Sexual assault.—Our primary quantitative outcomes of interest were lifetime and past 12-month experiences of sexual assault, measured using the Sexual Experiences Survey–

Short Form Version (SES-SFV) (Johnson, Murphy, & Gidycz, 2017). The SES-SFV is a behavioral survey which asks participants if they have ever experienced unwanted touching or fondling of their breasts or genitalia, oral sex, vaginal penetration, or anal penetration by means of verbal coercion (i.e., lies, threats, badgering); showing anger or displeasure or criticizing a participant's appearance or sexuality after she declines sexual advances; threatening physical harm; using physical force; or taking advantage of a participant when they were too drink or out of it to stop what was happening. The standard SES-SFV measures unwanted sexual assault since age 14, we modified the instrument to include all lifetime experiences and asked participants to report the earliest age at which they experienced an assault (i.e., if multiple assaults were reported, they were asked to report the age of first assault). Under the Eswatini Sexual Offences and Domestic Violence Act (SODV) of 2018, all of these legally constitute rape or sexual assault. We built separate variables to identify: (a) lifetime prevalence of attempted or completed sexual assault (i.e., participants reported any unwanted touching or fondling, and/or oral, vaginal, or anal penetration in their lifetime); (b) lifetime prevalence of completed sexual assault; (c) lifetime prevalence of completed oral, vaginal, or anal penetration (legal rape); (d) past 12-month prevalence of sexual assault; and (e) past 12-month prevalence of oral, vaginal, or anal penetration (legal rape). Women were also asked whether or not they had ever been raped—that is, whether they labeled any of their lifetime experiences as rape. Other items on sexual assault context and perpetrator were based on those used in previous studies in the country, including the Centers for Disease Control and Prevention (CDC)- and UNICEF-sponsored Violence Against Children (VACS) survey (Breiding et al., 2011).

Mental health and substance use.—Hazardous drinking was assessed using the Alcohol Use Orders Identification Test (AUDIT) (Fleming, Barry, & Macdonald, 1991). The AUDIT instrument was developed by the World Health Organization and has been used and validated extensively in the Southern African region, including in a multiracial sample of South African University students (Young & Mayson, 2010). The scale had strong internal validity, with Cronbach's alpha of .80 in this population. We coded women as exhibiting hazardous drinking behavior if they scored 6 points or more, based on normative scores established with female university students in the region (Young & Mayson, 2010).

Women who indicated any lifetime attempted or completed sexual assault were asked to complete the seven-item Breslau short screening scale (Breslau, Peterson, Kessler, & Schultz, 1999), which has been used previously in South Africa (Sikkema et al., 2011; Yemeke et al., 2017) to assess posttraumatic stress disorder (PTSD) related to a specific incident. Women who scored 4 points or higher on the scale were coded as experiencing PTSD. The seven items had a Cronbach's alpha = .83.

Social support.—To assess social support within women's networks, participants were asked the degree to which they believed their friends would support them if a boyfriend, acquaintance, or stranger sexually assaulted them. Participants were able to indicate "definitely yes," "probably yes," "probably no," or "definitely no." These were collapsed in our analyses to "definitely yes" versus "probably yes, probably no, or definitely no."

Demographics.—Participants were asked to indicate their age, year of study, where they stayed on campus, whether they received a government bursary (scholarship), and whether or not they had ever had their own child. Food insecurity was used as the primary proxy of current socioeconomic status. Participants were asked to respond to seven items indicating the frequency in the past 12 months with which they (a) had to eat non-preferred food, (b) didn't have enough food to eat, (c) worried that people gossiped about them because they didn't have enough to eat, (d) borrowed food from friends, (e) borrowed food from relatives, (f) stole food, or (g) did something that made them uncomfortable because they didn't have enough to eat. Participants had the option to choose (a) every day, (b) a few times a week, (c) a few times a month, (d) less than once a month, or (e) never. The items were based on previous qualitative work with young adults in South Africa (Fielding-Miller, Dunkle, & Murdock, 2015), and the scale had a internal validity of $a = 0.82$. The scale was the divided into tertiles (low, medium, high) to account for non-normality.

Analyses

Qualitative and quantitative data were analyzed concurrently, with results informing one another in an iterative process. We first conducted univariate analyses of the quantitative data to determine the prevalence of sexual assault—our primary outcome of interest—and contextual factors including the type of coercion tactics used, presence of bystanders, and survivor's relationship with the perpetrator. To determine the degree of correlation between coercion tactics, we used an exploratory factor analysis of reported coercion tactics with polychoric correlations to account for the binary variable structure. Concurrent with these univariate quantitative analyses, the team discussed their initial impressions of the in-depth interviews and began establishing preliminary hypotheses about potential correlates and causal drivers of sexual assault on campus.

Because UNESWA is a small campus where information travels quickly, and to account for the passing of the SODV Act which occurred in July 2018 at the midpoint of data collection, we used chi-square tests to assess whether reporting of sexual assault increased with our second round of data collection in August.

We next built unadjusted logistic regression models to examine the bivariate associations and significance between our outcomes of interest and hypothesized correlates based on both the literature and our initial reading of the transcripts. To contextualize how these associations manifested in the lives of survivors, we built a qualitative codebook of primarily deductive codes based on relationships that appeared to be significant in bivariate analyses.

In the third step, we built logistic regression models to test for significant potential predictors of sexual assault. We entered covariates in blocks based on their statistical significance in bivariate tests, theoretical importance in the literature, or emergent thematic saturation in in-depth interviews. First, we adjusted for childhood and demographic factors (losing a parent before age 21, ever having a child, sexual assault before age 18). We then added food insecurity and reliance on a bursary for financial support to assess socioeconomic correlates. In the third and final block, we included hazardous drinking. The first author coded all transcripts using the final codebook and select representative quotes were chosen to illustrate key statistical findings.

The survey was programmed and data were collected using SurveyCTO software and exported to Stata 15 for cleaning and analysis (StataCorp, 2015). No single variable was missing more than 5% of the possible observations and so missing data was treated under the assumption that it was missing at random (MAR) and listwise deletion was used in all analyses (Rubin, 1976).

Ethics

This study was reviewed and approved by UNESWA's ethics review board and the University of California, San Diego Institutional Review Board. Procedures were informed by the World Health Organization's Ethical and Safety Recommendations for Intervention Research on Violence Against Women (2016). All participants were offered 25 emalangeni (approximately US$2) after providing informed written consent. To reduce the risk of undue inducement, the incentive was not advertised in recruitment materials and participants were made aware of it only when they arrived at the study offices. Consent was treated as an ongoing process and interviewers reminded participants that they had the option to stop at any time.

Study team members were hired based on their experience with or aptitude for working with survivors of sexual violence and received extended training on both study protocols and trauma-informed approaches to disclosure and support. A study team member with experience in counseling survivors was available to participants at all times, and the team had a list of local support services available in the study office. All in-depth interview participants were provided with a mobile phone number for a counselor whom they could call at any time after the interview. The full study team met regularly to debrief and address the risk of secondary distress or vicarious trauma.

Preliminary results were shared first with the leadership of the UNESWA and then at a national dissemination meeting hosted by the study team and University leadership. The study team shared preliminary results with local media outlets and governmental working groups.

Results

A total of 1,498 female students were enrolled full time at the Kwaluseni campus as of January 2018. We randomly sampled 500 women from the list provided by the Registrar's office and invited them to participate in the study beginning in March 2018. In August 2018, we drew a second random sample with replacement of 500 students, resulting in a final random sample of 752 students. Three hundred seventy-two women agreed to participate and completed the survey for a total response rate of 49.5%, representing approximately 25% of all female students on campus. A total of 170 women were recruited between March 20 and May 25 of 2018 and an additional 193 women were recruited between August 27 and November 20. Twenty survivors agreed to participate in in-depth interviews.

Median participant age was 23 (interquartile range: 21–25), approximately 25% of participants had had at least one child, 15% had lost their mothers before age 21, 28%

had lost their father before age 21, and approximately 6% had lost both parents by age 21. Sample demographics are shown in Table 1.

The lifetime reported prevalence of attempted or completed sexual assault was 60.48% (95% confidence interval, CI = [55.31, 65.49]). Just over half (51.61%) of participants reported a completed sexual assault in their lifetime (95% CI = [46.40, 56.80]), and 29.30% (95% CI = [24.72, 34.21]) reported a completed penetrative sexual assault in her lifetime (Table 2). A total of 37.90% of female college students reported experiencing a completed sexual assault in the 12 months preceding data collection (95% CI = [32.95, 43.04]), and 19.62% (95% CI = [15.71, 24.03]) reported a penetrative sexual assault in the past 12 months. Despite very high rates of what would legally be considered rape or sexual assault in the country, only 9.76% of informants reported that they had experienced rape in their lifetime. Of the 109 women who reported lifetime penetrative sexual assault, only 22—just over 20%—responded yes when asked if they had ever been raped. The prevalence of all completed lifetime and last 12-month assault was not significantly different between participants recruited before and after August. Participants recruited after August were significantly more likely to report a penetrative assault in the previous 12 months (23.83% vs. 15.08%, 0.034, analyses shown in Appendix).

Of the 141 women who reported a sexual assault in the previous 12 months, 93% of assailants were known to the victim (Table 3). The majority of assailants were boyfriends (56.52%), followed by a man or boy from the university (15.22%) or the area (10.87%).

Based on in-depth interviews, many of these men may have been potential romantic partners whom participants did not feel fit the “boyfriend” category:

> I felt like there were limited responses. … [the perpetrator] was some guy who was still asking me out so in your questions there were no responses for someone who is still asking you out but it was just boyfriends and those kind of questions.
>
> (Third-year IDI participant)

A large majority of assaults involved verbal coercion (72%), and just over half of perpetrators used force or threats of force (50.35%). Alcohol was involved approximately one third of the time (31.21%), though more frequently the perpetrator had been drinking (29.79%) than the victim (17.14%):

> I had a boyfriend you see. Yoh! I never told anyone about this, but it’s fine. And then this guy that I was dating was my age, we were just excited and he was into drugs, taking alcohol and smoking and all that. Okay I didn’t care about it, then on the night of the exams he asked that I visit him, I was still a virgin by that time […] we sat and watched 2 movies and then one thing led to another, unfortunately. I wasn’t ready for sex, I didn’t want it. But he used emotional abuse like emotional blackmail, “okay you said you love me now you don’t want this, why are you doing this,” and I kept on saying, “No I’m not ready,” and then that’s where he forced, maybe I don’t know if I could say he forced himself on me because I also got to a point of saying, “Okay let’s do it,” but I wasn’t ready. I wasn’t ready I was not willing, so that’s how it happened.

(First-year IDI participant)

Just over 29% (95% CI = [22.86, 36.32]) of women who reported a sexual assault in their lifetime also reported symptoms consistent with PTSD in the 30 days preceding data collection:

> It's been four years so yeah in a way it made me strong, but there are flashbacks sometimes which are really bad for days […] I stop eating and all that. But after some time I pick myself up. It's just that I always have a fear that I'm never … I wish I could erase everything (sighs). It's just that I don't know how I will feel about my experience tomorrow: Maybe next month it will come back and be too much for me to bear.

(Third-year IDI participant)

Over half of survivors who experienced assault reported never disclosing, with rates of disclosure nearly identical for lifetime (42.55%) and past 12-month (43.17%) assault. In bivariate logistic regressions, women who had experienced sexual assault in their lifetime and felt that their friends would support them if they were assaulted by a stranger reported significantly fewer symptoms of depression (0.001) and PTSD (0.003) (analyses not shown). Several interview participants reported that the survey was the first time they had shared their story and that doing so had brought them some degree of catharsis:

> You have been calling me but then I felt I wasn't ready even though I wanted to talk. I had the feeling that maybe if I can talk I would be able to move on because you know I have got to a point where I see men as dogs they are the same and you see I have a bad picture about them. Somehow I can say this man destroyed me … I must say it was very helpful because the more you talk is the more you are able to move on from things.

(First-year IDI participant)

Women who did disclose were most likely to tell to a friend (73%) or family member (36%). The majority of women who did not disclose a sexual assault reported this was because they did not consider what happened to them to be abuse (52%) or because they did not know whom to tell (25%):

> I didn't want to have sex on the day and my partner on the other hand wanted to. When growing up we didn't see that as rape and that you have a right to say no. The way we were brought up, it's like it is ok for a boyfriend to force you to have sex and as you grow up you can see that it is wrong.

(IDI participant, no year given)

Many interview participants linked the lack of disclosure to victim blaming, both internalized and within larger structures:

> I know that the police have a right to interrogate the whole matter to find out what really happened. But they should be sincere at the beginning then maybe advice you later on like "*sisi* you were wrong here and here." What they usually do is that the minute you get there and report your case they will be like "why were you there in the first place." Like these are the things that happen to victims when they get

> there. I know sometimes we put ourselves in situations where escaping becomes really hard and it has become normal. But the police shouldn't say "why, you knew this was going to happen." They should provide counseling services so that when a person comes and reports a rape case or any sexual assault they feel comfortable. They shouldn't say "what were you doing" you know and then they just take your statement from the word go. No that's not ok.
>
> (Third-year IDI participant)

Other participants were particularly worried about anger, disappointment, or blame from their families:

> It will create that conflict in my family because they had paid for me to go to school and I'm doing something else. Another thing was that I can't break my parents' trust because they trust me entirely so if I come with something like this they will no longer trust me so it's my secret yet it still haunts me a lot.
>
> (Second-year IDI participant)

In bivariate tests (Table 4), having a child was significantly associated with lifetime sexual assault (odds ratio [OR] = 1.82, 95% CI = [1.13, 2.93]), but not with sexual assault in the past 12 months. Losing both parents before age 21 was associated with lifetime (OR = 3.18, 95% CI = [1.14, 8.87]) and past 12 months (OR = 3.53, 95% CI = [1.93, 8.97]) assault, and losing one's mother before age 21 was significantly associated with sexual assault in the past 12 months (OR = 1.88, 95% CI = [1.06, 3.31]). Women who were sexually assaulted before the age of 18 were at a significantly elevated risk of experiencing revictimization in the previous 12 months (OR = 3.66, 95% CI = [2.25, 5.96]).

Relying on a government bursary was not significantly associated with lifetime or past 12-month sexual assault. Food insecurity did have a significant dose–response association with both. Women who reported medium levels of food insecurity were 2.36 to 2.46 times more likely to report a sexual assault in their lifetime of past 12 months, respectively. Women who reported high levels of food insecurity were 3.24 times more likely to report lifetime assault (95% CI = [1.85, 5.70]) and 2.74 times more likely to report an assault in the past 12 months (95% CI = [1.51, 4.99]), compared with women who reported low levels of food insecurity.

Despite these strong bivariate associations, structural issues such as poverty, food insecurity, or the need to support a child were not major themes in in-depth interviews. However, several participants did obliquely refer to their partners as "working" or from outside campus. While no participant directly linked financial obligation to sexual assault, several mentioned the trope of predatory "businessmen" exploiting female students, and one explicitly linked this trope to victim blaming:

> We have a stigma as university students. If I say I was raped by my boyfriend they rush to say "yes he was buying you stuff; you university students are prostitutes." It's hard to get people to listen they rush to conclude on the negative side.
>
> (Second-year IDI participant)

Women who reported lifetime assault were 71% more likely to engage in hazardous drinking than women with no lifetime completed assault (95% CI = [1.00, 2.92]); however, there was no relationship between hazardous drinking and experiences of assault in the past 12 months.

Women who reported being certain that somebody they knew would support them in the case of sexual assault were significantly less likely to have experienced a lifetime attempted or completed assault or an assault in the last 12 months, compared to women who indicated that they probably knew somebody who would support them, or probably or definitely did not know somebody who would support them.

In the final adjusted logistic regression models (Table 5), ever having had a child remained significantly associated with lifetime, but not past 12 months, experience of sexual assault. Women who lost both parents before age 21 were 4.52 and 3.98 times more likely to report lifetime and past 12-month assaults, respectively, and being assaulted before age 18 increased the risk of revictimization 2.84 times. Consistent with the qualitative interviews, food security was not significantly associated with sexual assault after introducing mental health (hazardous drinking) into the model. Hazardous drinking was associated with neither lifetime nor past 12-month experiences of sexual assault.

Discussion

We found that sexual assault is extremely common in the lives of university women in the Kingdom of Eswatini. While lifetime rates of sexual assault were similar to those reported by women aged 18 to 24 in the general population (Reza et al., 2009), the prevalence of any attempted or completed sexual assault in the previous 12 months was approximately 1.8 times higher than that reported by women of a similar age. Moreover, we found that approximately 38% of women at the UNESWA experienced a completed sexual assault in the past 12 months—a rate nearly 4 times higher than that reported in the general population of 18 to 24 year olds (Reza et al., 2007). Taken together, these findings suggest that university women are at significantly elevated risk of experiencing sexual violence compared to other women in their age.

Only one in five women whose experiences met the legal definition of rape labeled their experience as such. The majority of women who did not disclose their assaults said they did not do so either because they did not think what had happened was abuse, or because they did not know who to tell. This is not entirely surprising given that the majority of perpetrators were women’s romantic partners and that marital rape was only outlawed in Eswatini with the passage of the SODV in July, 2018.

Victim blaming attitudes and stigma were pervasive and highly salient in the lives of our survivor informants. In qualitative interviews, victim blaming and a fear of disclosure were strongly intertwined. Survivors felt that disclosing meant running the risk of stigma, blame, mockery, and anger or disappointment from their families and that disclosing within formal institutions was likely to be simultaneously re-traumatizing and unhelpful. In the survey, women who had not experienced sexual assault were more likely to think that friends

would support them in the case of an assault. While we do not have data on women's experiences with disclosure, the qualitative and quantitative findings taken together suggest that women who have disclosed assault to their friends or family have not always been met with non-judgmental support. Conversely, women who had been assaulted reported significantly fewer symptoms of PTSD if they felt their friends would be supportive in the case of a hypothetical assault by an acquaintance. Creating both formal and informal networks to support survivors and reduce victim blaming may be one key approach for programming and policy makers to consider—research suggests that a survivor's experience with disclosure has large implications for subsequent mental health and resilience (Borja, Callahan, & Long, 2006). Policy changes in country may already be helping survivors to disclose—we found a significant increase in reports of penetrative sexual assault following the passage of the SODV, which happened at the midpoint of our data collection.

As has been found in previous studies in the region (Reza et al., 2009), poor mental health was significantly associated with experiences of sexual assault: approximately 30% of women who had experienced an assault in their lifetime reported symptoms consistent with PTSD in the past 12 months, and hazardous drinking was significantly associated with both lifetime and past 12-month experiences of sexual assault. Mental health resources both on campus and in the country are limited—counseling is expensive and stigmatized—however, our findings suggest that there is a strong need for counseling services tailored to survivors of sexual assault in the region.

As seen in other studies (Breiding et al., 2011), social vulnerability was associated with increased likelihood of having been sexually assaulted. More specifically, students who were parents, orphaned, and food insecure were more likely to report sexual assault ever and in the past 12 months. These findings suggest the need for greater prioritization of social support for more vulnerable women. Parenting students in particular may require these supports. Prior research documents increased risk for partner violence, including sexual violence, for girls marrying and child bearing at younger ages (Raj, 2010) and that the need to financially support a child can make it particularly difficult for women to exit violent relationships (Fielding-Miller & Dunkle, 2017).

There are a number of possible reasons why women at UNESWA reported significantly higher rates of sexual violence than women of the same age in the general population. First, women at university may face a unique risk landscape—previous epidemiological work in South Africa has found that women in their early 20s and women living in urban areas were at higher risk of assault (Jewkes & Abrahams, 2002). GBV has also been a topic of frequent popular discussion in recent years as advocates worked to pass the Sexual Offenses and Domestic Violence (SODV) act. Increased conversation may have led to an increased willingness to report. Women who participated in our study also self-reported their experiences using ACASI software, whereas the most comprehensive previous study—in which approximately 3% of women reported being physically forced into penetrative sex in the previous 12 months, and 7% reported being coerced into unwanted sex—used face-to-face interviews. In previous work in Eswatini, we have found that ACASI may increase women's self-reporting of sensitive data, although qualitative work to provide context is

always advised and would likely be particularly useful to further elucidate the difference in risk landscapes between women in and out of school (Ruark & Fielding-Miller, 2016).

To our knowledge, this was the first prevalence study of campus sexual assault with a random sample of participants on the African continent or in a low- or middle-income country, and it offers important insights into campus sexual assault in Eswatini. However, the study should still be considered in light of certain limitations. First, as is common in the field, our study relies on self-report. While we followed best practices to reduce under- or over-reporting (i.e., use of a behavioral rather than subjective measure, Dartnall & Jewkes, 2013, and utilizing self-administered surveys, Phillips, Gomez, Boily, & Garnett, 2010) and qualitative informants reported that the survey was clear and understandable and that many were sharing their experience for the first time, under-reporting is still a possibility given the highly stigmatized nature of sexual assault in the region. Second, our response rate of 49.5% was relatively low, raising the possibility of systematic non-response bias. However, our response rate is at the very high end of what is typical for studies of campus sexual assault. For example, in the 2005 American Association of Universities Climate survey, campus response rates ranged from 7% to 53%, with an overall response rate of 19.3% (Cantor et al., 2015). Some analyses of campus climate survey data suggest that a lower response rate would systematically favor under-reporting (Cantor et al., 2015), biasing our data toward a more conservative estimate. Moreover, given the statistically significant difference in reporting rates before and after the passage of the SODV, it is possible either that women who participated after August were (a) more likely to have experienced a penetrative sexual assault or (b) were more willing to report it. This could either be due to word of mouth on campus attracting participants who were looking for a venue to disclose (as described by one of our informants) or because the passage of the SODV increased participants' awareness and willingness to disclose. Recent work in India does suggest that heightened media attention to sexual violence has the potential to increase reporting (McDougal, Krumholz, Bhan, Bharadwaj, & Raj, 2018). Third, as approximately 9% of our sample were first-year students and our reporting frame is sexual assault in the previous 12 months, we cannot rule out the possibility that some of these 14 recorded assaults occurred before the women enrolled at UNESWA. However, we found no statistical differences in rates of sexual assault by year in school. And finally, as with all cross-sectional studies, we are unable to assess causality. Future work with longitudinal designs to follow women throughout their university career is a key next step in understanding predictors and protective factors for campus sexual violence.

Conclusion

More than one in three college-attending women in this Eswatini sample report sexual assault in the past year, most commonly by a boyfriend. This rate is 6 times that reported among women of the same age in the general population. Only a minority of survivors disclosed their assault to anybody, and many did not define their experiences as sexual assault despite reporting experiences that meet both the public health and legal definition of rape and sexual assault. Women who are socially marginalized, including those contending with early childbearing, food insecurity, and orphanhood, were at increased risk for past year sexual assault, and those reporting sexual assault were also more likely to report substance

use. These findings are consistent with those seen in college campus studies in high-income countries, but offer first time data demonstrating similar concerns in the African region. These findings suggest that campus sexual assault intervention and prevention efforts should be prioritized in Eswatini and that more data are needed from LMICs on these issues to recognize and address these concerns, as LMICs expand tertiary education and increase the number of women attending college.

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Appendix

Table A1.

Comparison Between Early and Late Responders.

	Responded		
Variable	**March–May (*n* = 179)**	**August–November (*n* = 183)**	***p* Value**
Age, *M* (*SD*)	23.35 (3.83)	23.23 (3.59)	.76
Stay off campus, % (*n*)	43.58 (78)	37.82 (73)	.26
Has a child	27.93 (50)	23.83	.37
Lost both parents before age 21	8.38 (15)	3.11 (6)	.03
Lost mother before age 21	16.20 (29)	14.51 (28)	.65
Bursary is main source of financial support	20.67 (37)	19.69 (38)	.81
Food insecurity			
Low	27.10 (42)	30.17 (54)	
Medium	36.13 (56)	35.75 (64)	
High	36.77 (57)	34.08 (61)	.80
Hazardous drinking	12.29 (22)	24.35 (47)	.003
Attempted or completed lifetime sexual assault	58.10 (104)	62.69 (121)	.37
Completed lifetime sexual assault	47.49 (85)	55.44 (107)	.13
Lifetime penetrative sexual assault	25.70 (46)	32.64 (63)	.14
Completed sexual assault, last 12 months	32.96 (59)	42.49 (82)	.06
Penetrative assault, last 12 months	15.08 (27)	23.83 (46)	.03
Any assault before age 18	13.97 (25)	14.51 (28)	.88

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Table 1.

Sample Demographics, $n = 372$.

Variable	Median	Interquartile Range
Age	23	21–25
		%
Year		
1		9.14
2		29.57
3		29.57
4		27.15
5+		4.57
Stay on campus		59.41
Has a child		25.81
Lost mother before age 21		15.32
Lost father before age 21		28.23
Lost both parents before age 21		5.65
Government bursary is primary source of financial support		20.16
Food security (range: 0–28)		
Low (range: 0–4, *M*: 1.98)		28.74
Medium (range: 5–9, *M*: 7.02)		35.93
High (range: 10–28, *M*: 13.85)		35.33

Table 2.

Sexual Assault Prevalence, Outcomes, and Attitudes, $n = 372$.

Variable	%	95% CI
Lifetime attempted or completed sexual assault	60.48	[55.31, 65.49]
Lifetime completed sexual assault	51.61	[46.40, 56.80]
Lifetime penetrative sexual assault (rape)	29.30	[24.72, 34.21]
Attempted or completed sexual assault in the past 12 months	44.35	[39.23, 49.57]
Completed sexual assault in the past 12 months	37.90	[32.95, 43.04]
Penetrative assault (rape) in the past 12 months	19.62	[15.71, 24.03]
Ever been raped (self-reported)	9.74	[6.62, 12.87]
Attempted or completed sexual assault before age 18	14.25	[10.86, 18.22]
If I were sexually assaulted by somebody I know, I definitely have friends who would support me	60.88	[55.65, 65.93]
Hazardous drinking, last 12 months (AUDIT), 6-point cutoff	18.55	[14.73, 22.88]
PTSD from sexual assault (4-point cutoff), past month	29.25	[22.86, 36.32]

Note. CI = confidence interval; AUDIT = Alcohol Use Orders Identification Test; PTSD = posttraumatic stress disorder.

Table 3.

Context and Perpetrators, Completed Sexual Assault in Past 12 Months, $n = 141$.

Variable	%	(*n*)
Perpetrator relationship		
Boyfriend	56.52	(78)
Man or boy from area	10.87	(15)
Man or boy from university	15.22	(21)
Family friend	2.17	(3)
University staff or lecturer	1.45	(2)
Father or family member	2.90	(4)
Stranger	6.52	(9)
Someone else	4.35	(6)
Type of coercion used[a]		
Verbal pressure: lies, threats, criticizing, getting angry, making false promises	72.34	(104)
Using force or threatening to use force	50.35	(71)
Taking advantage when I was too drunk or out of it to stop what was happening	24.82	(35)
Perpetrator was drinking		
Yes	29.79	(42)
No	63.83	(90)
Don’t know	6.38	(9)
Survivor was drinking	17.14	(24)
Alcohol involved	31.21	(44)
Location[b]		
Your home	8.5	(12)
Home of a friend or relative	23.4	(33)
On campus	29.8	(42)
In public	4.3	(6)
On the way to or from class	0.7	(1)
Somewhere else	36.9	(52)
Bystander present		
No	72.3	(102)
Yes, but not aware	26.2	(37)
Yes, and aware but did not attempt to intervene	2.8	(4)
Yes, and aware and attempted to intervene	0.7	(1)
Disclosure		
No one	56.8	(79)
Family member	14.4	(20)
Friend	31.7	(44)
UNESWA faculty or staff	0.7	(1)
Police	2.9	(4)
Social worker	1.4	(2)
Religious leader	0.7	(1)

Variable	%	(*n*)
Health care professional	0.7	(1)
Counselor	2.9	(4)
Someone else	3.6	(5)
Reasons for non-disclosure		
Financially dependent on perpetrator	8.9	(7)
Didn't think it was abuse	51.9	(41)
Didn't know who to tell	25.3	(20)
Didn't think anyone would believe me	7.6	(6)
Didn't want to embarrass my family	5.1	(4)
Perpetrator threatened me	1.3	(1)
Didn't want to get the perpetrator in trouble	3.8	(3)
Given money or gifts not to tell	2.5	(2)
Too ashamed to tell	24.1	(19)

Note. UNESWA = The University of Eswatini.

[a]Based on principle factor analysis using polychoric correlation, three identified factors.

[b]Not mutually exclusive.

Table 4.

Univariate Correlates With Lifetime Attempted or Completed Sexual Assault.

	Lifetime			
	Attempted or Completed		Completed	
	OR	95% CI	OR	95% CI
Age	1.06	[1.00, 1.13]	1.05	[0.99, 1.11]
Year				
1st	Ref		Ref	
2nd	0.93	[0.42, 2.05]	1.08	[0.50, 2.32]
3rd	0.74	[0.34, 1.63]	0.86	[0.40, 1.87]
4th	1.22	[0.55, 2.73]	1.40	[0.64, 3.06]
5th+	1.13	[0.34, 3.82]	0.89	[0.28, 2.85]
Stay off campus	0.98	[0.65, 1.50]	1.10	[0.72, 1.66]
Bursary is main form of financial support	1.30	[0.76, 2.20]	1.53	[0.91, 2.56]
Has a child	1.97	[1.19, 3.26]	1.82	[1.13, 2.93]
Lost both parents before age 21	2.17	[0.78, 6.07]	3.18	[1.14, 8.87]
Lost mother before age 21	1.65	[0.90, 3.04]	1.60	[0.90, 2.85]
Food insecurity				
Low	Ref		Ref	
Medium	2.32	[1.34, 4.01]	2.36	[1.36, 4.12]
High	3.31	[1.88, 5.85]	3.24	[1.85, 5.70]
If I were sexually assaulted by someone I know, I definitely have friends who would support me	0.36	[0.23, 0.57]	0.30	[0.19, 0.47]
Hazardous drinking	1.92	[1.08, 3.42]	1.71	[1.00, 2.92]
	Last 12 Months			
	Attempted or Completed		Completed	
	OR	95% CI	OR	95% CI
Age	1.02	[0.97, 1.08]	1.01	[0.95, 1.07]
Year				
1st	Ref		Ref	
2nd	1.11	[0.51, 2.41]	1.34	[0.59, 3.03]
3rd	1.03	[0.47, 2.24]	1.06	[0.47, 2.41]
4th	1.29	[0.59, 2.84]	1.55	[0.68, 3.52]
5th+	1.61	[0.50, 5.19]	1.46	[0.44, 4.89]
Stay off campus	0.87	[0.58, 1.33]	0.94	[0.62, 1.45]
Bursary is main form of financial support	1.29	[0.77, 2.14]	1.38	[0.82, 2.30]
Has a child	1.28	[0.81, 2.05]	1.31	[0.82, 2.11]
Any sexual assault before age 18	4.27	[2.23, 8.18]	5.31	[2.80, 10.09]
Lost both parents before age 21	2.65	[1.04, 6.72]	3.53	[1.39, 8.97]
Lost mother before age 21	2.26	[1.27, 4.04]	1.88	[1.06, 3.31]
Food insecurity				
Low	Ref		Ref	

Medium	2.67	[1.49, 4.74]	2.40	[1.32, 4.37]
High	3.60	[2.01, 6.46]	2.74	[1.51, 4.99]
If I were sexually assaulted by someone I know, I definitely have friends who would support me	0.47	[0.30, 0.72]	0.40	[0.26, 0.62]
Hazardous drinking	1.83	[1.08, 3.10]	1.66	[0.98, 2.81]

Note. OR = odds ratio; CI = confidence interval.

Table 5.

Logistic Regression Correlates of Lifetime and Pat 12-Month Sexual Assault.

	Lifetime		Past 12 Month	
	OR	**95% CI**	**OR**	**95% CI**
Block A—lifetime and childhood factors, *n* = 372				
Ever had a child	1.82	[1.13, 2.94]	1.08	[0.65, 1.80]
Any sexual assault before age 18			5.04	[2.62, 9.69]
Maternal and paternal orphan	3.18	[1.13, 8.93]	3.12[a]	[1.18, 8.25]
Block B—lifetime and childhood factors with current socioeconomic status, *n* = 334				
Ever had a child	2.17	[1.28, 3.67]	1.17	[0.68, 2.01]
Any sexual assault before age 18			3.99	[1.96, 8.11]
Maternal and paternal orphan Food insecurity	3.33	[1.06, 10.50]	3.01	[1.07, 8.47]
Low	Ref		Ref	
Medium	2.29	[1.30, 4.03]	2.35	[1.26, 4.38]
High	2.99	[1.68, 5.35]	2.43	[1.30, 4.57]
Bursary is main source of financial support	1.11	[0.62, 1.99]	1.20	[0.66, 2.18]
Block C—lifetime and childhood factors, socioeconomic status, and mental health, *n* = 294				
Ever had a child	2.22	[1.31, 3.77]	1.20	[0.70, 2.06]
Any sexual assault before age 18			3.99	[1.96, 8.13]
Maternal and paternal orphan	3.33	[1.05, 10.52]	2.98	[1.06, 8.38]
Food insecurity				
Low	Ref		Ref	
Medium	2.18	[1.23, 3.86]	2.24	[1.19, 4.19]
High	2.91	[1.63, 5.22]	2.36	[1.26, 4.45]
Bursary is main source of financial support	1.14	[0.63, 2.06]	1.23	[0.67, 2.26]
Hazardous drinking (binary)	1.63	[0.91, 2.90]	1.59	[0.89, 2.84]

Note. OR = odds ratio; CI = confidence interval; aOR = adjusted odds ratio; SA = sexual assault.

[a]Maternal orphan was also significant predictor of SA in past 12 months when controlling for same factors: aOR = 1.95; 95% CI = [1.08, 3.55].