

Erickson, M., Goldenberg, S. M., Master, A., Muzaaya, G., Akello, M., Braschel, M., Birungi, J., & Shannon, K. (2018). Interpersonal and structural contexts of intimate partner violence among female sex workers in conflict-affected northern Uganda. *Women & Health*, 58(7), 759–773. <https://doi.org/10.1080/03630242.2017.1342742>.

## **Interpersonal and Structural Contexts of Intimate Partner Violence among Female Sex Workers in Conflict-Affected Northern Uganda**

Authors: Margaret Erickson, Shira M Goldenberg, Aditi Master, Godfrey Muzaaya, Monica Akello, Melissa Braschel, Josephine Birungi, Kate Shannon

1. Gender and Sexual Health Initiative, British Columbia Centre for Excellence in HIV/AIDS, Vancouver, BC, CANADA
2. Faculty of Health Sciences, Simon Fraser University, Burnaby, Canada
3. Faculty of Medicine, University of British Columbia, Vancouver, BC, CANADA
4. The AIDS Support Organization, Uganda

**Corresponding Author: Kate Shannon, PhD, MPH**

Word Count: 3,719 (excluding title page, abstract and references)

## **ABSTRACT**

### **Background:**

Intimate partner violence (IPV) is the most prevalent form of violence against women, yet remains under-researched among sex workers in Sub-Saharan Africa. We explored interpersonal and structural determinants of recent IPV among female sex workers in northern Uganda.

### **Methods:**

This analysis drew on data from a community-based cross-sectional study (conducted May 2011-January 2012), involving 379 female sex workers in Gulu, northern Uganda. Using logistic regression and multivariable modeling, we examined correlates of recent male-perpetrated physical or sexual IPV.

### **Results:**

Of 379 women with non-commercial partners, 59% reported having experienced recent moderate/severe physical or sexual IPV. Reporting recent client violence (Adjusted Odds Ratio (AOR): 3.67; 95% confidence interval [CI]: 2.31-5.83), doing what their partner wanted (AOR: 2.46; 95% CI: 1.46-4.13), and forced sexual debut (AOR: 1.92; 95% CI: 1.20-3.05) were independently associated with moderate/severe IPV; recent police arrest and/or incarceration was marginally significantly associated with IPV (AOR: 2.25; 95% CI: 0.86-5.88,  $p=0.097$ ).

### **Conclusion:**

Greater odds of IPV among sex workers was associated with recent workplace violence, forced sexual debut, and gendered power dynamics favoring male partner control. Programs and policies promoting the safety and health of marginalized women and addressing gender dynamics and violence are needed.

**Keywords:** Intimate partner violence, sex workers, Uganda, Sub-Saharan Africa

## **BACKGROUND**

Intimate partner violence (IPV) is the most prevalent form of violence against women on an international level (García-Moreno and Watts 2000), as well as a fundamental violation of human rights (World Health Organization 2013). IPV, often referred to as domestic violence, has been defined by the WHO as “any behavior within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship” (World Health Organization 2012). Physical IPV is almost always accompanied by psychological violence, and sexual violence, such as frequent forced sex by a partner, is experienced in 25-50% of cases (Borwankar, Diallo, and Somerfelt 2008). Unfortunately, although IPV presents a significant human rights issue, it too often goes unreported and unrecognized (Borwankar, Diallo, and Somerfelt 2008).

IPV remains an important cause of mortality and morbidity among women, and is a critical factor influencing women’s reproductive and sexual health (Watts and Mayhew 2004). Forced sex by intimate partners has been associated with a range of reproductive health issues, including an increased risk of HIV (R. K. Jewkes et al. 2010) and other sexually transmitted infections (STIs), as well as unwanted pregnancy, pain during intercourse, decreased sexual desire, vaginal bleeding or infection, and urinary tract infections (Watts and Mayhew 2004). In addition, the fear of violence from an intimate partner can greatly influence sexual and reproductive decision-making, such as the use of contraceptives (Watts and Mayhew 2004).

Female sex workers represent a marginalized population that face enhanced risk of gender-based violence across diverse contexts. While most research has largely focused on client-perpetrated violence (Okal et al. 2011; Shannon and Csete 2010; Shannon et al. 2009; Scorgie et al. 2012)

and associated negative reproductive health outcomes, such as HIV transmission (Couture et al. 2010; El-Bassel et al. 2001; Ulibarri et al. 2010; Dunkle and Decker 2013), the gendered power dynamics and consequences of violence perpetrated by intimate partners has been relatively overlooked. Research on IPV among sex workers remains especially limited in low and middle income countries, including those within Sub-Saharan Africa (Pack et al. 2014), a region which has been identified as having disproportionately high rates of IPV compared to other low-and middle income contexts (Borwankar, Diallo, and Somerfelt 2008). The present research was conducted in Uganda, where IPV rates in the general population are high; an estimated 62% of ever-married women aged 15-29 years report having experienced emotional, physical or sexual IPV (Uganda Bureau of Statistics (UBOS) and ICF International Inc. 2012).

The present study was conducted in northern Uganda, a region that has recently emerged from a two-decade-long conflict fought between the government's Uganda's People Defense Forces and the rebel Lord's Resistance Army (LRA). Known for its gross human rights violations, including large-scale sexual and gender-based violence and the abduction of children and youth by the LRA, the conflict has contributed to a breakdown in social structures, forced migration, and large-scale displacement (Human Rights Watch 2003). Within this context, enhanced negative sexual and reproductive health outcomes have been reported, including potentially elevated vulnerability to HIV, STIs and unintended pregnancies (Amowitz 2002; Buvé, Bishikwabo-Nsarhaza, and Mutangadura 2002; Lehmann 2002; Spiegel 2004; Erickson et al. 2015).

Although research involving sex workers in conflict-affected settings has been minimal, previous studies have demonstrated that sex workers who live and work in northern Uganda have

experienced large-scale physical and sexual violence, not only related to their working conditions, but also stemming from the historical legacy of exposure to conflict, abduction by rebel forces, and experiences living in internally displaced peoples camps (K. a Muldoon et al. 2014; Goldenberg et al. 2016).

Despite the potential importance of partner-based interventions for improving women's health and wellbeing in post-conflict settings (Inter-Agency Standing Committee 2015; Hossain, Zimmerman, Kiss, Abramsky, et al. 2014), limited research has examined the relationships between sex workers and their intimate partners within this context. The aim of the present research, therefore, was to investigate the burden of recent IPV, measured using the WHO Standardized IPV Scale (World Health Organization 2005), and its associations with individual, partner-level/interpersonal and structural experiences (including historical, current and war-related violence and work environment factors) among sex workers in post conflict Gulu, northern Uganda.

## **METHODS**

### **Study Participants**

As previously described (Erickson et al. 2015; K. a Muldoon et al. 2014), this analysis drew on data from the Gulu Sexual Health Project, a community-based cross-sectional study conducted in Gulu District, northern Uganda from May 2011 to January 2012. The study was conducted by Canadian and Ugandan researchers in partnership with The AIDS Support Organization (TASO) and other local community partners. Service providers, sex workers and policy experts provided extensive input and guidance on the project and questionnaire. The questionnaire items were

developed, adapted and piloted for this study by the research team. Questionnaire measures were adapted to the local context during questionnaire piloting and based on available validated and previously published measures where possible, including the WHO Standardized IPV Scale (World Health Organization 2005), gendered sexual relationship control and power dynamics (Pulerwitz, Gortmaker, and Dejong 2000), and standard measures of workplace violence used in other sex work studies (K. A. Muldoon et al. 2015; Argento et al. 2014). The study protocol received ethical approval from the University of British Columbia Behavioural Research Ethics Board, TASO Institutional Review Board and is registered at the Ugandan National Council for Science and Technology.

Participants were recruited through peer/sex worker-led outreach to on- and off-street sex work venues, such as bars, brothels, hotels and truck stops. Time-location sampling was used to enroll sex workers at the times and places when and where they congregated, with physical spaces rather than persons as the primary sampling unit. These methods are consistent with recruitment of other cohorts of sex workers and hidden/mobile populations (Karon and Wejnert 2012). Sampling was based on ethnographic mapping and outreach planning by TASO. Other recruitment strategies supplemented this approach, including outreach to former internally displaced person (IDP) camps, recruitment at TASO clinics, and referral from local community agencies (e.g., Gulu Refugee Committee). Eligibility criteria included:  $\geq 14$  years old and exchanged sex for money or resources (e.g., food, cell phone air time, clothing, shelter, etc.) in the previous 30 days. Of 400 recruited female sex workers, the analysis was restricted to female sex workers who reported having an intimate (non-commercial) partner ( $n=379$ ). All participants provided written informed consent or a thumbprint for those with limited literacy.

## **Data Collection**

Interviewer-administered questionnaires were conducted by trained Acholi research assistants at the TASO-Gulu office or at a confidential location of participant's choosing. The questionnaire covered topics including socio-demographics, sex work history, trauma and violence, sexual and reproductive health, mental and physical health, and HIV testing and treatment. Study participants received an honorarium of 10,000 UGX (~\$4 Canadian) for their time, information and travel. Trained research assistants offered voluntary HIV testing and counseling, although this was not required for study participation. Referrals for food security programs and other health services were provided.

## **Independent variables**

Individual characteristics examined included age, education, and HIV serostatus (based on voluntary HIV counseling and testing, or after informed consent to link their most recent TASO test results). Sexual and reproductive health measures considered contraceptive use, access to contraceptives and condoms, and recent STI testing and results.

***Interpersonal/partner-level variables:*** Interpersonal/partner-level factors examined included intimate partner knowledge of the respondent's sex work involvement, and gendered power dynamics over sexual negotiation (i.e., partner gets violent when asked to use a condom, most of the time we do what my partner wants, who has more say regarding sexual acts) using sub-measures of the standardized Pulweritz Sexual Relationship Power Scale (Pulweritz, Gortmaker, and Dejong 2000).

***Structural variables:*** structural variables examined included workplace physical and/or sexual violence by clients (i.e., customers), police harassment, or criminal justice encounters (police

arrest and/or incarceration) in the previous six months; as well as relevant historical exposures, such as forced (vs. consensual) sexual debut (i.e., “was your first time having sex forced or consensual?”), historical violence (e.g., childhood abuse/mistreatment; history of physical and sexual assault) and conflict-related experiences and human rights violations (e.g., ever lived in an IDP camp, abducted into the LRA).

*Outcome measure:* Recent IPV was measured using an adapted version of the WHO Standardized IPV Scale, originally designed for the WHO Multi-country Study on Women’s Health and Domestic Violence Against Women (World Health Organization 2005). The standardized scale addresses experiences of physical, sexual, and emotional violence among women by current or former intimate male partners. Our IPV outcome measure was defined as experiencing either or both of moderate/severe physical IPV (e.g., slapped, pushed or shoved, kicked, beaten up, choked or burnt, threatened with a weapon) or sexual IPV (e.g., physically forced to have sex against will, had sex out of fear, forced into degrading or humiliating sexual acts) within the last six months.

### **Data Analyses**

The analysis was restricted to female sex workers who reported having an intimate (non-commercial) partner (n=379). Descriptive statistics and bivariate analyses were calculated for individual, partner/interpersonal, and structural variables. Wilcoxon rank-sum test for continuous variables and Pearson’s Chi-squared test (or Fisher’s exact test for small cell counts) were used for binary variables in the bivariate analysis. Variables which were hypothesized *a priori* to be related to IPV and which had  $p < 0.10$  in bivariate analyses were considered for inclusion in the



multivariate logistic regression analysis. Multiple logistic regression was used to model interpersonal and structural factors associated with experiencing physical or sexual IPV in the last six months. A backward selection modeling approach was used to identify the most parsimonious and best-fitting model, as indicated by the lowest Akaike's information criterion (AIC). Variables with the largest p-value were removed in a stepwise manner until the model with the lowest AIC was determined. Analyses were performed using SAS version 9.4 (SAS, Cary, NC).

## **RESULTS**

Of 400 sex workers, the analysis was restricted to 379 (95%) women who had an intimate, non-paying partner in the last six months. Of these women, 59% (n=225) reported having experienced moderate-to-severe physical and/or sexual IPV in the last six months.

*Individual factors:* The median age of participants was 21 years; a large proportion (63%) of participants reported less than primary school educational attainment, and the majority (75%) had children. HIV prevalence was 32.5%, and a greater proportion of women exposed to recent IPV were living with HIV compared to women who did not report IPV (59% vs. 40%,  $p=0.933$ ), although this difference was not statistically significant. In the prior six months, only 118 (31%) of women reported having used non-barrier contraceptives as pregnancy prevention; 221 (56%) faced difficulty obtaining condoms, and less than one-fifth (17%) had been tested for STIs.

*Interpersonal factors:* The majority of women reported that their partner would get violent if they asked them to wear a condom (64%). Most (74%) participants also reported that most of the

time they did what their partner wanted, which was significantly more likely in unadjusted analyses among women reporting having experienced IPV compared to women who did not (65% vs. 35%, odds ratio (OR): 2.51, 95% Confidence Interval (CI): 1.56-4.04). Only 163 (43%) participants said their partner knew about their sex work in the past six months, with women reporting IPV non-significantly more likely to report this compared to women who did not report IPV (62% vs. 38%,  $p=0.371$ ). Of women reporting having experienced sexual assault by intimate partners, only two women had ever reported this to the authorities.

*Structural factors:* High rates of recent workplace-related violence were reported by participants, with 188 (50%) reporting having experienced client violence in the last six months. In unadjusted analyses, those reporting experiencing IPV were much more likely also to report experiencing recent client violence compared to those who did not report having experienced IPV (76% vs. 24%,  $p<0.001$ , OR: 4.22, 95% CI: 2.72-6.56). Almost one-third of sex workers ( $n=106$ , 28%) experienced recent police harassment (without arrest), and those women who experienced IPV were more likely to have faced police harassment (67% vs. 33%,  $p=0.060$ ) compared to those who did not experience recent IPV. Almost two-thirds (63%) also reported lifetime experiences of childhood abuse, with a higher proportion of women who experienced recent IPV reporting this (61% vs. 39%,  $p=0.145$ ), although this difference was not statistically significant in unadjusted analyses. Almost two-thirds of participants ( $n=235$ , 62%) had experienced a forced sexual debut, and in unadjusted analyses women who reported having experienced IPV were twice as likely to have had a forced sexual debut (67% vs. 33%,  $p<0.001$ , OR: 2.25, 95% CI: 1.47-3.44). Approximately one-third (31%) of participants had experienced war-related abduction by the rebel LRA in their lifetime, and two-thirds of women

(67%,  $p=0.17$ ) had lived in an IDP camp; while higher proportions of women who reported experiencing IPV reported exposure to these historical conflict-related experiences and rights violations, these differences were non-significant.

*Multivariate results:* In a multivariate model (Table 2), factors independently associated with recent physical/sexual IPV included: workplace client-perpetrated violence within the last six months (AOR: 3.67; 95% CI: 2.31-5.83); reporting that the majority of the time they did what their partner wanted (AOR: 2.46; 95% CI: 1.46-4.123); forced sexual debut (Adjusted Odds Ratio (AOR): 1.92; 95% CI: 1.20-3.05); and recent arrest or incarceration within the last six months (marginally associated, AOR: 2.25; 95% CI: 0.86-5.88,  $p=0.097$ ).

## **DISCUSSION**

In this research well over half (59%) of sex workers who participated from conflict-affected Gulu northern Uganda ( $n=379$ ), reported having experienced recent physical or sexual violence perpetrated by their intimate partners. This figure is similar to that from previous research examining recent physical and or sexual IPV among married women in the country (Borwankar, Diallo, and Somerfelt 2008). In the face of limited previous research on intimate partners and non-workplace related aspects of sex workers' health and safety globally (Deering et al. 2014) and particularly within conflict-affected settings (K. a Muldoon 2015), the results from our study draw attention to the high rates of IPV among sex workers within the unique post-conflict setting of Northern Uganda.

In our study, structural exposures such as recent workplace-related client violence, recent arrest or incarceration, lifetime trauma (e.g., forced sexual debut), and gendered power dynamics favoring male intimate partner control were associated with a higher reporting of recent IPV. These findings echo the growing concern within the global literature that speaks to the critical need to address IPV for sex workers (Argento et al. 2014; El-Bassel et al. 2001), including an imminent need for structural interventions that address violence and trauma across the lifecourse for marginalized women in conflict-affected settings.

Unequal gendered power dynamics, notably limitations in women's ability to control their sexual lives, have previously been linked to negative sexual and reproductive health outcomes for women in Sub-Saharan Africa (Buvé, Bishikwabo-Nsarhaza, and Mutangadura 2002; Shannon et al. 2012; Dunkle and Jewkes 2007). In the present study, we found an almost 2.5- times higher odds of recent IPV among women reporting gendered power dynamics favoring male partner control. Within Sub-Saharan Africa, Uganda has one of the highest rates of IPV within the general population of women (Borwankar, Diallo, and Somerfelt 2008). Previous researchers have observed that within Ugandan society, deep-rooted gender norms and traditions may reinforce patriarchal values which pose significant challenges to addressing IPV (Olayanju et al. 2013).

Moreover, the influence of violent conflict in the region may play a role in the burden of IPV in the region. Research from Uganda, as well as other post-conflict settings in Sub-Saharan Africa, such as Cote d'Ivoire, Sierra Leone and Liberia have also reported heightened rates of IPV following periods of armed conflict (Hossain, Zimmerman, Kiss, Kone, et al. 2014; Horn et al.

2014; Saile et al. 2013). Results of studies from West-Africa have indicated that a loss of social status and its effect on the gendered division of labor, poverty, and feelings of anger and shame may be contributing factors among male perpetrators post-conflict (Horn et al. 2014).

Furthermore, IPV perpetration has been linked to the potential long-term and cyclical effects of exposure to conflict and trauma (R. Jewkes 2007; R. Jewkes et al. 2006; Semiatin et al. 2017).

Previous reports suggest that during Uganda's two-decade long conflict, men became so accustomed to witnessing and perpetuating violence during times of war that violence within post-conflict domestic settings became normalized (Horn et al. 2014).

Overall, the heightened risk of IPV following Uganda's conflict highlights the country's historical lack of explicit interventions to address the high rates of gender-based violence (Borwankar, Diallo, and Somerfelt 2008). Programs are critically needed that are not only tailored for sex workers but that also focus on partner based interventions that address historical and ongoing violence, and the healing process that comes with that.

In this study, workplace-related client violence was the most strongly associated factor for reporting recent IPV, with women exposed to client violence facing over 3.5-times higher odds of IPV. These findings echo the results of other international research demonstrating that linkages between high rates of IPV and workplace violence among sex workers (El-Bassel et al. 2001; Hong et al. 2013). Of particular concern, the association between recent incarceration or arrest and higher odds of IPV suggests that current law enforcement policies and practices may inadvertently be further punishing, rather than assisting, the most marginalized and vulnerable women. These findings add to a growing body of evidence suggesting that sex workers in Sub-

Saharan Africa face high rates of criminalization, stigma, discrimination, and violence - structural conditions that may also make it unlikely that women will report or receive support from police upon experiencing violence (Ratinthorn, Meleis, and Sindhu 2009). The lack of access to justice or violence faced by sex workers may amplify negative health outcomes for an already highly marginalized population (Shannon and Csete 2010; Scorgie et al. 2012).

Finally, we found forced sexual debut to be independently associated with reporting recent IPV among sex workers participant in our study. While further research is required, previous studies have demonstrated that forced sexual initiation ranges from 5.3%-46% among women within Sub-Saharan Africa (Stockman, Lucea, and Campbell 2013). In our study, 62% of sex workers reported having experienced forced sexual debut, a disproportionately higher figure compared to the general population. Additionally, our findings regarding forced sexual debut and subsequent IPV, as well as high levels of workplace-related client violence, echo the results of the limited existing research which has been conducted on IPV among sex workers, which reveals a cycle of violence from multiple perpetrators that often begins during childhood, and continues throughout the lifecourse (Argento et al. 2014; El-Bassel et al. 2001; Pack et al. 2014).

## **LIMITATIONS**

As a cross-sectional analysis, our findings cannot be used to determine temporal relations of variables and thus to infer causality; future longitudinal studies and qualitative analyses with larger sample sizes are recommended to comprehend better sex workers' experiences with IPV. Additionally, further research into the cultural understandings of IPV for sex workers and other marginalized populations of women in Uganda, particularly within the context of a post-conflict

setting, is recommended to inform appropriate interventions. It should be noted since the questionnaire was developed specifically for this research, misclassification may have occurred and/or the results may not be directly comparable to those of prior studies that have used standard instruments. Lastly, this research should not be generalized to the entire country as it was only conducted in northern Uganda.

## **CONCLUSIONS**

The results of this study highlight the prevalence of the historically under-researched area of intimate partner violence for sex workers in sub-Saharan Africa. Our study determined a very high burden of recent intimate partner-perpetrated physical or sexual violence among sex workers in a unique post-conflict setting in northern Uganda. The burden of IPV was heightened among sex workers exposed both interpersonal and structural factors including recent client violence in the workplace, forced sexual debut, and gendered power dynamics favoring male intimate partner control. Recent arrest or incarceration was also marginally associated with IPV. Further research and qualitative studies are needed among women experiencing high rates of IPV, especially for marginalized women involved in sex work and those who have lived through violent conflict. Programs and policies that promote the safety, health and well-being of marginalized young women and address gender dynamics and historical violence are needed. Additionally, structural interventions that address violence and trauma across the lifecourse for marginalized young women as well as their partners are critically needed within conflict-affected settings.

## **CONFLICTS OF INTERESTS**

The authors declare no conflict of interest

## **ACKNOWLEDGMENTS**

The authors wish to thank all those who contributed their time and expertise to this project, particularly participants, Acholi interview and peer/ sex worker outreach teams, TASO Gulu community advisory board and humanitarian/ refugee, youth, women, and sex work partner agencies. We wish to acknowledge in particular Esther Achan, Miriam Akello, Katie Muldoon, Jacky Ayat, Beatrice Baraka, Bibian Achan, Grace Lakot, Winnie Amunu, Andrew Mijumbi Ojok, Paul Nguyen, Melissa Braschel and Sabina Dobrer for their research and administrative support. This research was supported through a CIHR Team Grant in Gender, Violence and Health. SG is supported by the Canadian Institute of Health Research (CIHR). KS is supported by Canada Research Chair in Global Sexual Health and HIV/AIDS and Michael Smith Foundation for Health Research.



## REFERENCES

- Amowitz, Lynn L. 2002. "Prevalence of War-Related Sexual Violence and Other Human Rights Abuses among Internally Displaced Persons in Sierra Leone." *JAMA* 287 (4). American Medical Association: 513. doi:10.1001/jama.287.4.513.
- Argento, Elena, Katherine A Muldoon, Putu Duff, Annick Simo, Kathleen N Deering, and Kate Shannon. 2014. "High Prevalence and Partner Correlates of Physical and Sexual Violence by Intimate Partners among Street and off-Street Sex Workers." *PloS One* 9 (7): e102129. doi:10.1371/journal.pone.0102129.
- Borwankar, Reena, Rouguiatou Diallo, and Elisabeth a. Somerfelt. 2008. "Gender-Based Violence in Sub-Saharan Africa : A Review of Demographic and Health Survey Findings and Their Use in National Planning." Washington, DC.
- Buvé, Anne, Kizito Bishikwabo-Nsarhaza, and Gladys Mutangadura. 2002. "The Spread and Effect of HIV-1 Infection in Sub-Saharan Africa." *Lancet* 359 (9322): 2011–17. doi:10.1016/S0140-6736(02)08823-2.
- Couture, Marie-Claude, Julio C. Soto, Gerald Joseph, and Maria-Victoria Zunzunegui. 2010. "Violence Against Intimate Partners and Associations with Inconsistent Condom Use among Clients of Female Sex Workers in Haiti." *Public Health Reports* 125 (6): 896.
- Deering, Kathleen N., Avni Amin, Jean Shoveller, Ariel Nesbitt, Claudia Garcia-Moreno, Putu Duff, Elena Argento, and Kate Shannon. 2014. "A Systematic Review of the Correlates of Violence Against Sex Workers." *American Journal of Public Health* 104 (5): e42–54. doi:10.2105/AJPH.2014.301909.
- Dunkle, Kristin L, and Michele R Decker. 2013. "Gender-Based Violence and HIV: Reviewing the Evidence for Links and Causal Pathways in the General Population and High-Risk Groups." *American Journal of Reproductive Immunology* 69 (1): 20–26.

doi:10.1111/aji.12039.

Dunkle, Kristin L, and Rachel Jewkes. 2007. "Effective HIV Prevention Requires Gender-Transformative Work with Men." *Sexually Transmitted Infections* 83 (3): 173–74.

doi:10.1136/sti.2007.024950.

El-Bassel, N, S S Witte, T Wada, L Gilbert, and J Wallace. 2001. "Correlates of Partner Violence among Female Street-Based Sex Workers: Substance Abuse, History of Childhood Abuse, and HIV Risks." *AIDS Patient Care and STDs* 15 (1): 41–51.

doi:10.1089/108729101460092.

Erickson, Margaret, Shira M Goldenberg, Mirriam Ajok, Katherine A Muldoon, Godfrey Muzaaya, and Kate Shannon. 2015. "Structural Determinants of Dual Contraceptive Use among Female Sex Workers in Gulu, Northern Uganda." *International Journal of Gynaecology and Obstetrics: The Official Organ of the International Federation of Gynaecology and Obstetrics* 131 (1): 91–95. doi:10.1016/j.ijgo.2015.04.029.

García-Moreno, Claudia, and Charlotte Watts. 2000. "Women and HIV / AIDS : Setting the Research Agenda." *AIDS* 14 (3): S253–65.

Goldenberg, Shira M, Godfrey Muzaaya, Monica Akello, Paul Nguyen, Josephine Birungi, and Kate Shannon. 2016. "War-Related Abduction and History of Incarceration Linked to High Burden of HIV among Female Sex Workers in Conflict-Affected Northern Uganda." *Journal of Acquired Immune Deficiency Syndromes* 73 (1): 109–16.

Hong, Yan, Chen Zhang, Xiaoming Li, Wei Liu, and Yuejiao Zhou. 2013. "Partner Violence and Psychosocial Distress among Female Sex Workers in China." *PloS One* 8 (4). Public Library of Science: e62290. doi:10.1371/journal.pone.0062290.

Horn, Rebecca, Eve S Puffer, Elisabeth Roesch, and Heidi Lehmann. 2014. "Women's

Perceptions of Effects of War on Intimate Partner Violence and Gender Roles in Two Post-Conflict West African Countries: Consequences and Unexpected Opportunities.” *Conflict and Health* 8 (1): 12. doi:10.1186/1752-1505-8-12.

Hossain, Mazed, Cathy Zimmerman, Ligia Kiss, Tanya Abramsky, Drissa Kone, Monika Bakayoko-Topolska, Jeannie Annan, Heidi Lehmann, and Charlotte Watts. 2014. “Working with Men to Prevent Intimate Partner Violence in a Conflict-Affected Setting: A Pilot Cluster Randomized Controlled Trial in Rural Côte d’Ivoire.” *BMC Public Health* 14 (1): 339. doi:10.1186/1471-2458-14-339.

Hossain, Mazed, Cathy Zimmerman, Ligia Kiss, Drissa Kone, Monika Bakayoko-Topolska, David Manan K A, Heidi Lehmann, and Charlotte Watts. 2014. “Men’s and Women’s Experiences of Violence and Traumatic Events in Rural Cote d’Ivoire Before, during and after a Period of Armed Conflict.” *BMJ Open* 4 (2): e003644. doi:10.1136/bmjopen-2013-003644.

Human Rights Watch. 2003. “ABDUCTED AND ABUSED : Renewed Conflict in Northern Uganda.” Washington, DC.

Inter-Agency Standing Committee. 2015. “Guidelines for Integrating Gender-Based Violence Interventions in Humanitarian Action: Reducing Risk, Promoting Resilience and Aiding Recovery.”

Jewkes, Rachel. 2007. “Comprehensive Response to Rape Needed in Conflict Settings.” *The Lancet* 369 (9580): 2140–41. doi:10.1016/S0140-6736(07)60991-X.

Jewkes, Rachel, Kristin Dunkle, Mary P Koss, Jonathan B Levin, Mzikazi Nduna, Nwabisa Jama, and Yandisa Sikweyiya. 2006. “Rape Perpetration by Young, Rural South African Men: Prevalence, Patterns and Risk Factors.” *Social Science & Medicine* (1982) 63 (11):

2949–61. doi:10.1016/j.socscimed.2006.07.027.

Jewkes, Rachel K., Kristin Dunkle, Mzikazi Nduna, and Nwabisa Shai. 2010. “Intimate Partner Violence, Relationship Power Inequity, and Incidence of HIV Infection in Young Women in South Africa: A Cohort Study.” *The Lancet* 376 (9734). Elsevier Ltd: 41–48.

doi:10.1016/S0140-6736(10)60548-X.

Karon, John M., and Cyprian Wejnert. 2012. “Statistical Methods for the Analysis of Time–Location Sampling Data.” *Journal of Urban Health* 89 (3): 565–86. doi:10.1007/s11524-012-9676-8.

Lehmann, Aimee. 2002. “Safe Abortion: A Right for Refugees?” *Reproductive Health Matters* 10 (19): 151–55. doi:10.1016/S0968-8080(02)00026-5.

Muldoon, Katherine a. 2015. “A Systematic Review of the Clinical and Social Epidemiological Research among Sex Workers in Uganda.” *BMC Public Health* 15 (1): 1226.

doi:10.1186/s12889-015-2553-0.

Muldoon, Katherine A, Kathleen N Deering, Cindy X Feng, Jean A Shoveller, and Kate Shannon. 2015. “Sexual Relationship Power and Intimate Partner Violence among Sex Workers with Non-Commercial Intimate Partners in a Canadian Setting.” *AIDS Care* 27 (4): 512–19. doi:10.1080/09540121.2014.978732.

Muldoon, Katherine a, Godfrey Muzaaya, Theresa S Betancourt, Mirriam Ajok, Monica Akello, Zaira Petruf, Paul Nguyen, Erin K Baines, and Kate Shannon. 2014. “After Abduction: Exploring Access to Reintegration Programs and Mental Health Status among Young Female Abductees in Northern Uganda.” *Conflict and Health* 8 (1): 5. doi:10.1186/1752-1505-8-5.

Okal, Jerry, Matthew F Chersich, Sharon Tsui, Elizabeth Sutherland, Marleen Temmerman, and

- Stanley Luchters. 2011. "Sexual and Physical Violence against Female Sex Workers in Kenya: A Qualitative Enquiry." *AIDS Care* 23 (5). Routledge: 612–18.  
doi:10.1080/09540121.2010.525605.
- Olayanju, L., R.N.G. Naguib, Q.T. Nguyen, R.K. Bali, and N.D. Vung. 2013. "Combating Intimate Partner Violence in Africa: Opportunities and Challenges in Five African Countries." *Aggression and Violent Behavior* 18 (1): 101–12.  
doi:10.1016/j.avb.2012.11.003.
- Pack, Allison P, Kelly L'Engle, Peter Mwarogo, and Nzioki Kingola. 2014. "Intimate Partner Violence against Female Sex Workers in Mombasa, Kenya." *Culture, Health & Sexuality* 16: 217–30. doi:10.1080/13691058.2013.857046.
- Pulerwitz, Julie, Steven L Gortmaker, and William Dejong. 2000. "Measuring Sexual Relationship Power in HIV/STD Research." *Sex Roles* 42: 637–60.  
doi:10.1023/A:1007051506972.
- Ratinthorn, Ameporn, Afaf Meleis, and Siriorn Sindhu. 2009. "Trapped in Circle of Threats: Violence against Sex Workers in Thailand." *Health Care for Women International* 30 (3): 249–69. doi:10.1080/07399330902733281.
- Saile, Regina, Frank Neuner, Verena Ertl, and Claudia Catani. 2013. "Prevalence and Predictors of Partner Violence against Women in the Aftermath of War: A Survey among Couples in Northern Uganda." *Social Science & Medicine* 86: 17–25.
- Scorgie, Fiona, Matthew F Chersich, Innocent Ntaganira, Antonio Gerbase, Frank Lule, and Ying-Ru Lo. 2012. "Socio-Demographic Characteristics and Behavioral Risk Factors of Female Sex Workers in Sub-Saharan Africa: A Systematic Review." *AIDS and Behavior* 16 (4): 920–33. doi:10.1007/s10461-011-9985-z.

- Semiatin, Joshua N, Steffany Torres, Adam D Lamotte, Galina A Portnoy, M Christopher, Joshua N Semiatin, Steffany Torres, Adam D Lamotte, Galina A Portnoy, and Christopher M Murphy. 2017. "Trauma Exposure, PTSD Symptoms, and Presenting Clinical Problems Among Male Perpetrators of Intimate Partner Violence." *Psychology of Violence* 7 (1): 91–100. doi:DOI: 10.1037/vio0000041.
- Shannon, Kate, and Joanne Csete. 2010. "Violence, Condom Negotiation, and HIV/STI Risk among Sex Workers." *JAMA* 304 (5). American Medical Association: 573–74. doi:10.1001/jama.2010.1090.
- Shannon, Kate, Karen Leiter, Nthabiseng Phaladze, Zakhe Hlanze, Alexander C Tsai, Michele Heisler, Vincent Iacopino, and Sheri D Weiser. 2012. "Gender Inequity Norms Are Associated with Increased Male-Perpetrated Rape and Sexual Risks for HIV Infection in Botswana and Swaziland." *PloS One* 7 (1). Public Library of Science: e28739. doi:10.1371/journal.pone.0028739.
- Shannon, Kate, Steffanie A Strathdee, Jean Shoveller, Melanie Rusch, Thomas Kerr, and Mark W Tyndall. 2009. "Structural and Environmental Barriers to Condom Use Negotiation with Clients among Female Sex Workers: Implications for HIV-Prevention Strategies and Policy." *American Journal of Public Health* 99 (4): 659–65. doi:10.2105/AJPH.2007.129858.
- Spiegel, Paul B. 2004. "HIV/AIDS among Conflict-Affected and Displaced Populations: Dispelling Myths and Taking Action." *Disasters* 28 (3): 322–39. doi:10.1111/j.0361-3666.2004.00261.x.
- Stockman, Jamila K, Marguerite B Lucea, and Jacquelyn C Campbell. 2013. "Forced Sexual Initiation, Sexual Intimate Partner Violence and HIV Risk in Women: A Global Review of

- the Literature.” *AIDS and Behavior* 17 (3): 832–47. doi:10.1007/s10461-012-0361-4.
- Uganda Bureau of Statistics (UBOS) and ICF International Inc. 2012. “Uganda Demographic and Health Survey 2011.” Kampala, Uganda.
- Ulibarri, Monica D., Steffanie a. Strathdee, Remedios Lozada, Carlos Magis-Rodriguez, Hortensia Amaro, Patricia O’Campo, and Thomas L. Patterson. 2010. “Intimate Partner Violence among Female Sex Workers in Two Mexico–U.S. Border Cities: Partner Characteristics and HIV Risk Behaviors as Correlates of Abuse.” *Psychological Trauma: Theory, Research, Practice, and Policy* 2 (4): 318–25. doi:10.1037/a0017500.
- Watts, Charlotte, and Susannah Mayhew. 2004. “Reproductive Health Services and Intimate Partner Violence: Shaping a Pragmatic Response in Sub-Saharan Africa.” *International Family Planning Perspectives* 30 (4): 207–13. doi:10.1363/3020704.
- World Health Organization. 2005. “WHO Multi-Country Study on Women’s Health and Domestic Violence Against Women: Initial Results on Prevalence, Health Outcomes and Women’s Responses.” Geneva: World Health Organization.
- . 2012. “Intimate Partner Violence.” *Understanding and Addressing Violence against Women*, 1–12. doi:10.2307/1319341.
- . 2013. “Global and Regional Estimates of Violence against Women: Prevalence and Health Effects of Intimate Partner Violence and Non-Partner Sexual Violence.” *2013*, 57. doi:10.1007/s13398-014-0173-7.2.

**Table 1: Characteristics and unadjusted odds ratios related to recent (last 6 months) moderate/severe physical or sexual Intimate Partner Violence (IPV) among female sex workers in Gulu, northern Uganda who reported having in intimate partner (n=379), 2011-2012**

Characteristic	Recent moderate/severe physical or sexual IPV: Yes n (%)	No n (%)	Unadjusted Odds Ratio (95% CI)	p - value
<b><i>Individual Factors</i></b>				
<b>Age (years) (Med, IQR)</b>	21 (19-24)	21(19-26)	0.97 (0.93-1.02)	0.263
<b>No Formal Education or Incomplete Primary Education†</b>				
yes	141 (62.67)	99 (64.29)	0.93 (0.61-1.43)	0.749
no	84 (37.33)	55 (35.71)		
<b>Have Children</b>				
yes	168 (74.7)	116 (75.3)	0.97 (0.60-1.55)	0.885
no	57 (25.3)	38 (24.7)		
<b>HIV Seropositivity</b>				
yes	73 (32.44)	50 (32.47)	1.02 (0.66-1.58)	0.933
no	149 (66.22)	104 (67.53)		
<b>Used Non-barrier Contraceptives as Pregnancy Prevention*</b>				
yes	71 (31.56)	47 (30.52)	1.05 (0.67-1.64)	0.831
no	154 (68.44)	107 (69.48)		
<b>Difficulty Accessing Non-Barrier Contraceptives*</b>				
yes	59 (26.22)	36 (23.38)	1.17 (0.72-1.88)	0.530
no	166 (73.78)	118 (76.62)		
<b>Difficulty Accessing Condoms*</b>				
yes	133 (59.11)	78 (50.65)	1.41 (0.93-2.13)	0.104
no	92 (40.89)	76 (49.35)		
<b>Recent STI Test*</b>				
yes	49 (21.78)	17 (11.04)	2.20 (1.21-4.00)	0.009
no	174 (77.33)	133 (86.36)		
<b>Current Drug or Alcohol Abuse</b>				
yes	62 (27.56)	41 (26.62)	1.06 (0.67-1.68)	0.801



no	161 (71.56)	113 (73.38)		
<b><u>Interpersonal Factors</u></b>				
<b>Partner Gets Violent When Asked to Use a Condom*</b>				
yes	157 (69.78)	84 (54.55)	2.02 (1.31-3.11)	0.002
no	63 (28.00)	68 (44.16)		
<b>Most Times We Do What My Partner Wants*</b>				
yes	182 (80.89)	98 (63.64)	2.51 (1.56-4.04)	<0.001
no	40 (17.78)	54 (35.06)		
<b>Intimate Partner Knows About Sex Work</b>				
yes	101 (44.89)	62 (40.26)	1.21 (0.80-1.83)	0.372
no	124 (55.11)	92 (59.74)		
<b><u>Structural Factors</u></b>				
<b>Client Violence*</b>				
yes	143 (63.56)	45 (29.22)	4.22 (2.72-6.56)	<0.001
no	82 (36.44)	109 (70.78)		
<b>Police Harassment (Without Arrest)*</b>				
yes	71 (31.56)	35 (22.73)	1.57 (0.98-2.51)	0.061
no	154 (68.44)	119 (77.27)		
<b>Arrest/ Incarceration *</b>				
yes	30 (13.33)	6 (3.90)	3.80 (1.54 - 9.35)	0.004
no	195 (86.67)	148 (96.10)		
<b>Childhood Abuse†</b>				
yes	146 (64.89)	92 (59.74)	1.38 (0.90-2.13)	0.145
no	69 (30.67)	60 (38.96)		
<b>Forced Sexual Debut†</b>				
yes	157 (69.78)	78 (50.65)	2.25 (1.47-3.44)	<0.001
no	68 (30.22)	76 (49.35)		
<b>Abducted by LRA †</b>				
yes	74 (32.89)	42 (27.27)	1.28 (0.82-2.01)	0.284
no	150 (66.67)	109 (70.78)		
<b>Ever lived in an IDP Camp†</b>				
yes	144 (64.0)	109 (70.78)	0.73 (0.47 – 1.14)	0.170
no	81 (36.0)	45 (29.22)		

---

\* Last 6 Months

**Table 2. Multivariable model of factors associated with moderate/severe physical or sexual intimate partner violence (IPV) in the last 6 months among female sex workers in Gulu, northern Uganda (n=379), 2011-2012**

Variable	Adjusted Odds Ratio (AOR)	95% Confidence Interval (CI)	p - value
<b><i>Interpersonal Factors</i></b>			
<b>Most Times We Do What My Partner Wants*</b>			
(yes vs. no)	2.46	(1.46-4.13)	0.001
<b><i>Structural Factors</i></b>			
<b>Client Violence*</b>			
(yes vs. no)	3.67	(2.31-5.83)	<0.001
<b>Forced Sexual Debut †</b>			
(yes vs. no)	1.92	(1.20-3.05)	0.006
<b>Arrest/Incarceration*</b>			
(yes vs. no)	2.25	(0.86-5.88)	0.097

\* Last 6 Months  
 † Lifetime

---

Erickson, M., Goldenberg, S. M., Master, A., Muzaaya, G., Akello, M., Braschel, M., Birungi, J., & Shannon, K. (2018). Interpersonal and structural contexts of intimate partner violence among female sex workers in conflict-affected northern Uganda. *Women & Health, 58*(7), 759–773.  
<https://doi.org/10.1080/03630242.2017.1342742>.